



INNOVATING FOR 140 YEARS

Williams has made strong, trusted tools for Industrial professionals since 1882. Due to their precise manufacturing process, Williams' products were used in the countless industrial shops of 19th century America.

From innovative products that helped make us famous, like Superrench®, Supersocket™, and Supertorque™ we're carrying on the tradition of forging top-quality tools that hard-working people depend on.

Today with world-class factories across the United States, Williams' heritage of high-quality, industrial-focused tools continues to deliver a brand of tools that is ready to work.

EXPERIENCE MATTERS

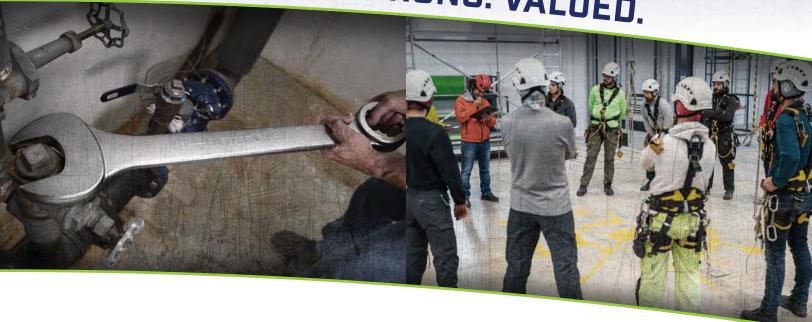
At Williams, we believe selling a product is more than an exchange of tools. When you work with Williams, you work with industrial tool professionals whose experience in the field and the factory help you make smart decisions for your business.

With demanding timelines, unusually tough conditions and many other obstacles businesses face today, it is important to partner with a company that understands your challenges.

Williams and our distributors are here to help you find the right solutions for your individual business. Williams has a network of professionals with knowledge you can count on.



TRUSTED. STRONG. VALUED.



BUILT FOR INDUSTRIAL APPLICATIONS

Our growing assortment includes tools that are engineered to withstand demanding needs of industrial environments. Where the hard work is done, and steel strength is essential.

Williams' special blend of steel allows for a higher heat treat than average steel. This means each tool gets just the right hardness, toughness and strength for industrial applications.

And we know how to make great tools. Williams tools keep factories running safely and efficiently. They build and maintain ships. They keep power generation plants and oil production flowing and so much more. With 8,000+ tools in our portfolio, you will find the right tools to get the job done.

UNDERSTANDING WORK

With almost 140 years of experience, people trust Williams to design and manufacture tools that are safe, strong and reliable.

We know that keeping your people safe is the top priority. That's why we offer not just the safest products in the business, but the training and instruction on how to use them properly.

Our training programs help tool users learn about dangers involving misused, modified, and poorly maintained tools and how to determine the right tool for any and every job. In addition, we teach importance of ergonomics, tethered tools, proper calibration and more.





REFERENCE

5-34	MASTER	SETS

35-54 TOOL STORAGE

55-76 TORQUE TOOLS

77-138 TOOLS@HEIGHT

139-188 WRENCHES

189-326 SOCKETS AND DRIVE TOOLS

327-342 SCREWDRIVERS

343-370 PLIERS, CLAMPS AND PIPE TOOLS

371-386 HAMMERS, PUNCHES, CHISELS AND PRYBARS

387-422 INDUSTRIAL HYDRAULICS

423-504 TOOLS FOR THE TRADES

505-518 INSULATED TOOLS

519-522 CONVERSION CHART / SAFETY ICONS

523-554 INDEX





SETS DEVELOPED WORKING SIDE BY SIDE WITH **INDUSTRY PROFESSIONALS**

• Whatever the industry, Williams® Master Tool Sets will keep your equipment and assets working at peak performance

• Sets available in various formats and sizes to meet the specific needs of your application

- Electrical Maintenance Sets
- General Maintenance Sets
- Heavy Duty Maintenance Sets
- Oilfield Tool Sets
- Mechanical Maintenance Sets
- Technicians Service Sets
- Tools@Height ™ Sets

• Tackle increasingly complex maintenance tasks with Williams® Master Tool Sets

. A full complement of hand tools

• Get your work done faster, easier and safer













MASTER SETS





Applifast.

TOOLS@HEIGHT MASTER MAINTENANCE TOOL SET

Contains the following tools:

Product Category	Product Category
Adjustable & Miscellaneous Wrenches	Miscellaneous Tools
Combination, Box, & Open End Wrenches	Pliers
Hammers	Pry Bars, Punches & Chisels
Hand Sockets, Ratchets, & Accessories	Screwdrivers & Nut drivers
Hex Keys & Sockets	Tool Storage
Impact Sockets & Accessories	Tools@Height Tethers, Lanyards & Specialties

Set Configurations Available

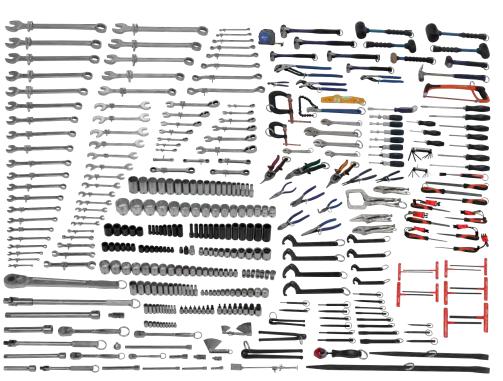
Product Code	Description
JHWSC409THTB	Complete Tools@Height Master Maintenance Tool Set With Tool Boxes
JHWWSC409TH	Complete Tools@Height Master Maintenance Tool Set Only

Tool Boxes Included

Product Code	Description
JHWW40TC4	40" Wide x 20" Deep 4 Drawer Top Chest
JHWW40RC7	40" Wide x 20" Deep 7 Drawer Tool Cabinet

- The Tools@Height Master Maintenance set provides a great assortment of tools for all types of maintenance
- · All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- · Productivity and safety right out of the box
- Many applications any industry where a dropped tool could harm personnel, damage machinery or cost production time
- · High level uses drilling derricks, wind turbines, cranes, buildings, bridges, masts, powerlines, hangars, scaffold builders
- Low level uses stop tools dropping onto flight hardware, into engines, machinery, food production lines, vats, mine shafts, even under water uses
- Set is available with foamed tool control drawers on a special order basis
- Tools@Height sets contain an assortment of pouches and lanyards designed for use with a suitable belt such as the Comfort and Utility belts on page 96







JHWWSC409TH







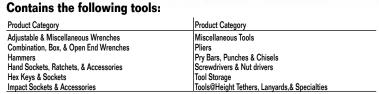












Set Configurations Available

Product Code	Description
JHWSC225THTB	Complete Tools@Height Intermediate Tool Set With Tool Boxes
JHWWSC225TH	Complete Tools@Height Intermediate Tool Set Only

Tool Boxes Included

Toll Free 1 800 563 1293

Product Code	Description
JHWW26TC4	26" Wide x 20" Deep 4 Drawer Top Chest
JHWW26RC7	26" Wide x 20" Deep 7 Drawer Tool Cabinet

- The Tools@Height Intermediate Maintenance set provides a full complement of tools
- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- Productivity and safety right out of the box
- Many applications any industry where a dropped tool could harm personnel, damage machinery or cost production time
- High level uses drilling derricks, wind turbines, cranes, buildings, bridges, masts, powerlines, hangars, scaffold builders
- Low level uses stop tools dropping onto flight hardware, into engines, machinery, food production lines, vats, mine shafts, even under water uses
- Set is available with foamed tool control drawers on a special order basis
- Tools@Height sets contain an assortment of pouches and lanyards designed for use with a suitable belt such as the Comfort and Utility belts on page 96







JHWWSC225TH



TOOLS@HEIGHT GENERAL MAINTENANCE SERVICE SET

Contains the following tools:

•	
Product Category	Product Category
Adjustable & Miscellaneous Wrenches	Pliers
Combination, Box, & Open End Wrenches	Pry Bars, Punches & Chisels
Hammers	Screwdrivers & Nut drivers
Hand Sockets, Ratchets, & Accessories	Tool Storage
Hex Keys & Sockets	Tools@Height Tethers, Lanyards,& Specialties
Miscellaneous Tools	

Set Configurations Available

Product Code	Description
JHWSC116THTB	Complete Tools@Height General Service Tool Set With Tool Box
JHWWSC116TH	Complete Tools@Height General Service Tool Set Only

Tool Boxes Included

Product Code	Description
JHW50950B	32" Wide x 19" Deep Job Site Box

- The Tools@Height General Maintenance Service set provides a solid complement of tools
- · All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- · Productivity and Safety right out of the box
- . Many applications any industry where a dropped tool could harm personnel, damage machinery or cost production time
- · High level uses drilling derricks, wind turbines, cranes, buildings, bridges, masts, powerlines, hangars, scaffold builders
- Low level uses stop tools dropping onto flight hardware, into engines, machinery, food production lines, vats, mine shafts, even under water uses
- . Set is available with foamed tool control drawers on a special order basis
- Tools@Height sets contain an assortment of pouches and lanyards designed for use with a suitable belt such as the Comfort and Utility belts on page 96



















TOOLS@HEIGHT BASIC MAINTENANCE SERVICE SET

Contains the following tools:

Product Category	Product Category
Adjustable & Miscellaneous Wrenches	Miscellaneous Tools
Combination, Box, & Open End Wrenches	Pliers
Hammers	Pry Bars, Punches & Chisels
	Screwdrivers & Nut drivers
Hex Keys & Sockets	Tools@Height Tethers, Lanyards,& Specialties

Set Configurations Available

Product Code	Description
JHWWSC-72-TH	Complete Tools@Height Basic Maintenance Tool Set in Safe Bucket

- Furnished in Safe Bucket for easy portability
- Safety right out of the box
- The Tools@Height Basic Maintenance set provides a good start to a Tools@Height tool program
- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- Many applications any industry where a dropped tool could harm personnel, damage machinery or cost production time
- High level uses drilling derricks, wind turbines, cranes, buildings, bridges, masts, powerlines, hangars, scaffold builders
- Low level uses stop tools dropping onto flight hardware, into engines, machinery, food production lines, vats, mine shafts, even under water uses
- Williams' Tools@Height sets contain an assortment of pouches and lanyards designed for use with a suitable belt
- An assortment of Comfort and Utility belts can be found on page 96
- The full assortment of Tools@Height lanyards, tethers, and other accessories is on pages 91 through 97





JHWWSC-72-TH



TOOL@HEIGHT STARTER PLUS SET

Contains the following tools:

Product Category Adjustable Wrenches Combination Wrenches File

Applifast

Hammer

Hand Sockets, Ratchets & Accessories

Pick up Tool

Pliers

Screwdriver

Tape Measure

Tools@Height Tethers, Lanyards & Specialties

Grand Total

Set Configurations Available

Product Code	Description
WSC-45-TH	Complete Tools@Height Starter Set in Safe Bucket

Features

- . The ideal way to start a drop prevention program
- . Use where dropped tools can harm personnel, damage components, or cause down time
- Excellent assortment of basic hand tools for most maintenance applications
- · Furnished in Safe Bucket for easy portability



WSC-45-TH

TOOL@HEIGHT STARTER SET

Contains the following tools:

Product Category

Adjustable Wrenches

Hammer

Pick up Tool

Screwdriver

Tape Measure

Tools@Height Tethers, Lanyards & Specialties

Set Configurations Available

Product Code	Description
JHWWSC-27-TH	Complete Tools@Height Starter Set in Safe Bucket

- · Ideal for general maintenance work in the factory or job site
- · All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies.
- Includes tools and assortment of pouches and lanyards designed for use with a suitable belt.
- · Williams' Tools@Height sets contain an assortment of pouches and lanyards designed for use with a suitable belt
- An assortment of Comfort and Utility belts can be found on page 96
- . The full assortment of Tools@Height lanyards, tethers, and other accessories is on pages 91 through 97



JHWWSC-27-TH

















TOOLS@HEIGHT IRONWORKER'S TOOLKIT

Contains the following tools:

Product Category	Product Category
Pliers	Hammer
Adjustable Construction Wrench	Measuring Tape
Structural Wrench	Tools@Height Tethers, Lanyards & Specialties
Bull Pin	

Set Configurations Available

Product Code	Description	
KWTIWWKIT	Ironworker's Tool Kit	

Features

Toll Free 1 800 563 1293

- All tools are designed to be used with our tethering and retention systems which maintain
 or enhance the tools' functionality when used at height or near critical assemblies
- Tool Kit includes the tools, tethers, lanyards needed for ironworkers to work at height



TOOLS@HEIGHT BOILMAKER'S TOOL KIT

Contains the following tools:

Product Category	Product Category
Pliers	Torpedo Level
Adjustable Construction Wrench	Hammer
Open End Structural Wrench	Measuring Tape
Bull Pin	Tools@Height Tethers, Lanyards & Specialties

Set Configurations Available

Product Code	Description
KWTBM	Boilmaker's Tool Kit

Features

- All tools are designed to be used with our tethering and retention systems which maintain
 or enhance the tools' functionality when used at height or near critical assemblies
- Tool Kit includes the tools, tethers, lanyards needed to keep boilermakers safe and productive while working at height



TOOLS@HEIGHT HRSG HIGH RIGGING TOOLKIT

Contains the following tools:

Product Category
Hammer
Measuring Tape
Sleever Bar
Tools@Height Tethers, Lanyards & Specialties

Set Configurations Available

Product Code	Description
KWTHRSGHR	HRSG High Rigging Toolkit

- All tools are designed to be used with our tethering and retention systems which maintain
 or enhance the tools' functionality when used at height or near critical assemblies
- Tool kit includes bull pin, sleever bars, wrenches, hammer, torpedo level, measuring tape and many more tools with attachment points along with the tethers and lanyards for working at height



pplīfast

TOOLS@HEIGHT PIPEFITTER'S FOREMAN'S TOOLKIT

Contains the following tools:

Product Category	Product Category
Combination Wrenches	Pinch Bar
Sockets	Hex Keys
Drive Tools	Tape Measure
Screwdrivers	Tool Box
Files	Pin Release Tool
Hammer	Tool Pouch

Set Configurations Available

Product Code	Description	
KWTPFFOR	Pipefitter's Foreman's Toolkit	

Features

- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- . Pipefitter's Foreman's Tool kit includes sockets, drive tools, combination wrenches, screwdrivers and many more tools with attachment points for working at height



KWTPFFOR

TOOLS@HEIGHT INDIVIDUAL PIPEFITTER'S TOOLKIT

Contains the following tools:

Product Category	Product Category
Wedges	Adjustable Wrenches
Utility Superjoint Pliers	Measuring Tape
Side Cutters	Tools@Height Tethers, Lanyards & Specialties

Set Configurations Available

Product Code	Description
KWTPFIND	Individual Pipefitter's Toolkit

Features

- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- · Individual Pipefitter's Tool kit includes wedges, pliers, side cutters, hammers, adjustable wrenches and many more tools with attachment points along with the tethers and lanyards for working at height



TOOLS@HEIGHT PIPEFITTER'S GANG BOX KIT

Contains the following tools:

•	
Product Category	Product Category
Utility Superjoint Pliers	Chisels & Punches
Side Cutters	Ratchet
Adjustable Wrenches	Pipe Wrench
Measuring Tape	Plastic Tool Box
Hammers	

Set Configurations Available

Product Code	Description
KWTPFBOX	Pipefitter's Gang Box Kit

- · All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- . Pipefitter's Gang Box Kit includes pliers, hammer, adjustable wrenches and many more tools with attachement points for working at height

















TOOLS@HEIGHT INDIVIDUAL ELECTRICIAN'S TOOLKIT

Contains the following tools:

Product Category	Product Category
Pliers, Side Cutter & Crimper	Files
Screwdrivers	Superjoint Pliers
Adjustable Wrenches	Hammers
Chisels & Punches	Hex Key
Hacksaw Frame	Measuring Tape
Torpedo Level	Tools@Height Tethers, Lanyards & Specialties
Miscellaneous Tools	

Set Configurations Available

Product Code	Description
KWTELEKITM	Individual Electrian's Toolkit with S/M Comfort Belt
KWTELEKITL	Individual Electrian's Toolkit with L/XL Comfort Belt
KWTELEKITXL	Individual Electrian's Toolkit with 2X/3X Comfort Belt

Features

- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- The Individual Electrician's Toolkit contains an assortment of tools with engineered attachment points, tethers and laynards designed to keep electrican's safe and productive while working at heights



KWTELEKITM



KWTELECWKT

TOOLS@HEIGHT ELECTRICIAN CREW KIT

Contains the following tools:

Product Category	Product Category
C-Clamps	Pin Release Tool
Pliers	Sockets
Pipe Wrenches	Combination Wrenches
Files	Level
Hammer	Lift Bucket & Hardhat Lanyard Strap
Drive Tools	, i

Set Configurations Available

Product Code	Description
KWTELECWKT	Electrian's Crew Kit

- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- The Electrician's Crew Kit contains an assortment of tools with engineered attachment points, tethers and laynards designed to keep electrican's safe and productive while working at heights



MAMMOTH TOOL SET

The largest tool set in the industry. Contains the following tools:

Product Category	Product Category
Chisel and Punches	Miscellaneous Tools
Clamps	Pliers
Electrical Crimping Pliers	Prybars
Files	Ratchets, Drive Tools, and Accessories
Hammers	Saws and Saw Blades
Hand Sockets	Scrapers
Hex Keys	Screwdrivers
Holesaw Set	Snips
Impact Drive Tools	Tool Boxes
Impact Sockets	Torque Wrenches
Knives	Wrenches

Set Configurations Available

Product Code	Description
JHWMAMMOTHMM	Mammoth Tool Set with Metric Wrenches and Sockets Only
JHWMAMMOTHSAE	Mammoth Tool Set with Fractional Wrenches and Sockets Only
JHWMAMMOTH	Mammoth Tool Set Only
JHWMAMMOTHTB	Complete Mammoth Tool Set with Tool Boxes

Tool Boxes Included

JHWW40TC4	40" Wide x 20" Deep 4-Drawer Top Chest
JHWW40RC7	40" Wide x 20" Deep 7-Drawer Roll Cabinet
JHWW55TC10	55" Wide x 20" Deep 10-Drawer Top Chest
JHWW55RC11	55" Wide x 20" Deep 11-Drawer Roll Cabinet
JHW50721	3-Drawer Service Cart with Lid

- . It's better to have it and not need it than need it and not have it and with this tool set, you're almost certain to have what you need. This set contains the tools to handle almost any job your shop is likely to see, in both fractional and metric sizes. It includes a comprehensive assortment of sockets, ratchets, and accessories in 1/4", 3/8", 1/2", and 3/4" drive, for both hand and impact use. A full complement of wrenches in a number of styles helps you tackle increasingly complex maintenance tasks. A comprehensive assortment of screwdrivers, pliers, hammers, punches and chisels, is there when you need them, and specialty items such as saws, scrapers, and other tools for industrial maintenance mechanics and tradesmen round out this truly Mammoth tool set.
- You'll want to keep your tools safe and secure, and our industry-leading Mammoth Tool Set includes the storage cabinets necessary to do that. Two top-chest / roll-cabinet combinations are included, as well as a rolling three-drawer tool cart. A total of 35 drawers and over 75,000 cubic inches of storage capacity will help you organize your tools effectively. And the mobile tool cart helps bring your tools to the job, where you need them.
- Whatever the industry, this set will help you keep your equipment and assets working, helping you compete more effectively. Get your work done faster, easier, and safer with the Mammoth Tool Set from Williams. All other tool sets are simply ordinary.



Professional industrial cabinets JHWW40RC7-JHWW40TC4 are also included in JHWMAMMOTHTB













MASTER SETS



JHWMAMMOTHTB



A comprehensive assortment. Contains the following tools:

Product Category	Product Category	Product Category	Product Category
Chisel and Punches	Hand Sockets	Miscellaneous Tools	Scrapers
Clamps	Hex Keys	Pliers	Screwdrivers
Electrical Crimping Pliers	Impact Sockets	Prybars	Snips
Files	Impact Drive Tools	Ratchets, Drive Tools, and Accessories	Tool Boxes
Hammers	Knives	Saws and Saw Blades	Torque Wrenches

Set Configurations Available

Product Code	Description	
JHWMEGAMM	Mega Tool Set with Metric Wrenches and Sockets Only	
JHWMEGASAE	Mega Tool Set with Fractional Wrenches and Sockets Only	
JHWMEGA	Mega Tool Set Only	
JHWMEGATB	Complete Mega Tool Set with Tool Boxes	
Tool Boxes Included		
JHWW55TC10	55" Wide x 20" Deep 10-Drawer Top Chest	
JHWW55RC11	55" Wide x 20" Deep 11-Drawer Roll Cabinet	

3-Drawer Service Cart with Lid

JHW50721 **Features**

- . The Mega Set contains a comprehensive assortment of tools, in both fractional and metric sizes. Includes an extensive assortment of sockets, ratchets, and accessories in 1/4", 3/8", 1/2", and 3/4" drive, for both hand and impact use. A full complement of wrenches in a number of styles helps you tackle increasingly complex maintenance tasks. Over 150 screwdrivers, pliers, hammers, punches and chisels, are included, and specialty items such as saws, scrapers, and other tools for industrial maintenance mechanics and tradesmen round out the Mega Set from Williams.
- Mega Set includes the tool storage cabinets necessary to organize your tools. A top-chest / roll-cabinet combination is included, as well as a rolling three-drawer tool cart. A total of 26 drawers and over 45,000 cubic inches of storage capacity will help you store your tools effectively. The mobile tool cart helps bring your tools to the job, where you need them.
- · Get your work done faster, easier, and safer with the Mega Tool Set from Williams. All other tool sets are simply ordinary.



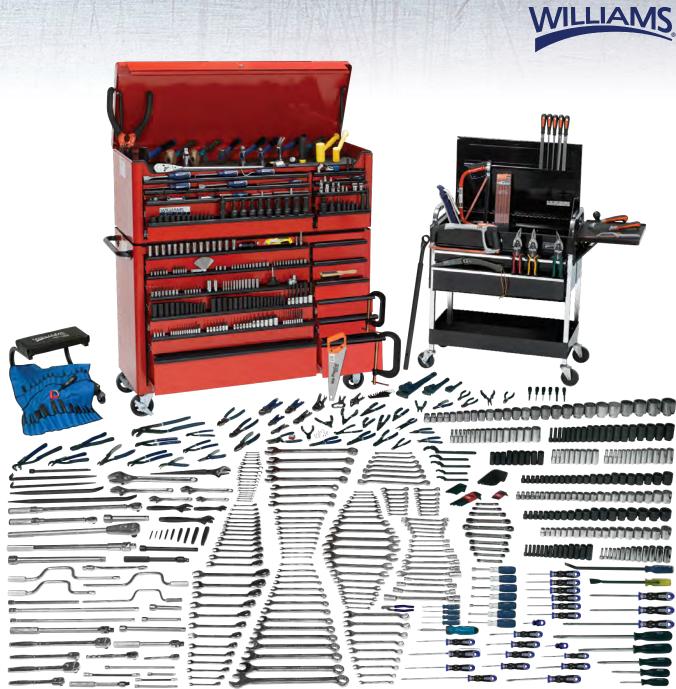












Toll Free 1 800 563 1293

JHWMEGATB



Contains the following tools:

9			
Product Category	Product Category	Product Category	Product Category
Chisel and Punches	Hex Keys	Prybars	Tool Boxes
Clamps	Impact Sockets	Ratchets, Drive Tools, and Accessories	Torque Wrenches
Electrical Crimping Pliers	Impact Drive Tools	Saws and Saw Blades	Wrenches
Files	Knives	Scrapers	
Hammers	Miscellaneous Tools	Screwdrivers	
Hand Sockets	Pliers	Snips	

Set Configurations Available

Product Code	Description			
JHWMAXXUMMM	Maxxum Tool Set with Metric Wrenches and Sockets Only			
JHWMAXXUMSAE	Maxxum Tool Set with Fractional Wrenches and Sockets Only			
JHWMAXXUM	Maxxum Tool Set Only			
JHWMAXXUMTB	Complete Maxxum Tool Set with Tool Boxes			
Tool Boxes Included				
JHWW55TC10 JHWW55RC11 JHW50721	55" Wide x 20" Deep 10-Drawer Top Chest 55" Wide x 20" Deep 11-Drawer Roll Cabinet 3-Drawer Service Cart with Lid			

- . The Maxxum Set contains a full complement of tools, in both fractional and metric sizes. It includes an assortment of sockets, ratchets, and accessories in 1/4", 3/8", and 1/2" drive, for both hand and impact use. Hand wrenches in a number of styles helps you tackle increasingly complex maintenance tasks. Over 100 screwdrivers, pliers, hammers, punches and chisels, are included, and specialty items such as saws, scrapers, and other tools for industrial maintenance mechanics and tradesmen round out the Maxxum Set from Williams.
- Maxxum includes the tool storage cabinets necessary to organize your tools. A top-chest / roll-cabinet combination is included, as well as a rolling three-drawer tool cart. A total of 26 drawers and over 35,000 cubic inches of storage capacity will help you store your tools effectively. The mobile tool cart helps bring your tools to the job, where you need them.
- . Get your work done faster, easier, and safer with the Maxxum Tool Set from Williams. All other tool sets are simply ordinary.















JHWMAXXUM



Contains the following tools:

Product Category	Product Category	Product Category
Crowfoot Wrenches	Miscellaneous Tools	Screwdriver
Hacksaw Frame	Nut drive	Snips
Hammer	Pliers	Sockets, Ratchets, Drive Tools and Accessories
Hex Key	Prybars	Tape Measure
Knives	Punch & Chisels	Wrenches

Set Configurations Available

Description	
Monster Tool Set Only	
Complete Monster Tool Set with Tool Boxes	
55" Wide x 20" Deep 10 Drawer Top Chest	
	Monster Tool Set Only Complete Monster Tool Set with Tool Boxes 55" Wide x 20" Deep 10 Drawer Top Chest

- The Monster Set contains a full complement of tools, in both fractional and metric sizes. It includes an assortment of sockets, ratchets, and accessories in 1/4", 3/8" and 1/2" drive.
- · Hand wrenches in a number of styles helps you tackle increasingly complex maintenance tasks. Also included are screwdrivers, pliers, hammers, punches and chisels, are included, and specialty items such as hacksaws, tape measure, and other tools for industrial maintenance mechanics and tradesmen round out this Master set from Williams.
- Includes the tool storage cabinets necessary to organize your tools. A top-chest /roll-cabinet combination is included.
- Get your work done faster, easier, and safer with this Monster Tool Set from
- Williams. All other tool sets are simply ordinary.







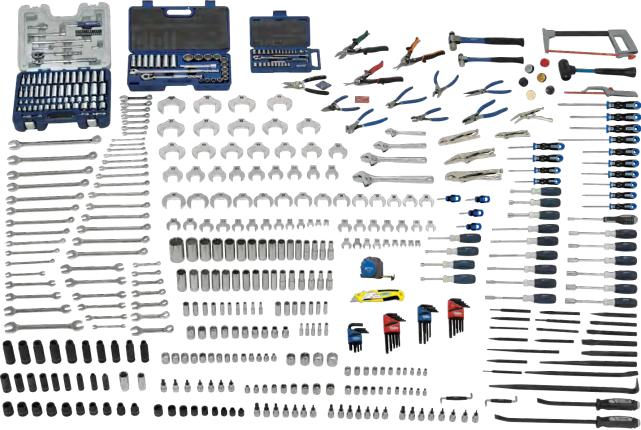






MASTER SETS







MASTER MAINTENANCE TOOL SET

Contains the following tools:

Product Category	Product Category	Product Category	Product Category
Chisel and Punches	Hand Sockets	Pliers	Screwdrivers
Clamps	Impact Drive Tools	Ratchets, Drive Tools, and Accessories	Snips
Files	Impact Sockets	Saws and Saw Blades	Tool Boxes
Hammers	Miscellaneous Tools	Scrapers	Wrenches

Set Configurations Available

Product Code	Description	
JHWMASTER	Master Maintenance Tool Set Only	
JHWMASTERTB	Complete Master Maintenance Tool Set with Tool Boxes	
Tool Boxes Included		
JHWW40TC4	40" Wide x 20" Deep 4-Drawer Top Chest	
.IHWW40BC7	40" Wide x 20" Deen 7-Drawer Roll Cahinet	

- This set provides the tools necessary for most general service and repair applications
- Included are a wide variety of fractional wrenches, hand and impact sockets, and popular 1/4", 3/8" and 1/2" drive ratchets and accessories
- · An assortment of professional industrial tools such as pliers, screwdrivers, hammers, punches, chisels, and other tools round out the offering















Applifast

INTERMEDIATE TECHNICIAN'S TOOL SET

Contains the following tools:

Product Category Product Category **Chisel and Punches** Ratchets, Drive Tools, and Accessories Extractor Screwdrivers Feeler Gauge Hand Sockets Tape Measure Files Hammers Torque Wrenches Wrenches Hex Keys **Pliers**

Set Configurations Available

Product Code	Description
JHWMECMNT	Intermediate Technician's Tool Set Only
JHWMECMNTTB	Complete Intermediate Technician's Tool Set with Tool Boxes

Tool Boxes Included

JHWW40RC7	40" 4 Drawer Professional Top Chest
JHWW40TC4	40" 7 Drawer Professional Roll Cabinet

Features

- This set provides the tools necessary for many general service and repair applications
- Included are a variety of fractional wrenches, hand and impact sockets, and 1/4", 3/8" and 1/2" drive ratchets and accessories
- An assortment of professional industrial tools such as pliers, screwdrivers, hammers, punches, chisels, and other tools round out the offering





JHWMECMNT

















ADVANCED MAINTENANCE SERVICE SET

Contains the following tools:

Product Category	Product Category
Chisel and Punches	Pliers
Files	Ratchets, Drive Tools, and Accessories
Hammers	Saws and Saw Blades
Hand Sockets	Screwdrivers
Impact Drive Tools	Tool Boxes
Impact Sockets	Wrenches
Miccellaneous Tools	

Set Configurations Available

Product Code	Description
JHWADVMNT	Advanced Maintenance Service Tool Set Only
JHWADVMNTTB	Complete Advanced Maintenance Service Tool Set with Tool Boxes

Tool Boxes Included

JHWW40TC4	40" Wide x 20" Deep 4-Drawer Top Chest
JHWW40RC7	40" Wide x 20" Deep 7-Drawer Roll Cabinet

- This set provides the tools necessary for many general service and repair applications
- Included are a variety of fractional wrenches, hand and impact sockets, and 1/4", 3/8" and 1/2" drive ratchets and accessories
- An assortment of professional industrial tools such as pliers, screwdrivers, hammers, punches, chisels, and other tools round out the offering



JHWADVMNT



Applifast

PETROLEUM OIL FIELD SERVICE SET

Contains the following tools:

Product Category	Product Category
Chisels & Punch	Scraper
Haer	Screwdrivers
Pipe Wrenches	Sockets
Pliers	Utility Tools
Prybar	Wrenches
Ratchets, Drive Tools & Accessories	

Set Configurations Available

Product Code	Description
JHWPETROSET	Petroleum Oil Field Tool Set Only
JHWPETROSETTB	Complete Petroleum Oil Field Tool Set with Tool Boxes

Tool Boxes Included

JHWW40RC7	40" 4 Drawer Professional Top Chest
JHWW40TC4	40" 7 Drawer Professional Roll Cabinet

Features

- . The set provides the tools necessary for Petroleum Oil field general service and repair applications
- · Included are a wide variety of chisels, punches, haers, pliers, adjustable wrenches, pipe wrenches, 3/8" and 1/2" drive sockets, ratchets and accessories
- Also includes is professional utility tools and scrapers





JHWPETROSET















OIL FIELD TOOL SET

Contains the	following	tools:
Product Category		

Product Category	Product Category
C-Clamp	Puller
Chain Wrench	Punch & Chisels
Hammer	Ratchets, Drive Tools and Accessories
Hex Key	Scraper
Miscellaneous	Screwdrivers
Nut Drivers	Snips
Pipe Wrench	Sockets
Pliers	Torque Wrench
Prohar	Wrenches

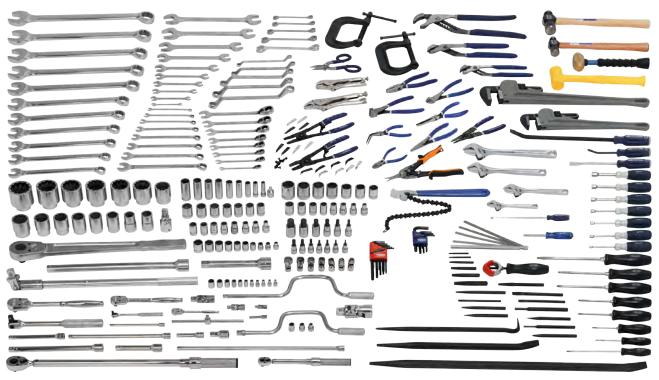
Set Configurations Available

Product Code	Description
JHWOILFIELD	Oil Field Tool Set Only
JHWOILFIELDTB	Complete Oil Field Tool Set with Tool Boxes

Tool Boxes Included

JHWW40TC4	40" Wide x 20" Deep 4 Drawer Top Chest
JHWW40RC7	40" Wide x 20" Deep 7 Drawer Tool Cabinet

- The set provides the tools necessary for oilfield general service and repair applications
- Included are a wide variety of pliers, box wrenches, combination wrenches, flare wrenches, 1/4", 3/8" and 1/2" drive sockets, ratchets and accessories
 Also includes is c-clamps, chain wrench and other tools



JHWOILFIELD



Applifast

MECHANICAL MAINTENANCE SET

Contains the following tools:

Product Category	Product Category
Hammer	Ratchet, Drive Tools and Accessories
Hex Key	Screwdriver
Pliers	Sockets
Punch & Chisels	Wrenches

Set Configurations Available

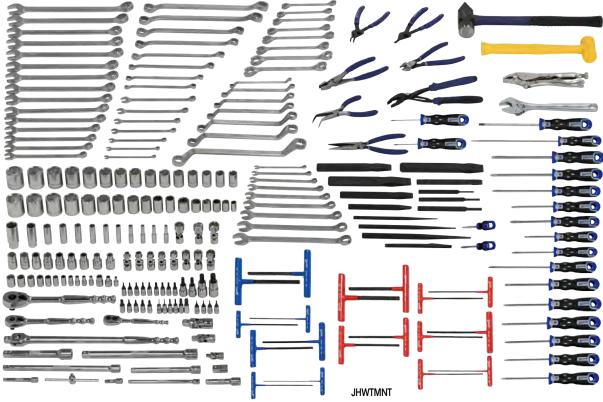
Product Code	Description
JHWTMNT	Mechanical Maintenance Tool Set Only
JHWTMNTTB	Complete Mechanical Maintenance Tool Set with Tool Boxes

Tool Boxes Included

JHWW26TC4	26" Wide x 20" Deep 4 Drawer Top Chest
JHWW26RC7	26" Wide x 20" Deep 7 Drawer Tool Cabinet

- The set provides the tools necessary for many general service and repair applications
- Included are a wide variety of pliers, box wrenches, hex keys, flare wrenches, 1/4", 3/8" and 1/2" drive sockets, ratchets and accessories
- . Also includes is punch, chisels, hammers and other tools





















GENERAL MAINTENANCE TOOL SET

Contains the following tools:

Product Category	Product Category	
C-Clamps	Ratchet, Drive Tools & Accessories	
Chisels & Punches	Scrapers	
Hammers	Screwdrivers & Bits	
Files	Snips	
Hacksaws	Sockets	
Nutdrivers	Wrenches	
Pliere		

Set Configurations Available

Product Code	Description
JHWGMNT	General Maintenance Tool Set Only
JHWGMNTTB	Complete General Maintenance Tool Set with Tool Boxes

Tool Boxes Included

JHWW26TC4	26" Wide x 20" Deep 4 Drawer Top Chest
JHWW26RC7	26" Wide x 20" Deep 7 Drawer Tool Cabinet

- This set provides the tools necessary for most general service and repair applications
- Included are a wide variety of adjustable wrenches, locking pliers, screwdrivers, hammers and 1/4", 3/8" and 1/2" drive ratchets and accessories
- An assortment of professional industrial tools such as punches, chisels and pliers are also included





Applifast.

HEAVY DUTY MAINTENANCE SERVICE SET

Contains the following tools:

Product Category	Product Category
Chisel and Punches	Pliers
Clamps	Ratchets, Drive Tools, and Accessories
Feeler Gauge Set	Screwdrivers
Hammers	Tool Box
Hand Sockets	Wrenches

Set Configurations Available

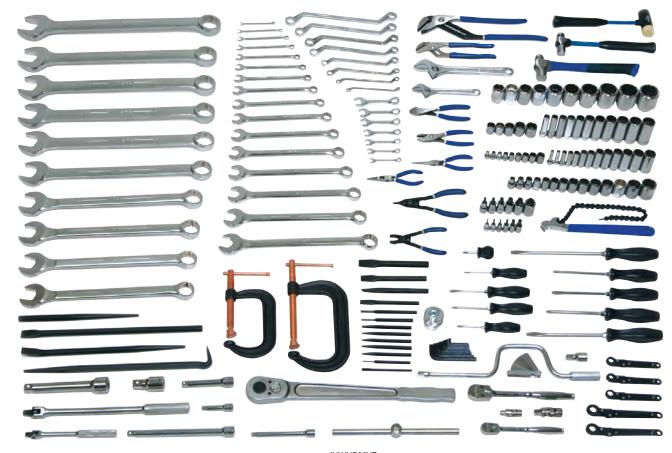
Product Code	Description
JHWHDMNT	Heavy Duty Maintenance Tool Set Only
JHWHDMNTTB	Complete Heavy Duty Maintenance Tool Set with Tool Boxes

Tool Box Included

JHWW40RC7	40" Wide x 20" Deep 7-Drawer Roll Cabinet

- . Designed for the shop that performs maintenance on heavy equipment, this set emphasizes larger tools, including combination wrenches up to 2" and sockets
- Ratchets, drive tools, and fractional sockets in 3/8", 1/2" and 3/4" drive are included, as well as a complement of screwdrivers, pliers, chisels, punches, hammers, and other common tools
- If you need a basic assortment of beefy tools, this is the set for you



















JHWW40RC7



ELECTRICAL MAINTENANCE SERVICE SET

Contains the following tools:

Product Category	Product Category		
Electrical Specialty Tools	Ratchets, Drive Tools, and Accessories		
Hammers	Saws and Saw Blades		
Hand Sockets	Screwdrivers		
Miscellaneous Tools	Screwdrivers - Insulated		
Pliers	Tool Box		
Pliers - Electrical	Wrenches		
Pliere - Inculated			



Product Code	Description
JHWELECTRICAL	Electrical Maintenance Service Tool Set Only
JHWELECTRICALTB	Complete Electrical Maintenance Service Tool Set with Tool Boxes

Tool Box Included

JHWW40RC7 40" Wide x 20" Deep 7-Drawer	r Roll Cabinet
----------------------------------------	----------------

Features

- Designed to satisfy electrical maintenance tool requirements, this set has both the standard hand tools and special tools needed to accomplish a wide variety of electrical maintenance and installation
- 1/4" and 3/8" drive sockets and accessories, hammers, and hand wrenches, and add the special items needed for electrical work: insulated and non-insulated pliers and screwdrivers
- Full-size roll cabinet to organize, store, and move your tool set
- Unique in the industry, this set will help you get those critical electrical maintenance tasks done quickly, efficiently, professionally, and safely



JHWELECTRICAL



Applifast

MAINTENANCE TOOL SET

Contains the following tools:

Product Category	Product Category
Chisels & Punches	Ratchet, Drive Tools & Accessories
Hammers	Screwdrivers & Bits
Hex Key Set	Sockets
Pliers	Wrenches

Set Configurations Available

Product Code	Description		
JHWMNTCART	Maintenance Tool Tool Set Only		
JHWMNTCARTTB	Complete Maintenance Tool Tool Set with Tool Cart		

Tool Boxes Included

JHW50721	3 Drawer S	Service (Cart	with I	∟id
----------	------------	-----------	------	--------	-----

Features

• This set provides the tools necessary for most general service and repair applications. Included are a wide variety of adjustable wrenches, locking pliers, screwdrivers, hammers and 1/4", 3/8" and 1/2" drive ratchets and accessories. An assortment of professional industrial tools such as punches, chisels and pliers are also included.





JHWMNTCART



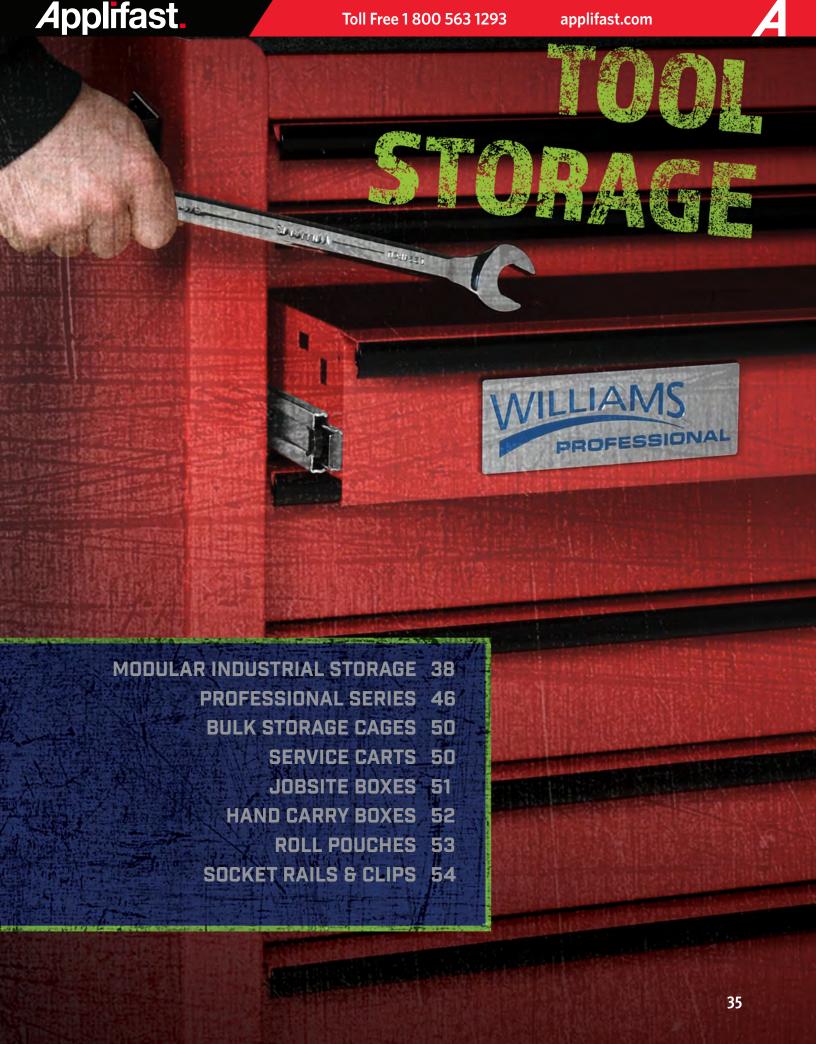












against drills and bolt cutter



PROFESSIONAL SERIES

Colors Available:

Red Gloss Royal (Standard) Black Blue

Heavy duty industrial gas struts make lid easy to open and close preventing accidental closure

Drawer liners included to keep tools in place

High-Quality Class I steel for enhanced strength and finish

Double wall construction provides strength

Reinforcement corner gussets add strength and reduce racking

2" mounting centers provide flexibility in arranging drawers to individual needs

All 4" and deeper drawers provide for adding additional slides to double drawer capacity



High luster paint protects against scratches, peeling, blistering and corrosion

Drawers equipped with positive latching drawer retention to prevent unwanted drawer opening

Rolled hem on all drawers provide superior strength, rigidity and safety

All drawers equipped with 75 pound full extension ball bearing slides with quick disconnect



TOOLSTORAGE

CUSTOMIZE. ORGANIZE. OPTIMIZE.

MODULAR INDUSTRIAL STORAGE

Colors Available:



Hinged locking bar available for additional security



Work surfaces available in a variety of shapes and materials



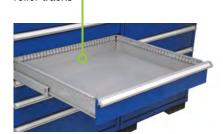
Fully MIG welded and surface ground on all eight corners, creating a cabinet that looks as good as it performs



Heavy duty 11ga plug-in guide rail allows for quick adjustment to accept different drawer sizes and combinations

Heavy duty 11ga carriage with six ball bearing rollers and four steel rollers ensures smooth operation of every drawer

Full-width aluminum handles with safety overlap and 45° angle Overlap helps prevent injury by eliminating sharp edges and pinch points **100% View drawer extension** provides full visibility and access to drawer contents via double roller tracks

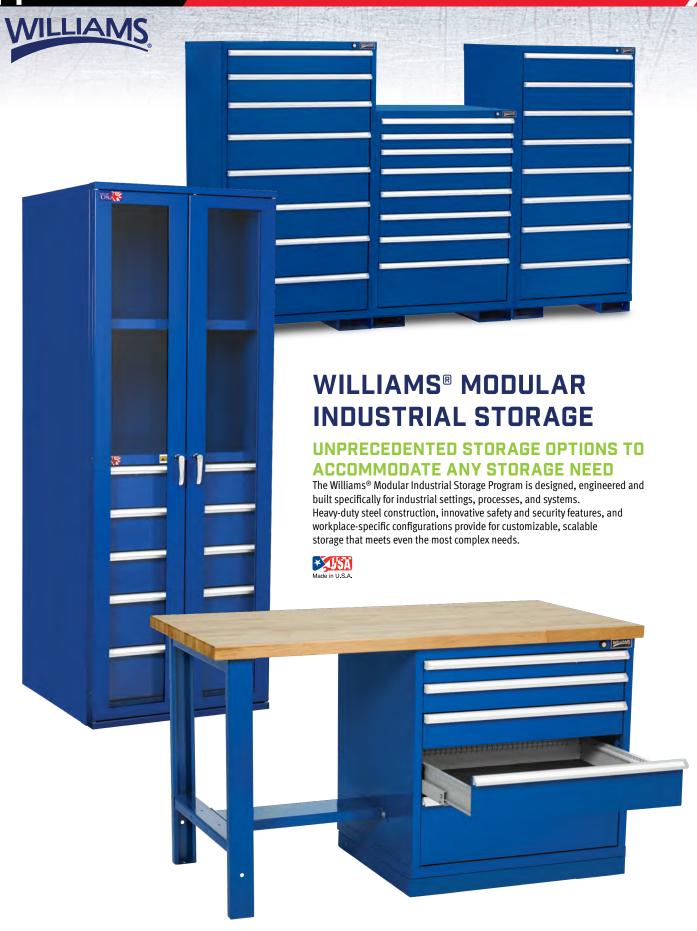




Full height drawer sidewalls provide maximum cubic storage capacity

Standard full length forklift base provides a safe platform for installing cabinets or for moving them when reconfiguring workspace



















Toll Free 1 800 563 1293



AVAILABLE SECURITY OPTIONS AND WORKSURFACES



LOCK IN/LOCK OUT LATCH Locks individual drawers into position, either closed or fully extended. Recommended for truck and van storage applications.



HINGED LOCK BARFeatures padlock hasp for additional protection and security of drawers and contents.



WORK SURFACESAvailable in a variety of shapes and materials.



ENGINEERED FOR INDUSTRIAL USE

SUPERIOR DESIGN AND CONSTRUCTION-INSIDE AND OUT



Fully MIG Welded and surface ground on all eight corners, creating a cabinet the looks as good as it performs.

Heavy duty 11ga plug-in guide rail allows for quick adjustment to accept different drawer sizes and combinations.

> Heavy duty 11ga carriage with six ball bearing rollers and four steel rollers ensures smooth operation of every drawer, even when loaded to the 400 lb. capacity.

Full height sidewalls provide maximum cubic storage capacity, while reducing item spillover into adjacent compartments.

Full Width 45 degree angle aluminum handles for easy identification of contents.

Standard full length forklift base provides a safe platform for installing cabinets or for moving them when reconfiguring workspace. The removable kick panel combines enhanced safety with a clean look. (11ga fully welded optional pallet truck base available).

ESSENTIAL DRAWER FEATURES

17 Unique Drawer Sizes/Depths

Drawer heights in 20mm increments

Drawer	Drawer Model Point Value	Drawer Front Height (Inches)	Drawer Inside Usable Height (Inches)	Drawer Side Wall Height (Inches)
1	80	3	2 1/8	2
2	100	3 1/8	3	3
3	120	4 3/4	3 1/8	3 1/8
4	140	5 ½	4 3/4	3 1/8
5	160	6 1/8	5 1/2	3 1/8
6	180	7	6 1/8	6
7	200	7 3/4	7	6
8	220	8 1/2	7 3/4	6
9	240	9 1/4	8 1/2	8 1/2
10	260	10 1/8	9 1/4	8 1/2
11	280	11	10 1/8	8 1/2
12	300	11 3/4	11	10 1/8
13	320	12 1/2	11 3/4	10 %
14	340	13 1/4	12 ¾	10 1/8
15	360	14 1/4	13 1/4	10 1/8
16	380	14 1/8	14	10 1/8
17	400	15 ½	14 3/4	10 1/8

Taller drawers are available. Call your Williams Territory Manager for assistance. Drawer Capacity: 400-lbs UDL @ 100% extension



SAFE, STRONG & EFFICIENT DRAWER DESIGN

Riveted Drawer Fronts & Handles

allows improved handle label visibility.

Stainless steel rivets provide 650 lbs. of shear strength per rivet for outstanding durability. A minimum of 4 rivets are used to fasten the drawer front to the body and the drawer pull to the drawer front, creating a stronger bond than screws can.

> SUPPORTS UP TO angled design

SAFE OVERLAPPING HANDLE Full-Width Aluminum Handles with Safety Overlap and 45° Angle Overlap helps prevent injury by eliminating sharp edges and pinch points. The

400 LBS. PER DRAWER



100% View Drawer Extension Full visibility and access to drawer contents via double roller tracks. Six high-quality steel ball bearings and four roller bearings support 400 pounds per drawer.









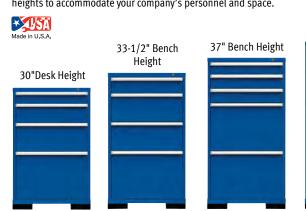


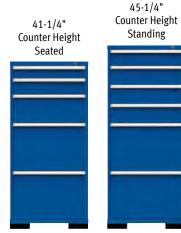


CABINET HEIGHTS & WIDTH OPTIONS

CHOOSE FROM SIX CABINET HEIGHTS

The Williams® Modular Industrial Storage Program features a large selection of cabinet housings to meet any demand. Choose from six heights to accommodate your company's personnel and space.





Model 900



CHOOSE FROM FIVE CABINET WIDTHS

Model 700

Cabinets are available in five different widths. Choose widths to accommodate your specific storage needs. All cabinets are 27-3/4" deep and are available in all cabinet heights.

Model 800



Model 600

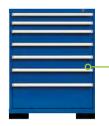
23" Narrow-Wide (NW)

- Makes excellent work station pedestals or mobile cabinets where space is limited
- Accommodates 18" items



29-1/4" Standard-Wide (SW)

- Recommended for most applications and provides the fastest pick-rates
- Accommodates items up to 24-1/2"



32-1/2" Standard-Wide Plus (SWP)

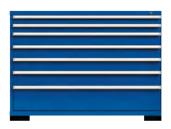
- Recommended for most applications and provides the fastest pick-rates
- Accommodates 28" items



Model 1000

46" Extra-Wide Plus (EWP)

- Recommended where parts or tools exceed 39"
- Accommodates 42" items



58-1/4"Double-Wide (DW)

- Recommended for extra-long items
- Accommodates items up to 53-1/2"wide



HUMAN-ENGINEERED DRAWERS - SQUARE DESIGN

The square **Standard Wide (SW) drawer** was ergonomically designed to accommodate the reach of the average person from either the front or the side, increasing picking productivity. Picking stock or retrieving parts from the side keeps aisles clear for increased efficiency and productivity.





DRAWER CONFIGURATIONS TO MEET EVERY NEED

CHOOSE FROM FIVE CABINET HEIGHTS

• Custom configurations are also available. Contact your Williams Territory Manager for details.



*A*pplifast

DESK HEIGHT - 30" TALL





SW600F3DB SW600F52DB

BENCH HEIGHT - 33" TALL







SW700F4DB

SW700F55DB

COUNTER HEIGHT (SEATED) - 41" TALL











SW900F5DB

SW900F6DB

SW900F74DB

SW900F83DB

SW900F10DB

COUNTER HEIGHT (STANDING) - 45" TALL











SW1000F5DB

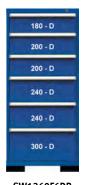
SW1000F6DB

SW1000F8DB

SW1000F10DB

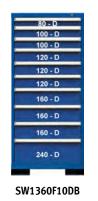
SW1000F11DB

EYE LEVEL HEIGHT - 59" TALL













SW1360F6DB

SW1360F72DB







<u>∧</u>WARNING



42

WILLIAMS

CUSTOM DRAWER LAYOUTS FOR BETTER ORGANIZATION







SLOTTED PARTITIONS

Product Code	Height (Inches)	For Use with Drawer Number
SLC80-P	2	80
SLC100-P	3	10
SLC120-P	3 1/8	120, 140, 160
SLC180-P	6	180, 200
SLC240-P	8 1/2	240
SLC300-P	10 1/8	300 and up

Features

 Powder-coated steel partitions subdivide drawers from front to back

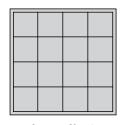


STEEL DIVIDERS

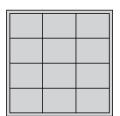
Usable width of compartment (inches)	Number of units (spaces)
1 1/8	3U
2 5// ₈	4U
3 1/2	5U
4 1/4	6U
5 1/8	7U
7 3/8	10U
9 1/8	12U
12 1/4	16U

Features

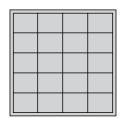
- Powder-coated steel dividers further separate drawers when used with slotted partitions
- Dividers slide into slots of partitions or drawer sidewalls to form compartments



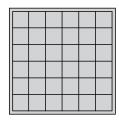
Layout No. 1



Layout No. 5



Layout No. 3



Layout No. 9

STANDARD WIDE (SW) DRAWER LAYOUTS

- Most popular drawer layouts shown
- Custom drawer layouts available

Layout No. 1

- 16 compartments
- 3 slotted partitions 12 divider plates 8U

Layout No. 3

- 20 compartments
- 3 slotted partitions 16 divider plates 8U

Layout No. 5

- 12 compartments
- 2 slotted partitions 6 divider plates 10U
- 3 divider plates 12U

Layout No. 9

- 36 compartments
- 5 slotted partitions 20 divider plates 5U
- 10 divider plates 6U

OPTIONS FOR EVEN GREATER SECURITY AND SAFETY





HINGED LOCK BAR

• Features a padlock hasp for additional protection and security of drawers and contents

LOCK IN/LOCK OUT LATCH

- Locks individual drawers into position, either closed or fully extended
- Recommended for truck and van storage applications



DRAWER ACCESSORIES MAXIMIZE STORAGE SPACE

MAXIMUM STORAGE IN MINIMUM SPACE!

Grooved Plastic Trays and Small Parts Containers

• Drawers are easily configured to perfectly match a wide variety of storage needs, from small parts such as fasteners and connectors, to delicate measuring equipment, cutting tools and electronic parts. Small parts containers and grooved plastic trays create custom layouts and drawer interiors to meet your specific needs.





GROOVED PLASTIC TRAYS

- · Designed to protect sidesensitive tooling
- · Available in 3 sizes

SLC50077

Size 2 (2-7/8")

SLC50078

• Size 3 (1-7/8")

SLC50079

• Size 4 (1-3/8")



SLC50077



SLC50078



SLC50079



SLCA80A

PLASTIC BINS



SLCA80B



SLCN80



SLCN80-DIV



PLASTIC BINS

A Series	
Product Code	Size (Inches)
SLCA80A	2 ½ x 2 ½
SLCA80B	2 ½ x 5

Features

- Modular design made of tough plastic with a usable height of 2"
- Two sizes available

N Series	
Product Code	Size (Inches)
SLCN80	6 x 6
SLCN80-DIV	6 x 6 (subdivided into four 3 x 3 compartments)

Features

. Modular design made of tough plastic with a usable height of 2"

LABEL HOLDERS

Product Code	Size (Inches)
SLC50093	1 1/8
SLC50094	1 1/8
SLC50192	1 1/8

- Transparent label holders clip onto plastic bins, grooved trays, and steel dividers
- Available in three sizes











Powder-coat epoxy paint baked on to

provide a high gloss

Gloss

Black

Royal

Blue

finish



Toll Free 1 800 563 1293

18-gauge shelf notched to fit snugly around upright posts, preventing small items from falling through any gaps to the shelf below

Patented 11-gauge shelf support frames the system and supports heavy loads

Shelf reinforcement adds an additional 400 lbs. of load capacity

Colors Available:



BY ADDING SHELVING

SHELVING UNITS

Organize bulky items by adding shelving storage to your cabinets. Their rugged, all-welded construction assures smooth operation, durability and years of dependable heavy-duty service. And because they're adjustable, you can rearrange the shelves to flexibly adapt to your storage needs for years to come.



Choose Options and accessories

Select between shelves and drawers, or a combination of the two, for the interior. You can also further customize the shelving unit with solid doors, Clear Vue doors, a fork lift base and extra shelves.

Choose from various sizes

Shelving units are available in different widths, depths and heights to meet your specific storage needs.

Widths: Narrow-Wide (NW) - 23-1/4" Standard-Wide (SW) - 29-1/4" Standard-Wide Plus (SWP) - 32-1/2"

Depths: Shallow-Depth (SD) - 23-1/2" Standard-Depth (S) - 27-3/4"

Heights: 78" and 84"

Solid maple work surfaces are available in a variety of shapes Supports up and sizes. Stainless tops also to 25,000 lbs available upon request. **Fully welded** and crafted **Customizable Height** out of heavy and Length workstations gauge steel available in 5 heights and 7 lengths **Colors Available:**

SLC50226

GIVE YOUR WORKPLACE A PLACE TO WORK

WORKSTATIONS

Every workplace needs a place to work. We deliver highly customizable workstations to fit your specific needs.

- Available as stationary or mobile
- Available with shelves, cabinets, or risers
- Can be topped with a variety of work surfaces and even add footrests
- Available in five heights
- Lengths available: 48", 60", 72", 84", 90", 120" and 144"
- Riser shelves are available in steel (painted or stainless) or maple
- Can be configured with various options such as an open leg or panel leg. casters, steel or maple work surfaces, risers, drawers, and more

WORKSTATION TOPS

Product Code	Description
NWMAPLETOP	NW Maple Top 30D X 24L
SWMAPLETOP	SW Maple Top 30D X 30L
SWPMAPLETOP	SWP Maple Top 30D X 33L
EWPMAPLETOP	EWP Maple Top 30D X 48L
DWMAPLETOP	DW Maple Top 30D X 60L
MAPLETOP3048	Maple Top 30D X 48L
MAPLETOP3060	Maple Top 30D X 60L
MAPLETOP3072	Maple Top 30D X 72L
MAPLETOP3090	Maple Top 30D X 90L

· Powder-coated steel partitions subdivide drawers from front to back

HANDLES & WHEELS

Product Code	Description
SLC50227	Caster Kit Set 4 and Handle Kit
SLC50226	Caster Kit Set 4

- . Make your storage mobile with our selection of handles and wheels
- Mobility workstations let you bring the work environment to the job, instead of going back and forth to and from the workstation

JHWW55TC10



pplifast

55" PROFESSIONAL SERIES TOOL CABINETS

Designed for industrial use

Product Code	Description
JHWW55TC10	55" Wide x 24" Deep 10-Drawer Tool Chest
JHWW55RC11	55" Wide x 24" Deep 11-Drawer Roll Cabinet

Color Options: Standard color is red. To order in an optional color, simply add the appropriate color code to the end of the product code.

Example: To order #JHWW55TC10 in Blue, specify product code JHWW55TC10BL

JHWW55TC10 Top Chest Overall Dimensions

Capacity (cu.in.)	Width (Inches)	Depth (Inches)	Height (Inches)
21283	55	24	28.5

Top Chest Drawer Sizes

Number	Width (inches)	Depth (inches)	Height (inches)
2	14 %	21 5/8	1 3/4
3	14 %	21 %	4
2	30 1/2	21 %	1 3/4
3	30 1/2	21 %	4

JHWW55RC11 Roll Cabinet Overall Dimensions

Capacity (cu.in.)	Width (Inches)	Depth (Inches)	Height (Inches)
25000	55	24	39

Roll Cabinet Drawer Sizes

Number	Width (inches)	Depth (inches)	Height (inches)
1	14 5/8	21 7/8	1 3/4
2	14 %	21 ¾	4
1	14 %	21 ¾	10 %16
3	30 %16	21 1/8	1 3/4
2	30 %16	21 1/8	4
1	30 %16	21 1/8	6 3/16
1	49	21 1/8	3 3/16

- . Made of High-Quality Class I steel to enhance strength and finish
- · Double wall construction provides strength
- · Reinforcement corner gussets add strength and reduce racking
- 2" mounting centers provide flexibility in arranging drawers to individual needs
- . Drawers equipped with positive latching drawer retention to prevent unwanted drawer opening
- · All drawers equipped with 75 pound full extension ball bearing slides with quick disconnect
- All 4" and deeper drawers provide for adding additional slides to double drawer capacity
- · Rolled hem on all drawers provide superior strength, rigidity and safety
- Casters absorb vibrations transmitted to frame while moving on uneven surfaces
- · Casters equipped with pedal brake and ball bearings for easy operation
- · High luster paint protects against scratches, pealing, blistering and corrosion
- · Paint pretreatment process both sprays and immerses boxes for added corrosion protected
- . Drawer liners included at no extra charge
- . Gas struts in lid of chest make lid easy to open and close
- . Two point locking design adds extra security on all chests



















39





55" PROFESSIONAL SERIES ROLL CABINET

Designed for industrial use

Product Code	Description
JHWW55RC5BS	55" Wide x 24" Deep 5-Drawer Roll Cabinet with Bulk Storage
JHWW55RC5BS Roll Cabinet Overall Dimensions	

Width (Inches) Depth (Inches) Height (Inches) Capacity (cu.in.) 25,000

55

Roll Cabinet Drawer Sizes

Number	Width (inches)	Depth (inches)	Height (inches)
4	30 %16	21 1/8	5
1	30 %16	21 7/8	7
Bulk	23	21 7/8	33

24

- · Wide Drawer to hold long tools such as pry bars and extensions
- . Bulk section with adjustable shelf perfect for storing large, bulky tools
- · Made of High-Quality Class I steel to enhance strength and finish
- Double wall construction provides strength
- Reinforcement corner gussets add strength and reduce racking
- 2" mounting centers provide flexibility in arranging drawers to individual needs
- Drawers equipped with positive latching drawer retention to prevent unwanted drawer opening
- · All drawers equipped with 75 pound full extension ball bearing slides with quick disconnect
- . All 4" and deeper drawers provide for adding additional slides to double drawer capacity
- · Rolled hem on all drawers provide superior strength, rigidity and safety
- · Casters absorb vibrations transmitted to frame while moving on uneven surfaces
- Casters equipped with pedal brake and ball bearings for easy operation
- · High luster paint protects against scratches, pealing, blistering and corrosion
- · Paint pretreatment process both sprays and immerses boxes for added corrosion protected
- Drawer liners included at no extra charge
- · Gas struts in lid of chest make lid easy to open and close
- · Two point locking design adds extra security on all chests
- 8-05188ALRS Replacement Slides



pplifast.

40" PROFESSIONAL SERIES TOOL CABINETS

Designed for industrial use

Product Code	Description
JHWW40TC4 JHWW40RC7	40" Wide x 20" Deep 4-Drawer Top Chest 40" Wide x 20" Deep 7-Drawer Roll Cabinet
	•

Color Options: Standard color is red. To order in an optional color, simply add the appropriate color code to the end of the product code. Example: To order #JHWW40TC4 in Blue, specify product code JHWW40TC4BL

JHWW40TC4 Top Chest Overall Dimensions

Capacity (cu. in.)	Width (inches)	Depth (inches)	Height (inches)
9746 40 1/32		19 13/16	19 7/16
Top Chest Dra	wer Sizes		
Number	Width	Depth	Height
Top Compartment	39 29/32	18 ²³ / ₃₂	4 23/32
2 ' '	34 ¹¹ / ₁₆	17 ¹⁷ / ₃₂	1 ¹³ / ₃₂
2	34 ¹¹ / ₁₆	17 ¹⁷ / ₃₂	3 ¹⁹ / ₃₂

JHWW40RC7 Roll Cabinet Overall Dimensions Width (inches)

15253	40	19 ¹³ / ₁₆	37 %
Roll Cabinet	Drawer Sizes		
Number	Width	Depth	Height
2	34 11/16	17 ¹⁷ / ₃₂	1 13/32
4	34 ¹¹ / ₁₆	17 ¹⁷ / ₃₂	3 19/32
1	34 ¹¹ / ₁₆	17 ¹⁷ /32	7 21/32

Depth (inches)

Height (inches)

Features

Capacity (cu. in.)

- . Made of High-Quality Class I steel to enhance strength and finish
- · Double wall construction provides strength
- · Reinforcement corner gussets add strength and reduce racking
- . 2" mounting centers provide flexibility in arranging drawers to individual needs
- . Drawers equipped with positive latching drawer retention to prevent unwanted
- · All drawers equipped with 75 pound full extension ball bearing slides with quick
- . All 4" and deeper drawers provide for adding additional slides to double drawer
- · Rolled hem on all drawers provide superior strength, rigidity and safety
- · Casters absorb vibrations transmitted to frame while moving on uneven surfaces
- · Casters equipped with pedal brake and ball bearings for easy operation
- · High luster paint protects against scratches, pealing, blistering and corrosion
- · Paint pretreatment process both sprays and immerses boxes for added corrosion protected
- · Drawer liners included at no extra charge
- . Gas struts in lid of chest make lid easy to open and close
- . Two point locking design adds extra security on all chests
- W40X50RV Side Handles
- Casters 5"x2", weight capacity 330 lbs. per caster
- · Weight capacity 75 lbs. per rail





Colors Available:















26" PROFESSIONAL SERIES TOOL CABINET

Designed for industrial use

Toll Free 1 800 563 1293

Product Code	Description
JHWW26TC4	26" Wide x 20" Deep 4-Drawer Top Chest
JHWW26RC7	26" Wide x 20" Deep 7-Drawer Roll Cabinet

Color Options: Standard color is red. To order in an optional color, simply add the appropriate color code to the end of the product code. Example: To order #JHWW26TC4 in Blue, specify product code JHWW26TC4BL

JHWW26TC4 Top Chest Overall Dimensions

Capacity (cu. in.)	Width (inches)	Depth (inches)	Height (inches)
6180	26 ²³ / ₃₂	19 ¹³ / ₁₆	19 ¹³ / ₃₂

Top Chest Drawer Sizes

Number	Width (inches)	Depth (inches)	Height (inches)
Top Compartment	26 19/32	18 ²³ / ₃₂	4 23/32
2	21 %	17 17/32	1 13/32
2	21 %	17 ¹⁷ / ₃₂	3 19/32

JHWW26RC7 Roll Cabinet Overall Dimensions

Capacity (cu. in.)	Width (inches)	Depth (inches)	Height (inches)
9374	26	19 ¹³ / ₁₆	37 1/8

Roll Cabinet Drawer Sizes

Number	Width (inches)	Depth (inches)	Height (inches)
2	21 %	17 11/32	1 15/32
4	21 %	17 11/32	3 19/32
1	21 %	17 11/32	7 21/32

- · Made of High-Quality Class I steel to enhance strength and finish
- Double wall construction provides strength
- · Reinforcement corner gussets add strength and reduce racking
- · 2" mounting centers provide flexibility in arranging drawers to individual needs
- . Drawers equipped with positive latching drawer retention to prevent unwanted drawer opening
- · All drawers equipped with 75 pound full extension ball bearing slides with quick disconnect
- · All 4" and deeper drawers provide for adding additional slides to double drawer capacity
- · Rolled hem on all drawers provide superior strength, rigidity and safety
- · Casters absorb vibrations transmitted to frame while moving on uneven surfaces
- Casters equipped with pedal brake and ball bearings for easy operation
- High luster paint protects against scratches, pealing, blistering and corrosion
- · Paint pretreatment process both sprays and immerses boxes for added corrosion protected
- · Drawer liners included at no extra charge
- · Two point locking design adds extra security on all chests





Colors Available:			
Red	Gloss	Royal	
(Standard)	Black	Blue	
D DI			



pplīfast

BULK STORAGE CAGE

Secure storage with at-a-glance inventory control

Product Code	Description	Load Capacity (lbs)
JHWWBSC2460C	Mobile Bulk Storage Cage w/ Casters	900
JHWWBSC2460S	Stationary Bulk Storage Cage	1,800

Features

- Double door opening for easy access
- Door latch with padlock security loop
- Durable chrome finish
- Available with swivel and locking casters for easy mobility or stationary, without casters
- Dimensions: 62" wide x 68" high x 28.5" deep





Easy and convenient access to tools when and where you need them.

Product Code	Description
JHW50721A	4 Drawers with Lid, Rack and Shelf, Blue
JHW50722A	2 Shelves, Blue
JHW50723A	2 Shelves with Locking Drawer, Blue
JHW50724	4 Drawers with Lid, Rack and Shelf, Red

Service Cart Overall Dimensions

Product Code	Width (inches)	Depth (inches)	Height (inches
JHW50721A	35	17	41
JHW50722A	30	17	41
JHW50723A	30	17	36 7/32
JHW50724	35	17	41

- · High gloss powder coat paint is scratch & chemical resistant
- Storage drawers for frequently used tools
- . Heavy duty undercarriage to help support bottom tray load
- 18 gauge heavy duty steel
- 4" x 1" swivel casters



























JOB SITE BOXES

Toll Free 1 800 563 1293

Designed for the toughest outdoor work environments

Product Code	JHW50950B	JHW50951B	JHW50952B
	Overa	II (Inches)	
Width	32	42	48
Depth	19	20	24
Height	17 ¹ / ₂	23 1/2	27 1/2
	Inside of	body (Inches)	
Width	31	41 ⁷ /8	47 ⁷ / ₈
Depth	18 ⁷ /8	19 ⁷ /8	23 7/8
Height	11 ¹/s	17	21 1/8
	Inside of to	op Lid (Inches)	
Width	31 ⁷ /8	41 ⁷ /8	47 ⁷ /8
Depth	18 ⁷ /8	19 ⁷ /8	23 7/8
Height	2 ⁵ /8	2 ⁵ /8	2 5/8
JHW50949	6" x 2" Swivel C	aster Set	

- · Caster weight capacity is 3500 lbs, sold separately
- . Tough industrial powder coating finish
- Heavy 16 gauge steel construction with 12 gauge feet
- · Recessed and concealed locking area protects padlock for ultimate security against drills and bolt cutter
- Fully welded seams provide maximum strength
- Recessed side handles for easy transportation
- · Reinforced overlapping lid provides protection from weather and forced entry
- · Heavy duty industrial lid stays prevents accidental closure
- Tread plate design for rugged durability



pplifast

26" FLAT TOP TOOLBOX

Product Code	Width (Inches)	Depth (Inches)	Height (Inches)	Cubic Inch Capacity
JHWTB-6124B	26	8 ¾	9	1980

- Ruggedly constructed hand tool box
- Extra long tools up to 25" fit neatly inside
- Three compartment tray with socket divider to keep small tools better organized and close at hand
- Double drawbolts keep the lid tightly closed
- · Padlock eye with slotted hasp provides security

21" FLAT TOP TOOLBOX

Product Code	Width	Depth	Height	Cubic Inch
	(Inches)	(Inches)	(Inches)	Capacity
JHWTB-6123B	21	8 ¾	12	1606

- Ideal for general use
- Steel tote tray keeps smaller items handy
- · Combination drawbolt and padlock eye provide security

19" FLAT TOP TOOLBOX

Product Code	Width	Depth	Height	Cubic Inch
	(Inches)	(Inches)	(Inches)	Capacity
JHWTB-6119B	19	6	6 1/2	741

- · Ideal for general use
- · Steel tote tray keeps smaller Items handy
- Combination drawbolt and padlock eye provide security

21" FOUR TRAY CANTILEVER TOOLBOX

Product Code	Width (Inches)	Depth (Inches)	Height (Inches)	Cubic Inch Capacity
JHWTB-6218B	21 1/4	8 3/4	12	1971

- . Four trays cantilever outward when box is open providing access to the exceptionally deep box.
- Two of the trays feature movable dividers and another has a protective cover to prevent small tools or parts from spilling into the box.
- Formed feet in the box bottom add to strength and keep the box away from wet, dirty surfaces.





























14" TOOL TOTE BAG

	Length	Width	Height
Product Code	(Inches)	(Inches)	(Inches)
JHWTOTEBAGB	14	11	10

Features

Toll Free 1 800 563 1293

- Constructed from heavy Cordura® for maximum durability
- Ideal for storing and toting tools, parts, and supplies
- Heavy duty zippers for extra long life

ROLL POUCHES

Customize	Your Own Too	l Sets	
Product Code	Number of Pockets	Width (Inches)	Height (Inches)
JHWR-1A	5	6	7 ½
JHWR-2A	5 5	8	12
JHWR-3A		11 ½	15 ½
JHWR-4A	5	12 ½	18 ½
JHWR-5A	5	16	25
JHWR-8A	15	17 1/4	10 ½
JHWR-10A	10	19 ¾	17 1/4
JHWR-11A	10	26 ½	25
JHWR-13A	10	34 ½	32
JHWR-20A	14	14 ½	8
JHWR-23A	8	23 1/4	26
JHWR-24A	4	8 3/4	11
JHWR-27A	17	23 1/4	17 ¾
JHWR-28A	26	19 ½	27
JHWR-29A	8	11	12 ¾
JHWR-30A	9	14 %	13
JHWR-31A	6	13 1/4	16
JHWR-36A	9	9 1/4	10 ½
JHWR-37A	15	37	26 ½
JHWR-41A	11	24	20
JHWR-42A	7	12 ¾	16
JHWR-48A	3	15 1/4	9 1/4
JHWR-49A	12	25 %	29

Features

- · Heavy construction for long life
- · Ideal for storing a variety of tools such as wrenches, extensions, and ratchets

VINYL POUCHES

Customize Your Own Tool Sets					
Product Code	Width (Inches)	Height (Inches)			
JHW50001A	4 1/2	12 ½			
JHW50003A	6	15			
JHW50005A	7 ½	19			
JHW50007A	9 ½	19			
JHW097411A	6	3/8			
JHW099965A	9 ½	1/8			

- Extra heavy construction with snap fastening
- Clear plastic front panels allows full visibility to tools
- Metal grommets allow pouch to be hung on pegboard



pplifast

METAL SOCKET SET TOOLBOXES

Rugged storage for Williams' premium socket sets

	Width	Depth	Height	
Product Code	(Inches)	(Inches)	(Inches)	Gauge
JHWTB-101	10	7	1 ½	22
JHWTB-102	13	9	1 ¾	22
JHWTB103	18	8	2	22
JHWTB-104	25	9	2	20
JHWTB-12	30 1/4	11 ½	4 3/4	18
JHWTB-35	14 1/2	5 ½	1 ¾	22
JHWTB-49	24 %	8 %	3 %	18

Features

- · Ruggedly constructed for long life
- · Ideal for storing socket sets, other tools, and small parts
- Made from cold-rolled steel





PLASTIC SOCKET RAILS AND CLIPS

Product Code	Description	Material	Length (Inches)
JHWR-8BLUE	Socket Rail - Blue	Plastic	8
JHWR-8RED	Socket Rail - Red	Plastic	8
JHWR-13BLUE	Socket Rail - Blue	Plastic	13
JHWR-13RED	Socket Rail - Red	Plastic	13
JHWR-18BLUE	Socket Rail - Blue	Plastic	18
JHWR-18RED	Socket Rail - Red	Plastic	18
Product Code	Description	Package Quantity	Drive Size (Inches)
JHWRC-25-15P	Socket Clip	15 Pack	1/4
JHWRC-37-15P	Socket Clip	15 Pack	3/8
JHWRC-50-15P	Socket Clip	15 Pack	1/2

- · Socket clips sold individually
- All rails hold any size clips



METAL SOCKET RAILS AND CLIPS

Product Code	Description	Material	Length (Inches)
JHWR-9	Socket Rail	Metal	9
JHWR-13R	Socket Rail	Metal	13
JHWR-17	Socket Rail	Metal	17
Product Code	Description	Material	Drive Size (Inches)
JHWRC-25	Socket Clip	Metal	1/4
JHWRC-37	Socket Clip	Metal	3/8
JHWRC-50	Socket Clip	Metal	1/2
			3/4

- · Socket clips sold individually
- All rails hold any size clips





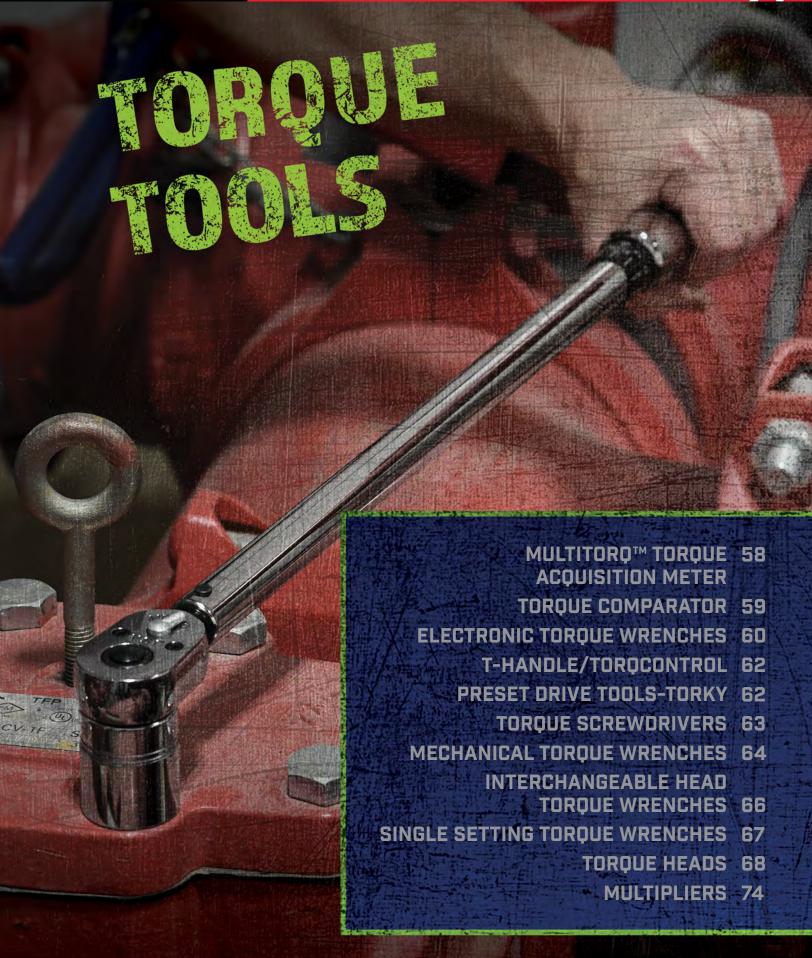






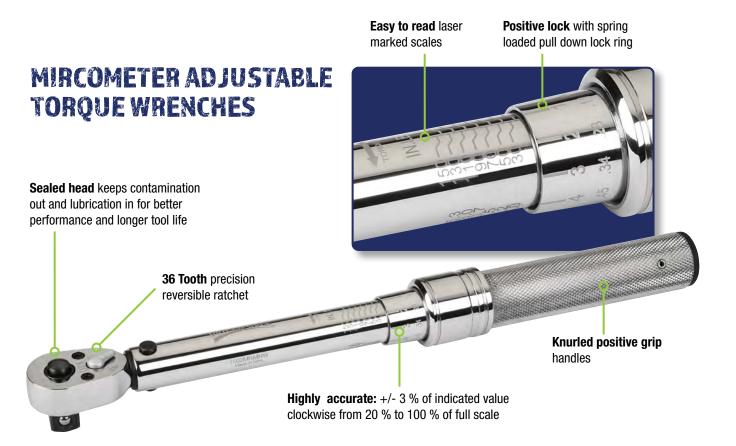












TORQUETOOLS

WORK MADE FASTER, EASIER AND SAFER

MULTITORQ™ TORQUE **ACQUISITION METER**

Sensors available in 1/4", 3/8", 1/2", 3/4" and 1" drive sizes



4 digit with alpha & numerical function flags High and low torque limits are adjustable to give an audible and visual alarm Data store/recall: 3500 measurements





Cam-over torque limiting clutch for repeatability and accuracy

Automatic lock in counter-clockwise direction makes screw removal a snap

Permanently lubricated internal mechanism, never needs oil

Easy-to-read window scale and adjustment knob for precise settings

Industry standard 1/4" hex driver bits (Phillips, Torx, etc.)

THE MICRO WITH MASSIVE ERSATILITY



Comfortable, slip resistant finish

Certified to the following industry specifications: ASME B107.300 - 2010 and ISO 6789

Lightweight yet rugged construction, built to last



pplifast

MULTITORQ™ TORQUE ACQUISITION METER

The MULTITORQ™ torque acquisition meter displays torque readings from sensors that attach between sockets and driver. MULTITORQ™ is a highly versatile torque analyzer/data acquisition system that can be used with sockets, extensions, universal joints, ratcheting drivers or any combination of these. Sensors are sold separately, available in 8 ranges from 2-20 in. ozs. to 150-1500 ft. lb. Accuracy ± 1% of reading (± 2% reading for 20 in. oz., and 10 in. lb.) 10-100% of sensor range.

The torque analyzer features a wide angle viewing LCD display with selectable readouts; ft. lb., in. lb., in. oz., Nm, dNm, mkg, and cmkg units. Torque target settings are entered via a push button membrane keyboard. High and low torque limits are adjustable to give an audible and visual alarm. The user selects Track mode to display torque values as they are applied, or Peak mode to display the highest torque value applied.

Features

- 4 digit w/ alpha & numerical function flags
- 4 digit, 8000 counts display capacity
- Accuracy: ± 1% of indicated value, cw & ccw, from 10% to 100% of full scale, 201-O-MT and 101-I-MT are ± 2%
- Soft touch keys: hi/lo alarm, zero tare, set-up, units, store/recall/clear, send, statistics, enter
- Units of measurement: ft. lb., in. lb., in. oz., Nm, dNm, mkg and cmkg
- Operating Temperature: 40 to 100 Degrees Fahrenheit (4 to 43 Degrees Celsius)
- Storage: -20 to 50 degrees C (-2 to 122 degrees F)
- Humidity: up to 90%, non-condensing
- Dimensions: 3" wide, 2.5" high (3" with belt clip), 6" deep
- Weight: 1 pound
- Charge life (full charge to shutoff): 100 hours continuous
- Data storage/recall: 3500 measurements
- Mini-USB: download port
- Three AA Alkaline Batteries (included)
- · Reads bi-directionally (cw and ccw)

Standard Set Includes:

i iouuci ooue	Description
1600-MT2W	MULTITORQ™ Unit includes:
PB57A	Carrying Case
AW2-1/2D	Hex Key (Battery Install)
USBATOMINIB	Mini-USB Cable
276-61	Belt Clip

MULTITORQ™ TORQUE & DATA **COLLECTION SENSORS**

Sensors: (sold separately)						
Product Code	Torque Range	Drive (In.)				
201-O-MT2W	2 - 20 in. oz.	1/4	N/II			
101-I-MT2W	1 - 10 in. lb.	1/4	Made in U.S.A.			
501-I-MT2W	5 - 50 in. lb.	1/4	made iii 6.5.7.			
2001-I-MT2W	20 - 200 in. lb.	1/4				
1002-F-MT2W	10 - 100 ft. lb.	3/8				
2503-F-MT2W	25 - 250 ft. lb.	1/2				
6004-F-MT2W	60 - 600 ft. lb.	3/4				
15005-F-MT2W	150 - 1500 ft. lb.	1				
C1:E1E	t N I C T	بمميناه محمية طممم طفانين اممالحين				

Certificate of accuracy traceable to N.I.S.T. supplied with each transducer.

All components ordered separately.

















TORQUE COMPARATOR

Toll Free 1 800 563 1293

Large dual scale. Perfect when a quick check of your wrench is required before usage. Compact design allows for mounting on any flat surface in either horizontal or vertical position. Torque Comparator is calibrated on torque testers which are certified using test bars and "F" weights traceable to NIST. \pm 2% accuracy from 20% of full scale to full scale. Calibration Compliance Certificate.

Product Code	Square Drive	English Capacity	Inc.	Nm, Capacity	Inc.
1753-TC	1/2"	175 ft. lbs.	5 ft. lbs.	230 Nm	10 Nm
6004-TC	3/4"	600 ft. lbs.	5 ft. lbs.	800 Nm	20 Nm



TORQUE SOLUTIONS

A FULL LINE OF PRODUCTS FOR EVERY INDUSTRY





pplifast

ELECTRONIC TORQUE WRENCH

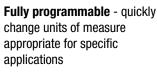
TORQUE IN LESS TIME, WITH MORE ACCURACY AND CONTROL

Williams Electronic Torque Wrench are fully programmable for reliable, consistent, and repeatable torque applications. This electronic torque wrench is ideal for industrial working conditions and provides instant data on the exact torque actually applied.

Product Code	Square Drive	Torque Range (inlb.)	Torque Range (ftlb.)	Range (Nm)	Head Depth (Inches)	Head Width (Inches)	Weight (lbs)	Length (inches)
2401EFRMH	1/4	12-240	1-20	1.36-27.12	1/2	7/8	0.93	11 ⁵ / ₈
12002EFRMH	3/8	60-1,200	5-100	7-135	3/4	11/8	1.60	15 ¾
1002EFRMH	3/8	60-1,200	5-100	6.8-135.0	3/4	11/8	2.85	19 1/8
2503EFRMH	1/2	150-3,000	12.5-250	16.9-339	7/8	15/8	4.35	26 ¾
6004ERMH	3/4	360-7,200	30-600	40.7-813.5	2¾	21/2	10.95	48 ¾

Features

- Features a 36 tooth gear quick release ratchet head that provides good socket retention as well as easy socket removal
- Sealed head keep contamination out and lubrication in for better performance and longer tool life.
- Handles are durable with are lightly knurled for a tough, non slip grip
- Dual Progressive LEDs allows user to view active torque readings and to anticipate torque target for more accurate torque
- Automatically compensates for flex related torque variances
- Easy to read Large LCD Screen, LED indicator lights, audible beep and handle vibrations work together to signal when torque is within the targeted range
- Rugged all steel body is designed to stand up to industrial use and each wrench is backed by a 1 year warranty
- Torque measured in seven modes: ft-lb, in-lb, Nm, dNm, kg-cm, angle and torque then angle
- Fully programmable with 10 memory presets
- Conveniently switches to angle mode without removing the torque wrench from a fastener in torque then angle mode
- Angle Accuracy: (+/- 1% of reading) + (+/- 1 DEG @ Angle Velocity >10 DEG/SEC < 180 DEG/SEC) + (+/- 1 DEG for test fixture)
- Torque accuracy: +/- 2% CW, +/- 3% CCW indicated value, 20% to 100 % of full scale
- Torque accuracy: +/-4% CW, +/-6 CCW indicated value, 10% to 19% of full scale
- Torque accuracy: +/- 8% CW, +/- 10% CCW indicated value, 5% to 9% of full scale



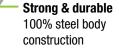
Low profile **buttons** protects against accidental activation



Head flexes ±15° to avoid obstructions.

Sealed head keeps contamination out and lubrication in for better performance and longer tool life

Quick release 36 tooth gear ratchet head





Easy-to-read LCD screen, LED indicator lights, audible beep and handle vibration work together to signal when torque is within the targeted range



LED indicator lights

Dual-side LED lights with configurable settings provide operational guidance





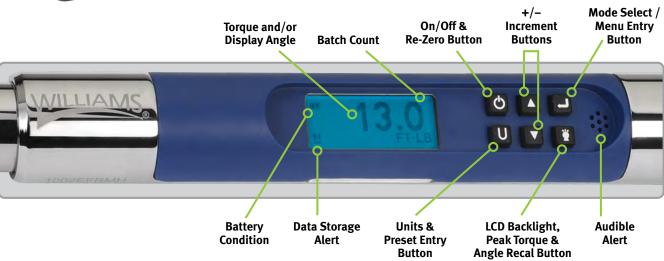














plitast

TORQUE LIMITING T-HANDLE - PRE-SET

		Pre Set Value			
Product Code	Nm	Ft. Lb.	In. Lb.	Bit	
TLPT4NMW	4.0	2.9	35.4	4 mm	
TLPT5NMW	5.0	3.7	44.3	4 mm	
TLPT6NMW	6.0	4.4	53.1	4 mm	

Features

- Torque Limiting Technology to Prevent Over-Tightening
- Magnetic Shank to Interchange Bits as Needed
- Rounded T-Handle Grip for Added Comfort
- . Hi-Vis Color for Easy Identification
- Shaft accepts 1/4" hex shank bits, a 4 mm bit is included in each driver



TORQCONTROL ADJUSTABLE TORQUE TOOL

ACCURATE, FAST, EASY AND ERROR-PROOF

Applying just the right amount of torque in low-torque applications can be tricky at times. The new patent-pending TorqControl Torque Tool is an adjustable, torque limiting tool that applies torque in a range between 2 Newton Meters (Nm) and 8 Nm, indexing at every tenth Newton Meter.

Product Code	Nm Range	Included Bits
TLA28NMW	2.0-8.0	4 mm, 5 mm, 6 mm, T25, 4" Long 4mm, 4" Long T25 Bits

Features

- Perfect for applying torque to bicycle components
- Magnetic tip holds, and allows for easy bit changes
- Standard 1/4" hex tip can utilize any standard hex bits
- Ergonomic L-shaped handle with rubberized cap for better grip
- Includes Certification of Accuracy
- TorqControl provides easy adjustability



PRESET DRIVE TOOLS - TORKY

TORKY is a right angle pre-set torque wrench. Torky is designed for production torque applications that require higher values than a torque screwdriver can deliver. The comfortable design eases the strain of repeated uses. Torque value may be ordered factory pre-set at an additional charge or it may be easily set by the operator with any quality torque calibration system. When the proper torque value is reached, a momentary release or "break" can be felt. Available in three drive styles to fit most needs.

- Factory Pre-Set models are set at the factory to the customer's specified torque setting and are furnished with a Certificate of Calibration
- Please specify desired torque setting when order is placed
- Three models available
- Simple, easy to use design
- Ruggedly built for years of reliable service
- Operates bi-directionally
- Accuracy: ± 6% of indicated value, CW, from 20% to 100% of full scale

Product Code Un-Set	Product Code Factory Pre-Set	Drive	Torque Range	W X L Length	Wt. Oz.
1501TPA-1W	1501TPA-1-SETW	1/4" Female Hex	20-170 in.lbs.	1 x 5.25	8.3
1501TP-1W	1501TP-1-SETW	1/4" Male Square	20-170 in.lbs.	1 x 5.25	8.3
1502TP-1W	1502TP-1-SETW	3/8" Male Square	20-170 in.lbs.	1 x 5.25	8.3
13021P-1VV	13021P-1-3E1W	3/8 iviale Square	20-170 IN.IDS.		
				Made in	















61SMW

Industry standard 1/4" hex receiver allows use of all standard driver bits (Phillips,Torx, etc.)

Certified to the following industry specifications: ASME B107.300 - 2010 and ISO 6789

Cam-over torque limiting clutch for repeatability and accuracy

Automatic lock in counter-clockwise direction makes screw removal a snap

Comfortable, slip resistant finish

Permanently lubricated internal mechanism, never needs oil

Easy-to-read window scale and adjustment knob for precise settings

Lightweight yet rugged construction, built to last

TORQUE SCREWDRIVERS - MICRO-ADJUSTABLE

Adjustable models offer versatility for applications that require more than one torque value. These torque screwdrivers are particularly suited for the electronics industry and for instrument assembly work. A simple, cam-over design prevents over-tightening and possible damage to components.

Torque settings are easily and accurately changed with a unique adjusting knob and easy-to-read window scale. Adjusting the screwdriver is simple. Just pull out the adjusting knob to unlock, turn to the desired setting, then push the knob in until it clicks!

Positive locking knob makes accidental setting changes impossible. Automatic lock in counterclockwise direction makes fastener removal a snap. The Micro-Adjustable series includes six models with torque settings ranging from 20 in. ozs. to 40 in. lbs.

Features

- 6 models available
- Positive locking pull down adjustment knob
- Trilobular comfort grip
- Universal 1/4" hex bit holder with strong rare earth magnet
- Cam-over torque limiting clutch
- Slip resistant finish
- Easy-to-read window scale
- · Light weight

- Automatic lock in CCW direction for removing screws
- Accuracy: ± 6% of indicated value, CW, from 20% to 100% of full scale
- Individually serialized with matching certificate of calibration traceable to N.I.S.T.
- Meets or exceeds ASME B107.300 - 2010

Product Code	Torque Range	Increments	W x L Inches	Wt. Oz.	
61SMW	20 - 100 in. ozs.	1 in. oz.	1.1 x 5.5	6.8	
151SMW	3 - 15 in. lbs.	.2 in. lbs.	1.1 x 6.25	8.0	USA
401SMW	5 - 40 in. lbs.	.5 in. lbs.	1.2 x 6.75	10.8	Made in U.S.A.
61NSMW	10 - 80 cNm	1 cNm	1.1 x 5.5	6.8	
151NSMW	40 - 200 cNm	2 cNm	1.1 x 6.25	8.0	
401NSMW	50 - 450 cNm	5 cNm	1.2 x 6.75	10.8	



Product Code Un-Set	Product Code Factory Pre-Set	Torque Range	W X L Length	Wt. Oz.
21SPW	21SP-SETW	6-32 in.ozs	1.1 x 4.5	5.3
61SPW	61SP-SETW	10 - 100 in.ozs.	1.1 x 5.6	7.0
151SPW	151SP-SETW	1.5 - 15 in. lbs	1.1 x 5.6	7.0
401SPW	401SP-SETW	4 - 40 in. lbs.	1.2 x 6.3	9.6



TORQUE SCREWDRIVERS - SINGLE SETTING

The tamper resistant design of the **Single Setting** series is particularly suited for high-volume use in assembly operations. A simple, cam-over design prevents over-tightening and possible damage to components.

Torque screwdrivers may be ordered factory pre-set at an additional charge or they may be easily set by the operator with any quality torque calibration system. The end cap removes for easy access to the 1/8" hex adjustment screw. A hex adjustment key is included with each driver.

The Single Setting series includes four models with available torque settings from 6 in. ozs. up to 40 in.lbs. When precision and repeatability are a must, the choice is simple - Williams Torque Screwdrivers.

- Factory Pre-Set models are set at the factory to the customer's specified torque setting and are furnished with a Certificate of Calibration
- Please specify desired torque setting when order is placed
- · 4 models available
- · Trilobular comfort grip
- Universal 1/4" hex bit holder with strong rare earth magnet
- Cam-over torque limiting clutch
- . Rugged, light weight aluminum body
- . Automatic lock in CCW direction
- Accuracy: ± 6% of indicated value, CW, from 20% to 100% of full scale
- Meets or exceeds ASME B107.300 2010

Made in U.S.A.



Applifast.

COMFORT GRIP MICROMETER ADJUSTABLE TORQUE WRENCHES - DUAL SCALE

Comfort-Grip Handle Dual Scale

	Drive	English		Nm		Overall	Head	Head
Product Code	Size (In.)	Range	Incr.	Range	Incr.	Length (In.)	Width (In.)	Depth (In.)
1501MRPHW	1/4	20-150 in. lb.	1	2.8 - 15.3 Nm	0.12	9 3/4	7/8	4/8
2502MRPHW	3/8	30-250 in. lb.	1	4.0 - 27.7 Nm	0.12	11	7/8	5/8
10002MRPHW	3/8	150-1000 in. lb.	5	19.8 - 110.2 Nm	0.6	15 ³ / ₄	1 1/8	3/4
1002MFRPHW	3/8	10-100 ft. lb.	1	16.9 - 132.2 Nm	0.7	15 ³ / ₄	1 1/8	3/4
2503MFRPHW	1/2	30-250 ft. lb.	1	47 - 332 Nm	1.4	24 ¹ / ₂	1 5/8	7/8
6004MFRPHW	3/4	100-600 ft. lb.	5	169 - 779 Nm	6.8	41 3/16	2 1/2	2 3/8

Features

- Dual scale, calibrated dual direction
- · Positive lock with spring loaded pull down lock ring
- Fast, accurate and easy to set
- Easy-to-read laser marked scale
- 1/4", 3/8", 1/2" Drive feature quick release buttons which provide good socket retention as well as easy socket removal
- Ergonomic comfort-grip
- \bullet Accuracy: \pm 3% CW of indicated value CW from 20% to 100% of full scale
- Meets or exceeds ASME standards, ISO 6789 standards
- Individually serialized with ma hing certificate of calibration traceable to N.I.S.T.















64

Made in U.S.A.





MICROMETER ADJUSTABLE TORQUE WRENCHES - DUAL SCALE

Metal Hand	le Dual	Scale						
	Drive	English		Nm		Overall	Head	Head
Product Code	Size (In.)	Range	Incr.	Range	Incr.	Length (In.)	Width (In.)	Depth (In.)
501MRMHW	1/4	10-50 in. lb.	0.50	1.4 - 5.4 Nm	0.50	9 5/8	7/8	1/2
1501MRMHW	1/4	20-150 in. lb.	0.50	2.8-15.3 Nm	0.120	9 3/4	7/8	1/2
1502MRMHW	3/8	20-150 in. lb.	1	2.8 - 15.3 Nm	0.12	9 3/4	7/8	5/8
2002MRMHW	3/8	30-200 in. lb.	1	4.0 - 22.0 Nm	0.12	10	7/8	5/8
2502MRMHW	3/8	30-200 in. lb.	1	4.0 - 27.7 Nm	0.12	10 ⁷ /8	7/8	5/8
7502MRMHW	3/8	100-750 in. lb.	5	14.1 - 81.9 Nm	0.60	15 ⁵ / ₁₆	7/8	5/8
10002MRMHW	3/8	150-1000 in. lb.	5	19.8 - 110.2 Nm	0.60	15 ⁵ /8	7/8	5/8
25003MRMHW	1/2	300-2500 in. lb.	10	39.6 - 276.9 Nm	1.2	19 ³ / ₁₆	1 5/8	7/8
752MFRMHW	3/8	5-75 ft. lb.	0.50	10.2 - 98.3 Nm	0.70	15 ¹ / ₂	1 1/8	6/8
1002MFRMHW	3/8	10-100 ft. lb.	0.50	16.9 - 132.2 Nm	0.70	15 ¹ / ₂	1 1/8	6/8
1503MFMHW	1/2	20-150 ft lb.	1	34 - 197 Nm	1.4	18 ³ / ₄	1 5/8	7/8
1503MFRMHW	1/2	20-150 ft lb.	1	34 - 194 Nm	1.4	18 ³ / ₄	1 5/8	7/8
2503MFRMHW	1/2	30-250 ft. lb.	1	47 - 332 Nm	1.4	24 ⁵ / ₁₆	1 5/8	7/8
4004MFRMHW	3/4	80-400 ft. lb.	5	85 - 491 Nm	3.4	34 ³ / ₁₆	2 1/2	2 ³ / ₈
6004MFRMHW	3/4	100-500 ft. lb.	5	169 - 779 Nm	6.8	41 ¹ / ₈	2 1/2	2 ³ / ₈
10005MFRMHW*	1	200-1000 ft. lb.	5	305 - 1322 Nm	6.8	70 ³ / ₁₆	3 ¹ / ₈	2 ⁷ /8

- Knurled metal handle offers a tough, non-slip grip
- Dual scale, calibrated dual direction
- Positive lock with spring loaded pull down lock ring
- Fast, accurate and easy to set
- Easy-to-read laser marked scales
- 1/4^{r/}, 3/8", 1/2" Drive feature quick release buttons which provide good socket retention as well as easy socket removal
- Accuracy: ± 3% CW of indicated value CW from 20% to 100% of full scale
- Individually serialized with ma hing certificate of calibration traceable to N.I.S.T.
- *NOTE: 10005MFRMH supplied with one extension handle and is packed in a metal box.



150MFIMHSSW



pplīfast

INTERCHANGEABLE HEAD TORQUE WRENCHES

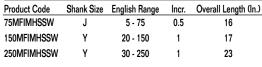
Features

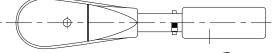
- Interchangeable heads permit ratcheting, fixed, or open end torquing capability with adjustable torque wrench bodies.
- A push of the locking pin provides quick-change action, with a wide range of head styles to choose from.
- Micrometer Type Adjustment-ensures fast, accurate settings and changes.
- *Part Number 800NMIMH has Dual Pin Release for added strength
- Accuracy: ± 3% of indicated value, in direction of torque indicator, from 20% to 100% of full scale

INTERCHANGEABLE HEAD TORQUE WRENCHES - DUAL SCALE

Product Code	Shank Size	Nm Range	Incr.	English Range	Overall Length (In.)
50NMIMHW	J	10 - 50	0.5	9.2 - 35	17
100NMIMHW	J	20 - 100	0.5	16.5 - 71.9	20
200NMIMHW	Υ	40 - 200	2	37 - 140	22 ½
350NMIMHW	Χ	70 - 350	2	59 - 251	24 ½
800NMIMHW*	Z	150 - 800	5	129 - 572	48

INTERCHANGEABLE HEAD TORQUE WRENCHES - SINGLE SCALE







Z Shank Dual Pins





Interchangeable heads sold separately on pages 68-73.









SINGLE SETTING TORQUE WRENCHES

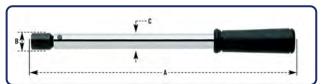
Toll Free 1 800 563 1293

Product Code Un-Set	Product Code Factory Pre-Set	English Range	Nm Range	Shank Size	Overall Length (In.)	Head Width (In.)	Head Depth (In.)
5T-IW	5T-I-SETW	10-50 in. lb.	1.1 - 5.6	J	6 1/2	5/8	5/8
10T-IW	10T-I-SETW	50 - 250 in. lb.	5.6 - 28	J	10	5/8	5/8
10ST-IW	10ST-I-SETW	60 - 300 in. lb.	6.8 - 34	J	6	5/8	1
50T-IW	50T-I-SETW	15 - 75 ft. lb.	20 -102	J	11	5/8	1
100T-IW	100T-I-SETW	30 - 150 ft. lb.	41 - 203	Υ	19 ¹ / ₂	1	1
200T-IW	200T-I-SETW	40 - 200 ft. lb.	54 - 271	Υ	23 1/2	1	1
300T-IW	300T-I-SETW	100 - 300 ft. lb.	135 - 406	Х	27 1/2	1	1
600T-IW	600T-I-SETW	120 - 600 ft. lb.	162 - 814	Z	55	1 1/2	1 1/4

- Made in U.S.A.
- Designed for use on production lines and other applications where a specific torque is required for repetitive operations
- Factory Pre-Set models are set at the factory to the customer's specified torque setting, and are furnished with a Certificate of Calibration.
- Please specify desired torque setting when order is placed.
- Featuring a durable, non-slip cushion grip
- Uses universal round shank interchangeable heads
- Audible click and feel impulse torque control mechanism
- Tamper proof torque setting for production line use
- Accuracy: ± 3% CW of indicated value, in direction of torque indicator, from 20% to 100% of full scale
- Meets or exceeds ASME B107.300-2010



Z Shank Dual Pins









Applifast.





RATCHETING SQUARE DRIVE HEADS - SAE

	Square Drive (Inches)	J (0.425")	Max Torque Ft. Lbs.	Y (0.560")	Max Torque Ft. Lbs.	X (0.735")	Max Torque Ft. Lbs.	Z (0.990")	Max Torque Ft. Lbs.	Z Dual Pins	Max Torque Ft. Lbs.
Ì	1/4	QJD8A-72	60								
Ī	3/8	QJD12A-80	60	QYD12A-80	100						
ĺ	1/2	QJD16A	60	QYD16A	240	QXD16A	240				
	3/4					QXD24A	240	QZD24B	480	QZD24BDP	480
I	1					QXD32A	240	QZD32B	480	QZD32BDP	480



Z Shank Dual Pins

FIXED SQUARE DRIVE HEADS - SAE

Square Drive (Inches)	J (0.425")	Max Torque Ft. Lbs.	Y (0.560")	Max Torque Ft. Lbs.	X (0.735")	Max Torque Ft. Lbs.	Z (0.990")	Max Torque Ft. Lbs.	Z Dual Pins	Max Torque Ft. Lbs.
1/4	QJSD8A	60								
3/8	QJSD12A	60	QYSD12A	100						
1/2	QJSD16A	60	QYSD16A	160	QXSD16A	240				
3/4					QXSD24A	240	QZSD24A	480	QZSD24ADP	480
1					QXSD32A	240	QZSD32A	480	QZSD32ADP	480



Z Shank Dual Pins

OPEN END HEADS - SAE

0		1 14	1					14		
Square	1 (O 40EII)	Max	V (O ECOID	Max	V (0.70EII)	Max	7 (0 000)	Max	7 D Di	Max
Drive	J (0.425")	Torque	Y (0.560")	Torque Ft.	X (0.735")	Torque	Z (0.990")	Torque	Z Dual Pins	Torque
(Inches)		Ft. Lbs.		Lbs.		Ft. Lbs.		Ft. Lbs.		Ft. Lbs.
1/4	QJO8A	5								
9/32	QJO9A	7			ļ		ļ			
5/16	QJO10A	9			ļ		ļ			
3/8	QJO12A	18					ļ			
7/16	QJO14A	26			ļ					
1/2	QJO16A	34								
9/16	QJO18A	58	QYO18A	58						
5/8	QJO20A	60	QYO20A	70						
11/16	QJO22A	60	QYO22A	99						
3/4	QJO24A	60	QYO24A	125	QXO24A	125				
13/16	QJO26A	60	QYO26A	160	QXO26A	164				
7/8	QJO28A	60	QYO28A	160	QXO28A	193				
15/16	QJO30A	60	QYO30A	160	QXO30A	200				
1	QJO32A	60	QYO32A	160	QXO32A	240	QZO32A	298	QZO32ADP	298
1 1/16	QJO34A	60	QYO34A	160	QXO34A	240	QZO34A	321	QZO34ADP	321
1 1/8	QJO36A	60	QYO36A	160	QXO36A	240	QZO36A	367	QZO36ADP	367
1 3/16	QJO38A	60	QYO38A	160	QXO38A	240	QZO38A	433	QZO38ADP	433
1 1/4	QJO40A	60	QYO40A	160	QXO40A	240	QZO40A	480	OZO40ADP	480
1 5/16			QYO42A	160	QXO42A	240	QZO42A	480	OZO42ADP	480
1 3/8	OJO44A	60	QYO44A	160	QXO44A	240	OZO44A	480	QZO44ADP	480
1 7/16	•		QYO46A	160	QXO46A	240	OZO46A	480	QZO46ADP	480
1 1/2	QJO48A	60	QYO48A	160	QXO48A	240	QZO48A	480	QZO48ADP	480
1 9/16			QYO50A	160	QXO50A	240	QZO50A	480	QZO50ADP	480
1 5/8	OJO52A	60	QYO52A	160	QXO52A	240	QZO52A	480	QZO52ADP	480
1 11/16					OXO54A	240	OZO54A	480	OZO54ADP	480
1 3/4			QYO56A	160	OXO56A	240	OZO56A	480	OZO56ADP	480
1 13/16			1 7.000.	''	OXO58A	240	QZO58A	480	OZO58ADP	480
1 7/8			OYO60A	160	OXO60A	240	OZO60A	480	OZO60ADP	480
2			1 7.000.	''	QXO64A	240	QZO64A	480	OZO64ADP	480
2 1/16		<u> </u>	İ		OXO66A	240	QZO66A	480	OZO66ADP	480
2 1/10					OXO68A	240	QZ068A	480	OZO68ADP	480
2 1/4			QY072	160	, QAOUA	270	QZ072A	480	OZO72ADP	480
2 3/8			V1012	100			QZOIZA	700	OZO76ADP	480
2 1/2		 	QY080	160			OZO80A	480	OZO80ADP	480
2 3/4		 	Q1000	100			QZ088A	480	QZOUADF	700
3				-	 		QZ006A QZ096A	480		





Center of fastener to retaining pin:

QJ Series - 2.50"

QY Series - 3.00"

QX Series - 4.50"

QZ Series - 5.75"







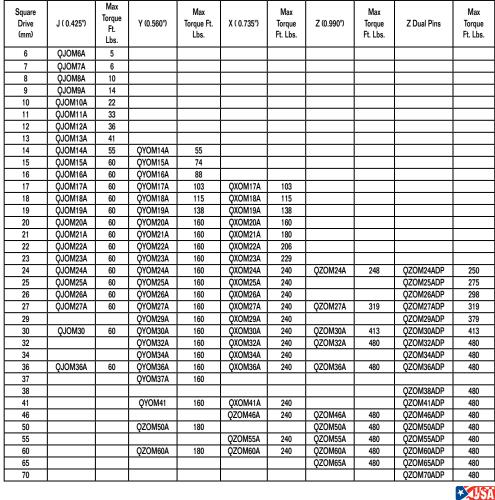






OPEN END HEADS - METRIC





Max

Torque

160

160



OPEN END THIN HEADS - SAE

J (0.425")

QJO66ARTH QJ068ARTH

QJO86ARTH

Square Drive

2 1/16

2 1/8

2 1/4

2 11/16

Max

Torque

60

60

60



QYO68ARTH

QYO72ARTH

Y (0.560")



2 1/4

2 3/8

2 1/2

2 9/16



Applifast.

Z Shank Dual Pins

12-POINT BOX END 15° OFFSET HEADS - SAE

Square		Max		Max		Max		Max		Max
Drive	J (0.425")	Torque	Y (0.560")	Torque	X (0.735")	Torque	Z (0.990")	Torque	Z Dual Pins	Torque
(Inches)		Ft. Lbs.		Ft. Lbs.		Ft. Lbs.		Ft. Lbs.		Ft. Lbs.
7/32	QJX7A	10								
1/4	QJX8A	18								
9/32	QJX9A	41								
5/16	QJX10A	41								
3/8	QJX12A	60								
7/16	QJX14A	60	QYX14A	60						
1/2	QJX16A	60	QYX16A	75						
9/16	QJX18A	60	QYX18A	112						
5/8	QJX20A	60	QYX20A	160	QXX20A	171				
11/16	QJX22A	60	QYX22A	160	QXX22A	200				
3/4	QJX24A	60	QYX24A	160	QXX24A	219				
13/16	QJX26A	60	QYX26A	160	QXX26A	240	QZX26A	275	QZX26ADP	275
7/8	QJX28A	60	QYX28A	160	QXX28A	240				
15/16	QJX30A	60	QYX30A	160	QXX30A	240	QZX30A	300	QZX36ADP	300
1	QJX32A	60	QYX32A	160	QXX32A	240				
1 1/16	QJX34A	60	QYX34A	160	QXX34A	240	QZX34A	480	QZX34ADP	300
1 1/8			QYX36A	160	QXX36A	240	QZX36A	480	QZX36ADP	480
1 3/16			QYX38A	160	QXX38A	240	QZX38A	480	QZX38ADP	480
1 1/4	QJX40A	60	QYX40A	160	QXX40A	240	QZX40A	480	QZX40ADP	480
1 5/16	İ		QYX42A	160	QXX42A	240	QZX42A	480	QZX42ADP	480
1 3/8			QYX44A	160	QXX44A	240	QZX44A	480	QZX44ADP	480
1 7/16			QYX46A	160	QXX46A	240	QZX46A	480	QZX46ADP	480
1 1/2			QYX48A	160	QXX48A	240	QZX48A	480	QZX48ADP	480
1 9/16			QYX50A	160	QXX50A	240	QZX50A	480	QZX50ADP	480
1 5/8			QYX52A	160	QXX52A	240	QZX52A	480	QZX52ADP	480
1 11/16			-		QXX54A	240	QZX54A	480	QZX54ADP	480
1 3/4					QXX56A	240	QZX56A	480	QZX56ADP	480
1 13/16					QXX58A	240	QZX58A	480	QZX58ADP	480
1 7/8					QXX60A	240	QZX60A	480	QZX60ADP	480
2					QXX64A	240	QZX64A	480	QZX64ADP	480
2 1/16							QZX66A	480	QZX66ADP	480
2 1/8							QZX68A	480	QZX68ADP	480
2 3/16							· ·		QZX70ADP	480
	-								 	_

QXX72A

240

QZX72A

QZX80A

QZX82A

480

480





480

480

480

12-POINT BOX END 0° OFFSET - SAE

Square Drive (Inches)	J (0.425")	Max Torque Ft. Lbs.	Y (0.560")	Max Torque Ft. Lbs.
3/8	QJXD12A	60		
7/16	QJXD14A	60		
1/2	QJXD16A	60		
9/16	QJXD18A	60		
5/8			QYXD20A	160
11/16	QJXD22A	60	QYXD22A	160
3/4	QJXD24A	60	QYXD24A	160
7/8	QJXD28A	60	QYXD28A	160
15/16	QJXD30A	60	QYXD30A	160
1	QJXD32A	60		



QZX72ADP

QZX76ADP

QZX80ADP















2-PU	INT BO	K END	15° OF	FSET -	METRIC					
Square		Max		Max		Max		Max		Max
Drive	J (0.425")	Torque	Y (0.560")	Torque Ft.	X (0.735")	Torque	Z (0.990")	Torque	Z Dual Pins	Torqu
(mm)		Ft. Lbs.		Lbs.		Ft. Lbs.		Ft. Lbs.		Ft. Ll
6	QJXM6A	15								
7	QJXM7A	20								
8	QJXM8A	22								
9	QJXM9A	30								
10	QJXM10A	53								
11	QJXM11A	59								
12	QJXM12A	60								
13	QJXM13A	60	QYXM13A	75						
14	QJXM14A	60	QYXM14A	117						
15	QJXM15A	60	QYXM15A	148	QXXM14A	117				
16	QJXM16A	60	QYXM16A	160	QXXM16A	183				
17	QJXM17A	60	QYXM17A	160	QXXM17A	197				
18	QJXM18A	60	QYXM18A	160	QXXM18A	224				
19	QJXM19A	60	QYXM19A	160	QXXM19A	238			QZXM19ADP	23
20	QJXM20A	60	QYXM20A	160	QXXM20A	240				
21	QJXM21A	60	QYXM21A	160	QXXM21A	240				
22	QJXM22A	60	QYXM22A	160	QXXM22A	240				
23	QJXM23A	60	QYXM23A	160	QXXM23A	240				
24	QJXM24A	60	QYXM24A	160	QXXM24A	240	QZXM24A	375	QZXM24ADP	37
25	QJXM25A	60	QYXM25A	160	QXXM25A	240	QZXM25A	413	QZXM25ADP	41:
26	QJXM26A	60	QYXM26A	160	QXXM26A	240	QZXM26A	448	QZXM26ADP	44
27	QJXM27A	60	QYXM27A	160	QXXM27A	240	QZXM27A	480	QZXM27ADP	44
29			QYXM29A	160	QXXM29A	240	QZXM29A	480	QZXM29ADP	48
30			QYXM30A	160	QXXM30A	240	QZXM30A	480	QZXM30ADP	48
32			QYXM32A	160	QXXM32A	240	QZXM32A	480	QZXM32ADP	48
34			QYXM34A	160	QXXM34A	240	QZXM34A	480	QZXM34ADP	48
36			QYXM36A	160	QXXM36A	240	QZXM36A	480	QZXM36ADP	48
41					QXXM41A	240			QZXM41ADP	48
46					QXXM46A	240			QZXM46ADP	48
50				Ì					QZXM50ADP	48
55									QZXM55ADP	48
60				İ	İ				QZXM60ADP	48



12 POINT RATCHET WRENCH HEADS - METRIC

Square Drive (mm)	J (0.425")	Max Torque Ft. Lbs.	Y (0.560")	Max Torque Ft. Lbs.
10	QJBOERM10A	60		
13	QJBOERM13A	60		
14	QJBOERM14A	60		
15	QJBOERM15A	60		
16	QJBOERM16A	60	QYBOERM16A	160
18	QJBOERM18A	60	QYBOERM18A	160
19	QJBOERM19A	60		
22	QJBOERM22A	60	QYBOERM22A	160
24	QJBOERM24A	60	QYBOERM24A	160



12 POINT RATCHET WRENCH HEADS - SAE

Square Drive (Inches)	J (0.425")	Max Torque Ft. Lbs.	Y (0.560")	Max Torque Ft. Lbs.
3/8	QJBOER12A	60	QYBOER12A	60
7/16	QJBOER14A	60		
1/2	QJBOER16A	60		
9/16	QJBOER18A	60	QYBOER18A	112
5/8	QJBOER20A	60	QYBOER20A	160
11/16			QYBOER22A	160
3/4	QJBOER24A	60	QYBOER24A	160
15/16			QJBOER30A	160





Applifast.

12-POINT BOX END 10° OFFSET - SAE

Square Drive (Inches)	J (0.425")	Max Torque Ft. Lbs.	Y (0.560")	Max Torque Ft. Lbs.	X (0.735")	Max Torque Ft. Lbs.
1/2	QJXB16A	60				
9/16	QJXB18A	60				
5/8	QJXB20A	60	QYXB20A	79		
11/16	QJXB22A	60				
3/4	QJXB24A	60	QYXB24A	160		
7/8			QYXB28A	133		
15/16			QYXB30A	160		ĺ
1			QYXB32A	160		
1 1/8			QYXB36A	160		
1 3/8					QXXB44A	240
1 1/2					QXXB48A	240



12-POINT BOX END 10° OFFSET - METRIC

Square Drive (mm)	J (0.425")	Max Torque Ft. Lbs.	Y (0.560")	Max Torque Ft. Lbs.
11mm	QJXBM11A	59		1 220.
12mm	QJXBM12A	60		
13mm	QJXBM13A	60		
14mm	QJXBM14A	60		
15mm	QJXBM15A	60		
16mm	QJXBM16A	60		
18mm	QJXBM18A	60	QYXBM18A	160
19mm	QJXBM19A	60		
24mm			QYXBM24A	160
28mm			QYXBM28A	160



12-POINT BOX END 40° BEND - METRIC

Square Drive (mm)	Y (0.560")	Max Torque Ft. Lbs.	
16	QYSBXM16A	60	
18	QYSBXM18A	160	
24	QYSBXM24A	160	



Square Drive (Inches)	J (0.425")	Max Torque Ft. Lbs.	Y (0.560")	Max Torque Ft. Lbs.
1/2	QJRX16A	60		
9/16	QJRX18A	60	QYRX18A	67
5/8	QJRX20A	60	QYRX20A	79
11/16	QJRX22A	60	QYRX22A	92
3/4	QJRX24A	60	QYRX24A	104
13/16	QJRX26A	60	QYRX26A	117
7/8	QJRX28A	60	QYRX28A	133
15/16	QJRX30A	60	QYRX30A	146
1	QJRX32A	60	QYRX32A	158
1 1/16	QJRX34A	60	QYRX34A	160
1 1/8	QJRX36A	60	QYRX36A	160
1 3/16			QYRX38A	160
1 1/4			QYRX40A	160
1 3/8			QYRX44A	160
1 7/16			QYRX46A	160
1 1/2			QYRX48A	160
1 9/16			QYRX50A	160
1 5/8			QYRX52A	160
1 7/8			QYRX60A	160
2			QYRX64A	160
2 1/4			QYRX72A	160



















Toll Free 1 800 563 1293



Square	J (0.425")	Max Torque Ft.	Y (0.560")	Max Torque Ft.
Drive (mm)	0 (0.120)	Lbs.	1 10.0007	Lbs.
8	QJRXSM8A	17		
9	QJRXSM9A	25		
10	QJRXSM10A	33		
11	QJRXSM11A	42		
12	QJRXSM12A	50		
13	QJRXSM13A	58	QYRXSM13A	58
14	QJRXSM14A	60		
15	QJRXSM15A	60	QYRXSM15A	71
16	QJRXSM16A	60	QYRXSM16A	75
17	QJRXSM17A	60	QYRXSM17A	83
18	QJRXSM18A	60	QYRXSM18A	94
19	QJRXSM19A	60	QYRXSM19A	104
20	QJRXSM20A	60	QYRXSM20A	113
21			QYRXSM21A	113
28			QYRXSM28A	120

6 POINT FLARE NUT HEADS - SAE



Square Drive	J (0.425")	Max Torque	Y (0.560")	Max Torque
(Inches)	J (0.425)	Ft. Lbs.	1 (0.500)	Ft. Lbs.
1/4	QJRXS8A	6		
5/16	QJRXS10A	17		
3/8	QJRXS12A	29		
7/16	QJRXS14A	42		
1/2	QJRXS16A	54		
9/16	QJRXS18A	60	QYRXS18A	74
5/8	QJRXS20A	60	QYRXS20A	74
11/16	QJRXS22A	60	QYRXS22A	92
3/4	QJRXS24A	60	QYRXS24A	104
13/16	QJRXS26A	60	QYRXS26A	117
7/8	QJRXS28A	60	QYRXS28A	133
15/16	QJRXS30A	60	QYRXS30A	146
1	QJRXS32A	60	QYRXS32A	158
1 1/8	QJRXS36A	60	QYRXS36A	160
1 1/4			QYRXS40A	160



RATCHETING FLARE NUT HEAD



Square Drive	Square	J (0.425")	Y (0.560")	X (0.735")
(Inches)	Drive (mm)	J (0.425)	1 (0.560)	A (0.735)
3/8			RTWH24Y	
	11mm	RTWHM11J		
1/2		RTWH32J		
9/16		RTWH36J	RTWH36Y	
5/8		RTWH40J	RTWH40Y	
11/16		RTWH44J	RTWH44Y	
3/4		RTWH48J	RTWH48Y	
13/16		RTWH52J		
7/8		RTWH56J	RTWH56Y	
15/16	1	RTWH60J	RTWH60Y	
1	1	RTWH64J	RTWH64Y	
1 1/8	1		RTWH72Y	
1 1/4			RTWH80Y	RTWH80X
1 3/8			RTWH88Y	
1 1/2			RTWH96Y	RTWH96X
	16mm	RTWHM16J		
1 5/8			RTWH104Y	ĺ
1 3/16				RTWH116X
1 7/8	1		RTWH120Y	RTWH120X
2 1/8	Ì		RTWH136Y	Î
2 3/16	i		RTWH140Y	Î



ADAPTORS

Product Code	Descriptions
QJ-Y	J Male to Y Female
QXY	X Male to Y Female
QY-X	Y Male to X Female
QZ-X	Z Male to X Female
QZD32A-1	Z Shank 1 Drive Ratchets





pplrtast

TORQUE MULTIPLIERS WITH HANDLES

Features

- Provides the operator with nut-turning power that requires only a fraction of the force required when using conventional tools.
- Input and output rotation is in the same direction.
- Reaction bar rotation is opposite to input direction and must rest securely against a rigid object to withstand the generated reaction force.
- By removing 4 screws, heads may be easily disassembled for inspection, cleaning and lubrication.

Product Code	Max Output Ft. Lbs.	Multiplication Ratio*	Approx. Ft. Lbs. Rq'd for Max Output	Input Female Sq.	Output Male Sq.	Head Thickness Inc. Tang	Head Diam.	Oal. Lgth. Inc. Reaction Bar
TM-750LW	1000	3.6 to 1	275	1/2	3/4	3 1/32	3 ½	22 1/2
TM-1000	2000	3.6 to 1	550	3/4	1	4 %	3 17/32	24
TM-1500	4000	3.9 to 1	1150	1	1 ½	6 1/8	5 1/16	28 %
TM-2000	8000	4.6 to 1	1915	1	1 ½	6 1/4	6 ½	31
TM-2500	12000	5.4 to 1	2200	1	2 ½	7 1/4	7 1/4	30

^{*} Multipliers are mechanical devices which have frictional losses. A 10% factor was included in the multiplication ratio. For higher accuracy of multiplication ratio, output of unit should be checked on torque tester.





TM-1000

TORQUE MULTIPLIERS WITH PLANETARY-GEAR MECHANISM

- Designed where high torques are necessary for fastening or breaking out stubborn fasteners.
- Allows operator safe and easy means of producing torque for job requirements.
- Precision planetary gear multiplies the operator's input from standard torque wrenches.
- Can also multiply the torque from air-driven (non-impact) wrenches.

Product Code	Max Output Ft. Lbs.	Input Cap	Gear Ratio	Torque Ratio	Input Female Sq.	Output Sq. Size	Overall Length	Head Height Sq. to Top	Head Dia.
TM-290	750	227	4:1	3:1	1/2	3/4	8 1/2	3 1/4	2 13/16
TM-391	1200	200	6:3:1	6:0:1	1/2	3/4	19 39/64	4	3 15/16
TM-392	2200	162	15:0:1	13:6:1	1/2	1	19 ³⁹ / ₆₄	5 ¾	4 1/16
TM-393	3200	173	20:25:1	18:5:1	1/2	1	19 39/64	6 ½	4 1/16









Head

Dia.

5 %

5 ¹³/₁₆

4 1/8

4 1/8

PLATE REACTION TORQUE MULTIPLIERS

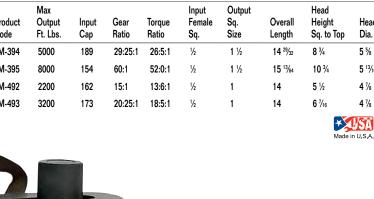
Features

- Input torque holding ra het holds multiplier in place during torquing.
- Needle bearing construction for high efficiency.

Toll Free 1 800 563 1293

- Standard reaction plate meets most job applications.
- Shearable output squares to protect tool during overload.







REPLACEMENT SQUARE DRIVES FOR TORQUE MULTIPLIERS

Replacement square drives for planetary-gear and plate reaction torque multipliers.

Product Code	Description	
TM-391RSD	Repl. Sq Drive For TM-391	
TM-392RSD	Repl. Sq Drive For TM-392 and TM-492	
TM-393RSD	Repl. Sq Drive For TM-393 and TM-493	
TM-394RSD	Repl. Sq Drive For TM-394	* USA
TM-395RSD	Repl. Sq Drive For TM-395	Made in U.S.A.



TORQUE 101

Need help educating your department or shop staff on why applying the correct torque is critical to proper assembly or maintenance operations?

The Williams Torque Wrench 101 "textbook" is the perfect, simple and quick-read reference to train staff on what torque is. It explains why proper torque is important, torque wrench applications, proper torque wrench selection, and much more. Ask your Williams representative for your laminated copy today.



WHY PROPER TORQUE IS SO IMPORTANT!

It's about safety, reliability, and performance. EVERY manufacturer, whether it's in aerospace, motor vehicles, precision equipment, power generation, etc., specifies critical fastener torque for important reasons; under or over tightening critical fasteners can lead to product failure. And product failure means downtime higher costs, potential injury, and more.

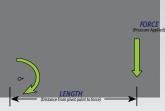




WHAT IS TORQUE? Torque is rotational or turning force. Torque is measured in length

and force: Length means distance from "center of drive" to "center of handle". Force means "pounds", "Newtons" etc.

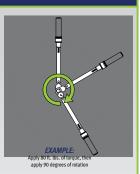
(O)0



HOW DO YOU CALCULATE TOROUE? Torque = Length × Force

The standard torque formula used to calculate torque is: "L x F = T"

EXAMPLE: 2 ft. (length) x 30 lbs. (amount of force at center of handle) equals 60 ft. lbs. of torque (60 Ft. Lbs.)

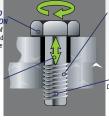


WHAT IS TORQUE **PLUS ANGLE?**

Torque Plus Angle creates a more exact clamp load for torque-sensitive equipment.



STRETCH 10% of Applied



THREAD Up to 45% of Applied

ΙΟΔΠ all threads

WHAT DOES TORQUE DO?

Torque creates a "Clamp Load" to join two pieces of material.

- Bolts (or threaded fasteners), are designed to create clamping force, also called "clamp load".

- When torque is applied to a threaded fastener, it draws together the joint, (two pieces of material).

- As additional torque is applied to the fastener, the joint is pulled together creating a clamp load as the fastener begins the stretching process. It's this fastener stretch that creates and maintains clamping force, like a stretched bungee cord maintaining tension.
- The actual amount of clamp load is determined by several factors:

- The actual animoun of camp toda is determined by several factors:

 The amount of toque applied to the fastener.

 The material and grade of the fastener.

 The external friction on the joint friction under the fastener head, and friction between the threads of the fastener and material it's connected to.



WHY IS APPLYING PROPER TORQUE IMPORTANT?

- Creating proper Clamp Load prevents damage and equipment failures.

 Safety & Performance: Applying accurate torque is critical to assembly applications, engines and precision equipment.

 Creating a proper clamp load is the main objective when applying torque to a fastener. Engine cylinder heads, pipe coupling, wheels, all need to be "clamped" uniformly to specific torque values.
- . There are three main factors that affect the correct application of torque: (1) Condition of components, (2) Accuracy of
- Applying torque incorrectly can lead to stripped threads, premature loosening or broken fasteners that can cause catastrophic failure. Leaking joints may cause engine or equipment failures.



Retain control -

your needs.



YOU DON'T HAVE TO CHOOSE BETWEEN SAFETY OR PRODUCTIVITY. YOU CAN HAVE BOTH!

Safety and productivity are critical to your company's efficiency and profitability and the loss of productivity can occur for a variety of reasons. That's why we designed the Tools@ Height™ system to provide effective, reliable drop prevention that keeps your workers safe...and working.

Save time and money -

Engineered attachment points don't interfere with the functionality of the tools.



Minimize risk -

Independent tethering allows a tool to be removed and returned to its holster with one hand so the user can maintain the critical "three points of contact" when working at height.

EFFECTIVE, RELIABLE DROP PREVENTION

WILLIAMS® OFFERS A FULL LINE OF TOOLS FOR WORKING AT HEIGHT

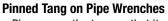
Rotating Screwdriver Tabs

- · Located for secure retention allowing full use of the screwdriver handle
- Stainless steel tab is corrosion resistant and rotates freely 360° so the lanyard does not wrap around the

Sliding Wrench Safety Coils

- · Superior design with high performance polished stainless steel for superior flexibility and shock-absorbing qualities plus no welds to fail
- Seven different sizes are utilized in the program to support wrenches up to 1-1/2" or 55mm (coils not sold separately)
- Slides out of the way along the wrenches handle to provide full use and achieve greatest leverage

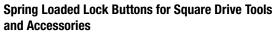




• Pin secures the tang so that it cannot become separated from the handle







- · Lock button engages with side lock holes in sockets, extensions, and adaptors ensuring positive retention
- · Sockets, extensions, and adaptors feature a locking hole on all four sides, not just one, as found on typical competitor's sockets





Competitor's socket Williams® socket







THPRTA Pin Release Tool for Williams® Square Drive Tools





pplīfast

TOOLS@HEIGHT™ MASTER MAINTENANCE TOOL SET

Contains the following tools:

Product Category	Product Category
Adjustable & Miscellaneous Wrenches	Miscellaneous Tools
Combination, Box, & Open End Wrenches	Pliers
Hammers	Pry Bars, Punches & Chisels
Hand Sockets, Ratchets, & Accessories	Screwdrivers & Nut drivers
Hex Keys & Sockets	Tool Storage
Impact Sockets & Accessories	Tools@Height Tethers, Lanyards,& Specialties

Set Configurations Available

Product Code	Description
JHWSC409THTB	Complete Tools@Height Master Maintenance Tool Set With Tool Boxes
JHWWSC409TH	Complete Tools@Height Master Maintenance Tool Set Only

Tool Boxes Included

Product Code	Description
JHWW40TC4	40" Wide x 20" Deep 4 Drawer Top Chest
JHWW40RC7	40" Wide x 20" Deep 7 Drawer Tool Cabinet

- The Tools@Height Master Maintenance set provides a great assortment of tools for all types of maintenance applications
- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- Productivity and safety right out of the box
- Many applications any industry where a dropped tool could harm personnel, damage machinery or cost
 production time
- High level uses drilling derricks, wind turbines, cranes, buildings, bridges, masts, powerlines, hangars, scaffold builders
- Low level uses stop tools dropping onto flight hardware, into engines, machinery, food production lines, vats, mine shafts, even under water uses
- Set is available with foamed tool control drawers on a special order basis
- Tools@Height sets contain an assortment of pouches and lanyards designed for use with a suitable belt such as the Comfort and Utility belts on page 96



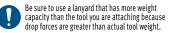
















TOOLS@HEIGHT™ INTERMEDIATE MAINTENANCE SERVICE SET

Contains the following tools:

Product Category	Product Category
Adjustable & Miscellaneous Wrenches	Miscellaneous Tools
Combination, Box, & Open End Wrenches	Pliers
Hammers	Pry Bars, Punches & Chisels
Hand Sockets, Ratchets, & Accessories	Screwdrivers & Nut drivers
Hex Keys & Sockets	Tool Storage
Impact Sockets & Accessories	Tools@Height Tethers, Lanyards,& Specialties

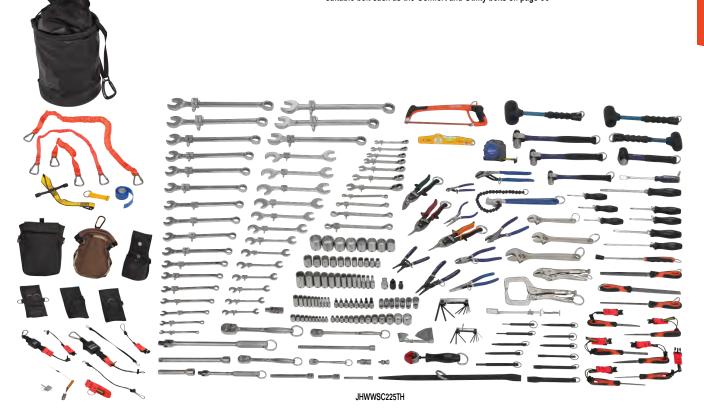
Set Configurations Available

Product Code	Description
JHWSC225THTB	Complete Tools@Height Intermediate Tool Set With Tool Boxes
JHWWSC225TH	Complete Tools@Height Intermediate Tool Set Only

Tool Boxes Included

Product Code	Description	
JHWW26TC4	26" Wide x 20" Deep 4 Drawer Top Chest	
JHWW26RC7	26" Wide x 20" Deep 7 Drawer Tool Cabinet	

- The Tools@Height Intermediate Maintenance set provides a full complement of tools
- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- · Productivity and safety right out of the box
- Many applications any industry where a dropped tool could harm personnel, damage machinery or cost production time
- High level uses drilling derricks, wind turbines, cranes, buildings, bridges, masts, powerlines, hangars, scaffold builders
- Low level uses stop tools dropping onto flight hardware, into engines, machinery, food production lines, vats, mine shafts, even under water uses
- Set is available with foamed tool control drawers on a special order basis
- Tools@Height sets contain an assortment of pouches and lanyards designed for use with a suitable belt such as the Comfort and Utility belts on page 96





TOOLS@HEIGHT™ GENERAL MAINTENANCE SERVICE SET

Contains the following tools:

Product Category	Product Category
Adjustable & Miscellaneous Wrenches	Pliers
Combination, Box, & Open End Wrenches	Pry Bars, Punches & Chisels
Hammers	Screwdrivers & Nut drivers
Hand Sockets, Ratchets, & Accessories	Tool Storage
Hex Keys & Sockets	Tools@Height Tethers, Lanyards,& Specialties
Miscellaneous Tools	

Set Configurations Available

Product Code	Description
JHWSC116THTB	Complete Tools@Height General Service Tool Set With Tool Box
JHWWSC116TH	Complete Tools@Height General Service Tool Set Only

Tool Boxes Included

Product Code	Description
JHW50950B	32" Wide x 19" Deep Job Site Box

- The Tools@Height General Maintenance Service set provides a solid complement of tools
- All tools are designed to be used with our tethering and retention systems which maintain or enhance
 the tools' functionality when used at height or near critical assemblies
- · Productivity and Safety right out of the box
- Many applications any industry where a dropped tool could harm personnel, damage machinery or cost production time
- High level uses drilling derricks, wind turbines, cranes, buildings, bridges, masts, powerlines, hangars, scaffold builders
- Low level uses stop tools dropping onto flight hardware, into engines, machinery, food production lines, vats, mine shafts, even under water uses
- . Set is available with foamed tool control drawers on a special order basis
- Tools@Height sets contain an assortment of pouches and lanyards designed for use with a suitable belt such as the Comfort and Utility belts on page 96















TOOLS@HEIGHT™ BASIC MAINTENANCE SERVICE SET

Contains the following tools:

Product Category	Product Category
Adjustable & Miscellaneous Wrenches	Miscellaneous Tools
Combination, Box, & Open End Wrenches	Pliers
Hammers	Pry Bars, Punches & Chisels
Hand Sockets, Ratchets, & Accessories	Screwdrivers & Nut drivers
Hex Keys & Sockets	Tools@Height Tethers, Lanyards,& Specialties

Set Configurations Available

Product Code	Description	
JHWWSC-72-TH	H Complete Tools@Height Basic Maintenance Tool Set in Safe Bucket	

- Furnished in Safe Bucket for easy portability
- Safety right out of the box
- The Tools@Height Basic Maintenance set provides a good start to a Tools@Height tool program
- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- Many applications any industry where a dropped tool could harm personnel, damage machinery or cost production time
- High level uses drilling derricks, wind turbines, cranes, buildings, bridges, masts, powerlines, hangars, scaffold builders
- Low level uses stop tools dropping onto flight hardware, into engines, machinery, food production lines, vats, mine shafts, even under water uses
- Williams' Tools@Height sets contain an assortment of pouches and lanyards designed for use with a suitable belt
- An assortment of Comfort and Utility belts can be found on page 96
- The full assortment of Tools@Height lanyards, tethers, and other accessories is on pages 91 through 97



JHWWSC-72-TH



pplifast

TOOL@HEIGHT™ STARTER PLUS SET

Contains the following tools:

Product Category

Adjustable Wrenches

Combination Wrenches

File

Hammer

Hand Sockets, Ratchets & Accessories

Pick up Tool

Pliers

Screwdriver

Tape Measure

Tools@Height Tethers, Lanyards & Specialties

Grand Total

Set Configurations Available

Product Code	Description
WSC-45-TH	Complete Tools@Height Starter Set in Safe Bucket

Features

- . The ideal way to start a drop prevention program
- Use where dropped tools can harm personnel, damage components, or cause down time
- Excellent assortment of basic hand tools for most maintenance applications
- Furnished in Safe Bucket for easy portability



WSC-45-TH

TOOL@HEIGHT™ STARTER SET

Contains the following tools:

Product Category

Adjustable Wrenches

File

Hammer

Pick up Tool

Pliers Screwdriver

Tape Measure

Tools@Height Tethers, Lanyards & Specialties

Set Configurations Available

Product Code	Description
--------------	-------------

JHWWSC-27-TH Complete Tools@Height Starter Set in Safe Bucket

- Ideal for general maintenance work in the factory or job site
- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies.
- Includes tools and assortment of pouches and lanyards designed for use with a suitable belt.
- Williams' Tools@Height sets contain an assortment of pouches and lanyards designed for use with a suitable belt
- . An assortment of Comfort and Utility belts can be found on page 96
- The full assortment of Tools@Height lanyards, tethers, and other accessories is on pages 91 through 97



JHWWSC-27-TH









TOOLS@HEIGHT™ IRONWORKER'S TOOLKIT

Contains the following tools:

Product Category	Product Category
Pliers	Hammer
Adjustable Construction Wrench	Measuring Tape
Structural Wrench	Tools@Height Tethers, Lanyards & Specialties
Bull Pin	

Set Configurations Available

Product Code	Description
KWTIWWKIT	Ironworker's Tool Kit

- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- . Tool Kit includes the tools, tethers, lanyards needed for ironworkers to work at height



TOOLS@HEIGHT™ BOILMAKER'S TOOL KIT

Contains the following tools:

Product Category	Product Category
Pliers	Torpedo Level
Adjustable Construction Wrench	Hammer
Open End Structural Wrench	Measuring Tape
Bull Pin	Tools@Height Tethers, Lanyards & Specialties
Bull Pin	Tools@Height Tethers, Lanyards & Specialties

Set Configurations Available

Product Code	Description
KWTBM	Boilmaker's Tool Kit

- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- · Tool Kit includes the tools, tethers, lanyards needed to keep boilermakers safe and productive while working at height









TOOLS@HEIGHT™ HRSG HIGH RIGGING TOOLKIT

Contains the following tools:

Product Category	Product Category
Pliers	Hammer
Adjustable Construction Wrench	Measuring Tape
Open End Structural Wrench	Sleever Bar
Bull Pin	Tools@Height Tethers, Lanyards & Specialties
Torpedo Level	

Set Configurations Available

Product Code	Description
KWTHRSGHR	HRSG High Rigging Toolkit

- · All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- Tool kit includes bull pin, sleever bars, wrenches, hammer, torpedo level, measuring tape and many more tools with attachment points along with the tethers and lanyards for working at height



plifast

TOOLS@HEIGHT™ PIPEFITTER'S FOREMAN'S TOOLKIT

Contains the following tools:

Product Category	Product Category
Combination Wrenches	Pinch Bar
Sockets	Hex Keys
Drive Tools	Tape Measure
Screwdrivers	Tool Box
Files	Pin Release Tool
Hammer	Tool Pouch

Set Configurations Available

Product Code	Description
KWTPFFOR	Pipefitter's Foreman's Toolkit

Features

- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- . Pipefitter's Foreman's Tool kit includes sockets, drive tools, combination wrenches, screwdrivers and many more tools with attachment points for working at height



KWTPFFOR

TOOLS@HEIGHT™ INDIVIDUAL PIPEFITTER'S TOOLKIT

Contains the following tools:

Product Category	Product Category
Wedges	Adjustable Wrenches
Utility Superjoint Pliers	Measuring Tape
Side Cutters	Tools@Height Tethers, Lanyards & Specialties

Set Configurations Available

Product Code	Description
KWTPFIND	Individual Pipefitter's Toolkit

Features

- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- Individual Pipefitter's Tool kit includes wedges, pliers, side cutters, hammers, adjustable wrenches and many more tools with attachment points along with the tethers and lanyards for working at height



TOOLS@HEIGHT™ PIPEFITTER'S GANG BOX KIT

Contains the following tools:

Product Category	Product Category
Utility Superjoint Pliers	Chisels & Punches
Side Cutters	Ratchet
Adjustable Wrenches	Pipe Wrench
Measuring Tape	Plastic Tool Box
Hammers	

Set Configurations Available

Product Code	Description	
KWTPFBOX	Pipefitter's Gang Box Kit	

- · All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- . Pipefitter's Gang Box Kit includes pliers, hammer, adjustable wrenches and many more tools with attachement points for working at height



KWTPFBOX









TOOLS@HEIGHT™ INDIVIDUAL ELECTRICIAN'S TOOLKIT

Contains the following tools:

Product Category	Product Category
Pliers, Side Cutter & Crimper	Files
Screwdrivers	Superjoint Pliers
Adjustable Wrenches	Hammers
Chisels & Punches	Hex Key
Hacksaw Frame	Measuring Tape
Torpedo Level	Tools@Height Tethers, Lanyards & Specialties
Miscellaneous Tools	

Set Configurations Available

Product Code	Description
KWTELEKITM	Individual Electrian's Toolkit with S/M Comfort Belt
KWTELEKITL	Individual Electrian's Toolkit with L/XL Comfort Belt
KWTELEKITXL	Individual Electrian's Toolkit with 2X/3X Comfort Belt

Features

- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- The Individual Electrician's Toolkit contains an assortment of tools with engineered attachment points, tethers and laynards designed to keep electrican's safe and productive while working at heights







KWTELECWKT

TOOLS@HEIGHT™ ELECTRICIAN CREW KIT

Contains the following tools:

Product Category	Product Category
C-Clamps	Pin Release Tool
Pliers	Sockets
Pipe Wrenches	Combination Wrenches
Files	Level
Hammer	Lift Bucket & Hardhat Lanyard Strap
Drive Tools	

Set Configurations Available

Product Code	Description
KWTELECWKT	Electrian's Crew Kit

- All tools are designed to be used with our tethering and retention systems which maintain or enhance the tools' functionality when used at height or near critical assemblies
- The Electrician's Crew Kit contains an assortment of tools with engineered attachment points, tethers and laynards designed to keep electrican's safe and productive while working at heights



TOOLS@HEIGHT™ SCAFFOLD BUILDING KITS

Kit comes assembled and includes tools shown above. Scaffold builders literally open the box, put on the belt, and go to work with a kit that keeps them safe and increases productivity. Since each tool is independently tethered, any tool can be used and returned to its' holster while still maintaining three points of contact as pictured below

Product Code	Description	
JHWWTHSCAFM	Medium	
JHWWTHSCAFL	Large	
JHWWTHSCAFXL	X-Large	

Contents of Scaffold Building Kits:

Product Code	Description
THFSNE3-22SM	Hammer
THFSN25100	Level
JHWBS-63B	Scaffold Ratchet
JHWTM25X1-TH	Tape Measure
JHW13625-TH	Construction Wrench
JHWPL204CTH	Linesman's Pliers
WTHHOLHAMMER	Hammer Holster with Coil Lanyard
PYT1500098	Tape measure Holster
PYT1500096	Scaffold Ratchet Holster w/Bungee Lanyard
PYT1500065	Single Tool Holster
PYT1500107	Dual Tool Holster
BELTCOMF	Belt (Small, Medium, Large or X-Large)
WTHPCHPRTSCO	Small Parts pouch w/ Self-closing system

- · Safety & Security
- · Holsters are designed with built-in attachment points or retractors
- . Tools are tethered to the holster at all times so the risk of dropping a tool while transferring from bag to lanyard is eliminated
- · Several holsters also feature hook and loop flaps that secure the tool while being transported
- Customizable
- · System is completely modular and can be arranged in any order on the tool belt based on the user's preference
- · All Tools @ Height holsters and pouches are also available for individual purchase for attachment to existing tool belts or harnesses





















LANYARDS AND ANCHOR STRAPS

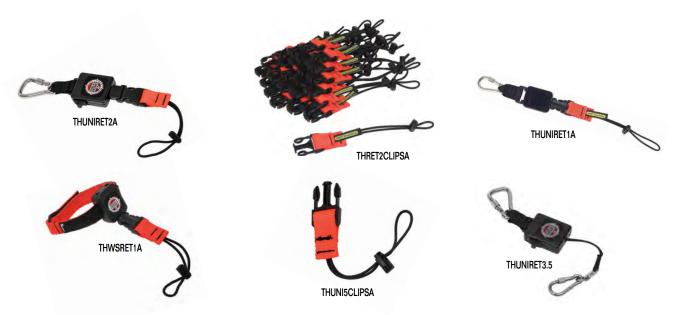
Product Code	Description	Load Rating (lbs)	Extension Length (Inches)	Retracted Length (Inches)	QTY
EXTH2LBU10PK	Carabiner to loop bungee lanyard, Standard Duty 10 pack	10	47	31	10
EXTT2T.5X12	Trigger to trigger web lanyard, Standard Duty	10	12	n/a	1
EXTT2T51210P	Trigger to trigger web lanyard, Standard Duty 10 pack	10	12	n/a	10
THCARA25A	SST Carabiner to Carabiner Bungee Lanyard, Medium Duty	25	124	37-45	1
THCARA15SL	SST Carabiner to Carabiner Bungee Lanyard, Standard Duty	15	47	27	1
THUNI25A	SST Carabiner to Loop Bungee Lanyard, Standard Duty	15	50	30	1
EXTH2L1X72HD	Carabiner to loop web lanyard, Heavy Duty	80	72	n/a	1
EXTH2R1X72HD	Carabiner to rail hook web lanyard, Heavy Duty	80	72	n/a	1
EXTH2L1X72MD	Carabiner to loop web lanyard, Medium Duty	35	72	n/a	1
THL1A	Universal Tether with Carabiner and Loop	5	14	n/a	1
THL2A	Universal Tether with 2 SST Carabiners	5	14	n/a	1

^{*} Tool Lanyards not included with Tool Holsters unless otherwise stated. Tools not included with Tool Holsters.



COII TETUEDE

Product Code	Description	Load Rating (lbs)	Extension Length (Inches)	Retracted Length (Inches)	QTY
EXT-H2HCOIL	Patented carabiner to carabiner vinyl coated braided steel tether, Personal Duty	5	67 ½	16 ½	1
EXTH2HCO10PK	Carabiner to carabiner vinyl coated braided steel tether, Personal Duty 10 pack	5	67 ½	16 ½	10
EXT-T2TCOIL	Trigger to Trigger tether, Personal Duty	5	30	9	1
EXTT2TCOI10P	Trigger to Trigger tether, Personal Duty 10 pack	5	30	9	10
EXT-H2QRCOIL	Caraibiner to quick ring tether, Personal Duty	2	65 ½	25	1
EXTH2QRC10PK	Caraibiner to quick ring tether, Personal Duty 10 pack	2	65 ½	25	10
EXTC2CCO10PK	Clip to clip tether, Personal Duty 10 pack	2	44	9	10
EXTC2LCO10PK	Clip to side release loop tether, Personal Duty 10 pack	2	45 1/4	10	10
PYT1500062	Clip to loop hard hat tether 100 pack	2	44 ½	12	100

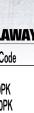


RETRACTABLE TETHERS

	·_ · · · · · · · · ·				
Product Code	Description	Load Rating (lbs)	Extension Length (Inches)	Retracted Length (Inches)	QTY
THUNIRET2A	2 LB Retractable Lanyard	2	42	17	1
THRET2CLIPSA	Disconnectable Clips/Loop for THUNIRET2A, 10pk	2	N/A	8	10
THUNIRET1A	Self Flushing Retractable Tether with Disconnectable Loop	1	36	14	1
THRET1CLIPSA	Disconnectable Clips/Loop for THUNIRET1A and THWSRET1A, 10pk	1	N/A	7-3/4	10
THWSRET1A	Personal Duty Retractable Tether	1	49	10	1
THUNI5CLIPSA	Disconnectable Clips/Loop, 10 Pack	5	N/A		10
THUNIRET3.5	3.5 LB Retractable Lanyard	3.5	55	11.75	1











WB-L

PULLAWAY WRISTBANDS

Product Code	Size	Load Rating (lbs)	QTY
WB-S	Small	5	1
WB-S-10PK	Small	5	10
WB-M-10PK	Medium	5	10
WB-L	Large	5	1
WB-L-10PK	Large	5	10
WB-SLIMS10PK	Slim / Small	5	10
WB-SLIMM10PK	Slim / Medium	5	10
WB-SLIML10PK	Slim / Large	5	10

Features

- . Pullaway wristbands are designed so that they can be escaped from in emergency situations
- Pullaway Wristbands feature an elastic strap that conform to the users wrist size automatically



ADJUSTABLE WRISTBANDS

Product Code	Load Rating (lbs)	QTY	
THWSNC	5	1	
THWS1A	5	1	
WB-ADJ-10PK	5	10	
WBADJCRD10PK	5	10	
WBADJRET10PK	1.5	10	
THWSRET1A	1	1	

Adjustable Wristbands can be sized to virtually any wrist size with Hook and Loop closure straps

Tools not included with Wristbands.

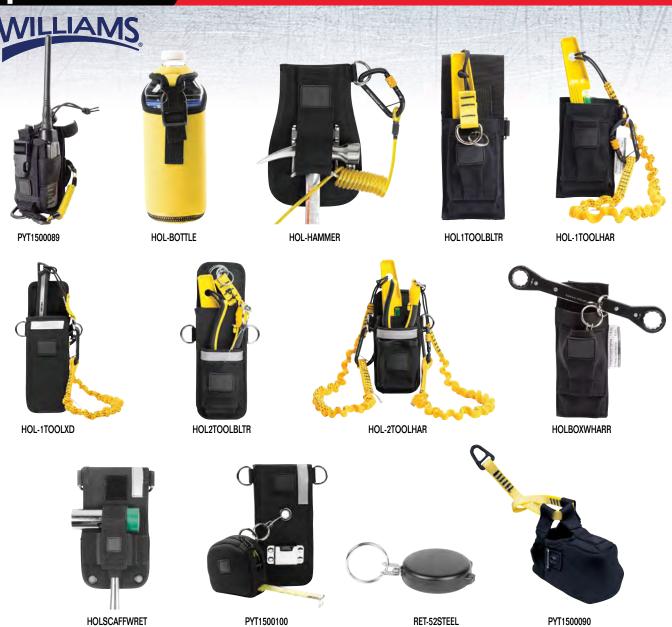


HARD HAT TETHERS

Product Code	Weight Rating	Extension Length (Inches)
THHARDHAT1	1 lb 2 oz	16
THHARDHAT2	1 lb 2 oz	14

- Retractor provides a lower-profile and more comfortable method of hard hat tethering
- Weight Rating: 1lb. 2oz.
- · Looped end cinches around hard hat
- Spring clip attaches to clothing or vest to secure hat





TOOL HOLSTERS

Product Code	Description	Product Code	Description
HOL-ADJRADIO†	Adjustable Radio Holster	HOL-2TOOLHAR	Dual Tool Harness Holster
PYT1500089	Adjustable Radio Holster Combo (includes EXT-C2LCOIL)	HOL2TOOLHARR†	Dual Tool Harness Holster with Retractors
HOL-BOTTLE	Bottle / Spray Can Holster	HOLBOXWHARR	Box Wrench Holster with Retractor (Harness)
HOL-HAMMER†	Hammer Holster	HOLSCAFFWRET [†]	Scaffold Wrench Holster with Retractor
HOLHAMMERCOM	Hammer Holster Combo (Includes EXT-H2QRCOIL)	HOLSCAFFWCOM	Scaffold Wrench Holster with Retractor Combo (Includes EXTH2LBUNGEE)
HOL-1TOOLBLT	Single Tool Belt Holster	HOL-TAPERET [†]	Tape Measure Holster with Retractor
HOL1TOOLBLTR†	Single Tool Belt Holster with Retractor	HOLTAPESLEEV [†]	Tape Measure Sleeve
HOL-1TOOLHAR	Single Tool Harness Holster	PYT1500100	Tape Measure Holster with Retractor Combo (Includes HOLTAPESLEEV)
HOL1TOOLHARR†	Single Tool Harness Holster with Retractor	RET-52STEEL	52" Steel Cable Retractor with Polycarbonate Body
HOL-1TOOLXD [†]	Extra-Deep Single Tool Holster	PYT1500090	Cordless Tool Battery Holster (Shown with EXTH2LBUNGEE not included)
HOL-2TOOLBLT	Dual Tool Belt Holster		
HOL2TOOLBLTR [†]	Dual Tool Belt Holster with Retractors		

^{*} Tool Lanyards not included with Tool Holsters unless otherwise stated. Tools not included with Tool Holsters. †Patent Pending







SMALL PARTS POUCH

Product Code	Description
PCH-PARTS-CB	Small Parts Pouch - Canvas Black
PCH-PARTS-CC	Small Parts Pouch - Canvas Camo
PCH-PARTS-CO	Small Parts Pouch - Canvas Orange
PCH-PARTS-VY	Small Parts Pouch - Vinyl Yellow
PCHPARTSXDCB	Small Parts Pouch Extra-Deep - Canvas Black

Features

- The patented Small Parts Pouch stops accidental drops with an innovative self-closure system that traps objects inside making it nearly impossible for objects to fall out once placed in the bag
- · Easy to retrieve objects since no opening or closing is necessary
- · Available is several colors, and a vinyl variant
- Extra-deep Small Parts Pouch is also available for extra storage space



PCH-PARTS-CC

UTILITY POUCH

Product Code	Description
PYT1500132	Utility Pouch

Features

- . Two welded D-Rings on front of pouch to tie off tools
- . One additional D-Ring inside pouch
- Two inner pouch pockets for storing tools
- Belt loop on back of pouch
- Two side ears are perfect for holding spud wrenches and sleever bars
- Drain vent on the bottom of the pouch



INSPECTION POUCH

Product Code	Description
PCH-INSPECT	Inspection Pouch

Features

· Provisional patent pending



TOOL POUCHES

Product Code	Description
PCH-TOOL	Tool Pouch with D-Ring
PCH-TOOLRET	Tool Pouch with D-Ring and Retractors
PCH-TOOLTRIG	Tool Pouch with D-Ring and Triggers
PCH-TOOLXD	Extra Deep Tool Pouch with D-Ring
PCH-TOOLXDRE	Extra Deep Tool Pouch with D-Ring and Retractors
PCH-TOOLXDTR	Extra Deep Tool Pouch with D-Ring and Triggers

Tools not included with Tool Holsters.



COMFORT TOOL BELTS

Product Code	Waist Size (Inches)
BELTCOMF-S	28" - 32"
BELTCOMF-M	32" - 36"
BELTCOMFL-XL	36" - 44"
BELTCOMF-2XL	44" - 48"
BELTCOMF-3XL	48" - 52"

Features

- A drop prevention tool belt system that's both durable and comfortable
- Modular design allowing the user to customize their own personal holster and pouch set up



BELTCOMF-S

UTILITY BELTS

Product Code	Waist Size (Inches)
PYT1500113	28 ["] - 46 ["]
PYT1500114	40 ["] - 54 ["]

Features

 Utility tool belt features a high strength grommet closure system with padding inside two layers of cordura that provides for durability and comfort



PYT1500113

BELT LOOPS

Product Code	Description	Load Rating (lbs)	QTY
BELTDRLO10PK	Belt Loop D-Ring	5	10
BELTTRLO10PK	Belt Loop Trigger	5	10

- Compatible with all tool belts above
- D-Ring Belt Loop Attachment creates an instant attachment point that is third-party load-rated for 5 lbs.
- Belt Loop Trigger creates an instant staging point that is third-party load-rated for 5 lbs. A thumb release steel trigger snap allows for quick tool transfers while maintaining a secure connection, even while wearing work gloves. Modular design allowing the user to customize their own personal holster and pouch set up.



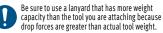


BELTTRLO10PK











BKT-48SCAF



SAFE BUCKETS

Product Code	Closure System	Body Material	Load Rating (lbs)
BKT-100HLC	Hook and Loop	Canvas	100
BKT-100DRAWC	Drawstring .	Canvas	100
PYT1500140	Hook and Loop	Vinyl	250
PYT1500139	Drawstring	Vinyl	250

Features

- Every Safe Bucket is manufactured with either a hook and loop or drawstring closure system which helps prevent accidental drops
- All Safe Buckets are third-party load rated
- Sewn into the bottom of every Safe Bucket is hard composite plating that protects the bucket from accidental punctures. A protective leather sleeve covers the inserts that is resilient to the elements and harsh work environments.
- The Safe Bucket was engineered to be used with tools at height, and includes multiple connection
 points that can be tethered to. Workers can tether their tools directly to the Safe Bucket when being
 used, and store their tools for transport when finished.
- Instead of rope which is susceptible to fraying, a heavy-duty hoisting/shoulder strap is built into every
 Safe Bucket. Each bucket is also equipped with a high-quality and lightweight aluminum twist-lock
 carabiner load rated for 30 kN (6,700 lbs). There is no need to worry about a knot failing, or a nonlocking carabiner which may slip off a connection point.
- Safe Buckets are 15 inches tall and have a 12.5 inch Diameter



BKT-HBINSERT

HARD BODY SAFE BUCKET INSERT

Product Code BKT-HBINSERT

Features

 The Hard Body Safe Bucket Insert converts the standard soft body Safe Bucket into a hard body bucket with four inner pockets for staging tools and small parts. The insert can be removed and reused, and is compatible with all standard Safe Buckets

Tools not included

EXTRA DEEP SAFE BUCKETS

Product Code	Length (Inches)	Load Rating (lbs)
BKT-48SCAF	48	100
BKT-72SCAF	72	100
BKT-120SCAF	120	100

- Extra Deep Safe Buckets feature a hook and loop closure system allowing for the safe transport of scaffold poles and large tools
- Available in three different lengths
- . Third-party load rated for 100 pounds
- A heavy duty webbing hoisting strap comes with a built in twist-lock aluminum carabiner for lifting







* JUSA

TOOLS@HEIGHT™ SUPERCOMBO® COMBINATION WRENCHES

High Polish Chrome and Satin Chrome Finish, 12 Point, SAE

Product Code	Size (Inches)	A Overall Length (Inches)	B Open End Width (Inches)	C Open End Thickness (Inches)	D Box End Diameter (Inches)	E Box End Thickness (Inches)	Weight (lbs)
JHW1208SC-TH +	1/4	4 1/4	9/16	1/8	13/32	3/16	0.04
JHW1210SC-TH +	5/16	5 ³ / ₄	916 11/ ₁₆	78 5/32	1/2	916 7/32	
JHW1210SC-TH ++	716 3/8	6 ½	13/ ₁₆	732 3/16	9/ ₁₆	1/4	0.08
JHW1214SC-TH ++	7/8 7/ ₁₆	7 1/4	15/16	7/16 7/32	716 11/ ₁₆	9/ ₃₂	0.12 0.17
JHW1216SC-TH ++	7/16 1/2	8	1 1/16	-/32 1/4	3/ ₄	9/32 11/ ₃₂	0.17
JHW1218SC -TH ++	9/16	8 ³ / ₄	1 1/4	1/4	7/8	3/8	0.23
JHW1220SC -TH ++	9/16 5/8	9 1/2	1 3/4	9/32	15/ ₁₆	78 13/ ₃₂	0.31
JHW1222SC -TH ++	⁹⁸ 11/ ₁₆	10 1/4	1 1/2	932 5/16	1 1/32	7/ ₁₆	0.43
JHW1224SC-TH ++	3/4	10 74	1 1/2	716 5/16	1 1/32	1/2	0.51
JHW1226SC-TH ++	13/ ₁₆	11 3/4	1 3/4	716 3/8	1 7/8	17/ ₃₂	0.62
JHW1228SC-TH ++	7/8	12 1/2	1 7/4	13/32	1 5/16	9/16	0.79
JHW1230SC -TH ++	15/ ₁₆	13 1/4	2	7/16	1 %	19/32	1.20
JHW1230SC-TH ++	1	13 74	2 1/8	15/32	1 ⁷⁸ 1 ¹⁵ / ₃₂	5/8	1.48
JHW1234SC -TH ++	1 1/16	14 ³ / ₄	2 1/4	1/2	1 %2	21/32	1.65
JHW1236SC-TH ++	1 1/8	15 ½	2 /4 2 ¹³ / ₃₂	17/ ₃₂	1 /16 1 ²¹ /32	11/16	1.03
JHW1240SC -TH ++	1 1/4	17	2 ²¹ / ₃₂	9/16	1 13/16	3/4	2.58
JHW12403C -111 ++ JHW1242-TH **	1 5/16	17 3/4	2 /32 2 ¹³ /16	19/32	1 29/32	74 3/ ₄	2.96
JHW1244 -TH **	1 3/8	18 1/2	2 15/16	5/8	2	3/4	3.45
JHW1246-TH **	1 7/16	19 1/4	3 1/16	/° 5/8	2 ³ / ₃₂	7/8	3.85
JHW1248-TH **	1 1/2	20 1/32	3 3/16	11/16	2 3/16	78 7/8	4.29
JHW1180-TH **	1 %	21 1/2	3 5/16	11/16	2 11/32	7/8	3.70
JHW1182-TH **	1 11/16	22 %2	3 7/16	23/32	2 7/16	7/8	5.22
JHW1184-TH **	1 3/4	22 7%	3 %6	23/32	2 17/32	1 1/32	5.62
1186-TH **	1 13/16	23 ¹⁵ / ₃₂	3 11/16	3/4	2 ^{/32}	1 1/32	6.34
1188-TH **	1 7/8	24 1/32	3 13/16	25/32	2 ²³ / ₃₂	1 1/32	6.92
1190-TH **	2	25 1/4	4 1/16	27/32	2 1/8	1 1/32	8.20
1100 111		25 /4	. 710	,32	- /0	1 /32	0.20



WS-6-TH 6 Piece Supercombo Combination Wrench Set 2.27 LBS **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1214SC-TH	7/16	JHW1218SC-TH	9/16	JHW1222SC-TH	11/16
JHW1216SC-TH	1/2	JHW1220SC-TH	5/8	JHW1224SC-TH	3/4

- + High Polish Chrome Finish with SUPERTORQUE® Box End.
- ++ High Polish Chrome Finish with SUPERCOMBO® Open End and SUPERTORQUE® Box End.
- ** Satin Chrome Finish with SUPERTORQUE® Box End and Standard Open End.
- * Satin Chrome Finish with Standard Open and Box Ends.

Fed. Spec.: ANSI B107.6; SAE AS 954

Features

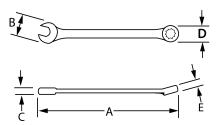
- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners
- SUPERTORQUE® box opening design allows application of higher torque without rounding or deforming hex fastener points. No contact is made at the corners. Instead, wrenching forces are placed on the flat surfaces behind the points
- . Meets or exceeds aerospace specification AS 954 for 12 point fasteners (as defined by AS 870) to provide accurate torque/tension relationship for precision application
- . May be used on all common hex (6 point) fasteners with considerable advantage over conventional box end wrenches to increase both hand tool flexibility and economy
- · Box and open end openings are identical





Wrench with Safety Coil – Secure lanyard attachments need to withstand tough site use, including low temperature, so structural integrity is critical

- Superior Design No welds to fail High Performance Made from polished stainless steel, they have superior flexibility and shock-absorbing qualities over welded attachments
- Seven sizes available to support wrenches up to 1 ½" or 55mm
- Slides out of the way along the wrenches handle to provide full use of the handle and achieve greatest leverage













TOOLS@HEIGHT™ SUPERCOMBO® COMBINATION WRENCHES

High Polish Chrome Finish, 12 Point, Metric

Toll Free 1 800 563 1293

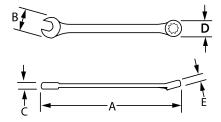


•		A Overall	B Open End	C Open End	D Box End	E Box End	
	Size	Length	Width	Thickness	Diameter	Thickness	Weight
Product Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(lbs)
JHW1207MSCTH ++	7	5 5/16	5/8	5/32	15/32	7/32	0.06
JHW1208MSCTH ++	8	5 ²⁵ / ₃₂	23/32	5/32	1/2	7/32	0.08
JHW1209MSCTH ++	9	6 ⁹ / ₃₂	¹³ / ₁₆	3/16	9/16	1/4	0.10
JHW1210MSCTH ++	10	6 3/4	7/8	3/16	5/8	9/32	0.13
JHW1211MSCTH ++	11	7 1/4	31/32	7/32	11/16	5/16	0.18
JHW1212MSCTH ++	12	7 11/16	1 1/32	7/32	3/4	5/16	0.20
JHW1213MSCTH ++	13	8 1/32	1 1/8	1/4	25/32	11/32	0.23
JHW1214MSCTH ++	14	8 %	1 7/32	1/4	27/32	3/8	0.32
JHW1215MSCTH ++	15	9 3/32	1 %2	9/32	29/32	13/32	0.35
JHW1216MSCTH ++	16	9 1/2	1 3/8	9/32	¹⁵ / ₁₆	13/32	0.41
JHW1217MSCTH ++	17	10 1/16	1 15/32	5/16	1	7/16	0.47
JHW1218MSCTH ++	18	10 ¹⁷ / ₃₂	1 17/32	5/16	1 1/16	15/32	0.56
JHW1219MSCTH ++	19	11 1/32	1 %	11/32	1 1/8	1/2	0.67
JHW1220MSCTH ++	20	11 1/2	1 23/32	3/8	1 ³ / ₁₆	1/2	0.77
JHW1221MSCTH ++	21	11 ²⁵ / ₃₂	1 3/4	3/8	1 7/32	17/32	0.82
JHW1222MSCTH ++	22	12 ½	1 29/32	13/32	1 5/16	9/16	1.08
JHW1223MSCTH ++	23	12 ⁷ / ₈	1 ³¹ / ₃₂	⁷ / ₁₆	1 11/32	9/16	1.08
JHW1224MSCTH ++	24	13 % ₃₂	2	7/16	1 %	19/32	1.20
JHW1225MSCTH ++	25	14 ¹ / ₃₂	2 5/32	15/32	1 ¹⁵ / ₃₂	5/8	1.49
JHW1226MSCTH +	26	14 5/16	2 3/16	1/2	1 ½	21/32	1.51
JHW1227MSCTH +	27	14 ²⁵ / ₃₂	2 %32	1/2	1 %16	11/16	1.64
JHW1229MSCTH +	29	15 ¹⁷ / ₃₂	2 13/32	17/32	1 21/32	23/32	2.00
JHW1230MSCTH +	30	16 ⁹ / ₃₂	2 17/32	17/32	1 3/4	3/4	2.30
JHW1232MSCTH +	32	17 1/32	2 11/16	9/16	1 13/16	3/4	2.76
JHW1234MSCTH +	34	17 ²⁵ / ₃₂	2 ¹³ / ₁₆	19/32	1 29/32	3/4	2.92
JHW1236MSCTH +	36	19 %2	3 1/16	21/32	2 3/32	7/8	3.86

⁺ High Polish Chrome Finish with SUPERTORQUE® Box End



- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners
- SUPERTORQUE® box opening design allows application of higher torque without rounding or deforming hex fastener points
 - No contact is made at the corners. Instead, wrenching forces are placed on the flat surfaces behind the points
- . Meets or exceeds aerospace specification AS 954 for 12 point fasteners (as defined by AS 870) to provide accurate torque/tension relationship for precision application
- May be used on all common hex (6 point) fasteners with considerable advantage over conventional box end wrenches to increase both hand tool flexibility and economy
- Box and open end openings are identical





Wrench with Safety Coil -

ecure lanyard attachments need to withstand tough site use, low temperature, so structural integrity is critical ior Design - No welds to fail

- High Performance Made from polished stainless steel, they have superior flexibility and shock-absorbing qualities
- even sizes available to support wrenches up to 1 ½" or 55mm
- Slides out of the way along the wrenches handle to provide full use of the handle and achieve greatest leverage

⁺⁺ High Polish Chrome Finish with SUPERCOMBO® Open End and SUPERTORQUE® Box End Fed. Spec.: ANSI B107.6; SAE AS 954



pplīfast





TOOLS@HEIGHT™ REVERSIBLE RATCHETING COMBINATION WRENCHES

High Polish Chrome Finish, 12 Point, Metric

		Α	В	С	D	E	
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)	Weight (lbs)
JHW1208MRCTH	8	5 1/4	23/32	3/16	23/32	9/32	0.08
JHW1209MRCTH	9	5 ⁷ /8	13/16	5/32	25/32	5/16	0.14
JHW1210MRCTH	10	6 1/4	7/8	7/32	7/8	11/32	0.15
JHW1211MRCTH	11	6 %	15/16	7/32	29/32	11/32	0.22
JHW1212MRCTH	12	6 13/16	1	7/32	31/32	3/8	0.00
JHW1213MRCTH	13	7	1 1/32	1/4	1	13/32	0.36
JHW1214MRCTH	14	7 %	1 3/16	1/4	1 ³ / ₃₂	13/32	0.42
JHW1215MRCTH	15	7 3/4	1 1/4	9/32	1 5/32	7/16	0.56
JHW1216MRCTH	16	8 3/16	1 11/32	9/32	1 7/32	⁷ / ₁₆	0.77
JHW1217MRCTH	17	9	1 7/16	9/32	1 %32	1/2	0.93
JHW1218MRCTH	18	9 %	1 17/32	5/16	1 3/8	15/32	1.15
JHW1219MRCTH	19	9 ¾	1 17/32	11/32	1 7/16	17/32	1.33



Features

- · High-polished chrome finish cleans easily
- · Ratchet lever is easily accessible for quick direction changes
- · Recessed corners in ends provide extra turning power





TOOLS@HEIGHT™ REVERSIBLE RATCHETING COMBINATION WRENCHES

High Polish Chrome Finish, 12 Point, SAE

		Α	В	С	D	E	
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)	Weight (lbs)
JHW1208RC-TH	1/4	5 ¹ / ₄	23/32	3/16	23/32	9/32	.06
JHW1210RC-TH	5/16	5 1/4	23/32	5/32	23/32	9/32	0.08
JHW1212RC-TH	3/8	6 1/4	7/8	³ / ₁₆	7/8	⁵ / ₁₆	0.10
JHW1214RC-TH	7/16	6 %	15/16	7/32	29/32	11/32	0.13
JHW1216RC-TH	1/2	7	1 1/32	1/4	1	13/32	0.16
JHW1218RC-TH	9/16	7 %	1 3/16	1/4	1 3/32	13/32	0.18
JHW1220RC-TH	5/8	8 7/32	1 11/32	9/32	1 7/32	7/16	0.00
JHW1222RC-TH	11/16	9	1 7/16	9/32	1 11/16	1/2	0.27
JHW1224RC-TH	3/4	9 3/4	1 17/32	11/32	1 ¹⁵ / ₃₂	17/32	0.00
JHW1226RC-TH	13/16	10 ½	1 ²³ / ₃₂	3/8	1 %16	17/32	0.36
JHW1228RC-TH	7/8	11 ¹³ / ₃₂	1 1/8	11/32	1 21/32	19/32	0.44
JHW1230RC-TH	15/16	12	1 31/32	15/32	1 27/32	5/8	0.50
JHW1232RC-TH	1	13	2 3/32	15/32	1 1/8	5/8	0.56

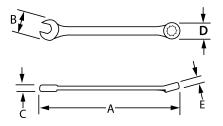


- High-polished chrome finish cleans easily
- · Ratchet lever is easily accessible for quick direction changes
- · Recessed corners in ends provide extra turning power



Wrench with Safety Coil – Secure lanyard attachments need to withstand tough site use, including low temperature, so structural integrity is critical

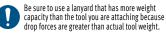
- Superior Design No welds to fail High Performance Made from polished stainless steel, they have superior flexibility and shock-absorbing qualities
- Seven sizes available to support wrenches up to 1 $\frac{1}{2}$ or 55mm Slides out of the way along the wrenches handle to provide full use of the handle and achieve greatest leverage











TOOLS@HEIGHT™ 15°-60° DOUBLE OPEN END **ANGLE-HEAD WRENCHES**

Chrome Satin Finish, SAE

		Α	В	С	
•	Size	Head	Head	Overall Length	
Product Code	(Inches)	Diameter	Thickness	(Inches)	Weight (lbs)
JHW3716-TH	1/2	1	7/32	5 ½	0.10
JHW3718-TH	⁹ /16	1 1/8	1/4	6	0.14
JHW3720-TH	5/8	1 3/16	9/32	6 1/4	0.14
JHW3722-TH	11/16	1 5/16	9/32	7	0.21
JHW3724-TH	3/4	1 7/16	9/32	7 1/4	0.28
JHW3726-TH	13/16	1 ¹⁹ / ₃₂	9/32	7 1/2	0.27
JHW3728-TH	7/8	1 21/32	9/32	8 1/4	0.35
JHW3732-TH	1	1 ¹⁵ / ₁₆	5/16	9 3/4	0.41
JHW3734-TH	1 1/16	2 ½16	5/16	10	0.50
JHW3736-TH	1 1/8	2 1/4	5/16	11	0.61
JHW3740-TH	1 1/4	2 %	11/32	11 ½	0.70
JHW3744-TH	1 3/8	2 11/16	13/32	12 1/2	0.85
JHW3746-TH	1 7/16	2 11/16	13/32	12 ½	1.25
JHW3748-TH	1 1/2	2 11/16	13/32	12 ½	1.19

Fed. Spec. ANSI B107.39 Type 2 Class 3

Features

- Wrench heads are offset at 15° and 60° to the handle
- . Both ends are the same size to permit the wrench to be used in four different positions
- · 45° chamfer on wrench ends allow easy placement of wrench on the fastener
- Continuous arc design minimizes spreading and is stronger than "V" design
- Thin head is perfect for tight clearances
- · Satin chrome finish provides good grip and cleans easily





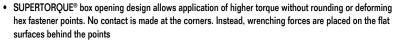


Chrome Satin Finish, 12 Point, SAE

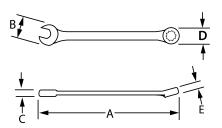
		Α	В	С	D	E	
Product Code	Size (Inches)	Overall Length (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)	Weight (lbs)
JHW7723-TH	3/8 × 7/16	7 %	19/32	5/16	21/32	11/32	0.11
JHW7725B-TH	$^{1}/_{2} \times ^{9}/_{16}$	8 ¹¹ / ₁₆	3/4	3/8	27/32	3/8	0.30
JHW7727A-TH	5/8 × 11/16	10 5/32	29/32	7/16	1	15/32	0.47
JHW7029B-TH	11/16 × 3/4	10 ¹⁵ / ₁₆	1	15/32	1 3/32	1/2	0.53
JHW7731A-TH	$\frac{3}{4} \times \frac{7}{8}$	12 1/32	1 3/32	1/2	1 1/4	9/16	0.73
JHW7731B-TH	¹³ / ₁₆ × ⁷ / ₈	12 ¹³ / ₃₂	1 3/16	17/32	1 1/4	9/16	0.80
JHW7033C-TH	¹⁵ / ₁₆ × 1	14 1/8	1 11/32	19/32	1 ⁷ / ₁₆	5/8	0.94
JHW7038-TH	1 1/8 × 1 3/16	16 ³ / ₃₂	1 ¹⁹ / ₃₂	11/16	1 11/16	11/16	1.66
JHW7039B-TH	1 ½ × 1 ½ 6	17 %	1 ²⁵ / ₃₂	23/32	1 ²⁷ /32	3/4	0.00

Fed. Spec. ANSI B107.6

Features



- 10° offset box end allows clearance in tight areas
- . Sizes are clearly marked on handle ends



JHW77731B-TH

JHW3732-TH



Wrench with Safety Coil -

- uperior Design No welds to fail igh Performance Made from polished stainless steel, they have superior flexibility and shock-absorbing qualities
- Seven sizes available to support wrenches up to 1 ½" or 55mm Slides out of the way along the wrenches handle to provide full use of the handle and achieve greatest leverage







TOOLS@HEIGHT™ DOUBLE HEAD 10° OFFSET **BOX END WRENCHES**

Chrome Satin Finish, 12 Point, Metric

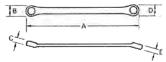
		Α	В	С	D	E	
		Overall	Box End	Box End	Box End	Box End	
		Length	Diameter	Thickness	Diameter	Thickness	Weight
Product Code	Size (MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(lbs)
JHWBWM0810TH	8 x 10	7 ½16	1/2	9/32	19/32	5/16	0.15

Fed. Spec. ANSI B107.9M

Features



- SUPERTORQUE® box opening design allows application of higher torque without rounding or deforming hex fastener points. No contact is made at the corners. Instead, wrenching forces are placed on the flat surfaces behind the points
- 10° offset box end allows clearance in tight areas
- · Sizes are clearly marked on handle ends







TOOLS@HEIGHT™ DOUBLE HEAD FLARE NUT WRENCHES

Chrome Satin Finish, 6 Point, SAE

		Α	В	С	D	E	
Product Code	Size (Inches)	Overall Length (Inches)	Open End Dia (Inches)	Open End Thickness (Inches)	Open End Dia (Inches)	Open End Thickness (Inches)	Weight (lbs)
JHWXFN0810TH	1/4 × 5/16	4 27/32	18/32	1/4	5/8	8/32	0.12
JHWXFN1214TH	$\frac{3}{8} \times \frac{7}{16}$	5 ¹³ / ₁₆	25/32	5/16	27/32	11/32	0.14
JHWXFN1618TH	$\frac{1}{2} \times \frac{9}{16}$	6 ¹³ / ₁₆	15/16	3/8	1	13/32	0.23
JHWXFN2022TH	5/8 × 11/16	7 3/4	1 ³ / ₃₂	7/16	3/16	15/32	0.38
JHWXFN2432TH	$\frac{3}{4} \times 1$	9 ¹ / ₂	1 1/4	1/2	19/32	5/8	0.70
JHWXFN2836TH	⁷ /8 x 1 ¹ / ₈	10.5	1 7/16	9/16	1 ³ / ₄	11/16	0.99

Fed. Spec.: ANSI B107.6

JHWWS-14-TH 5 Piece Double Head Flare Nut Wrench Set, 6 Point, SAE, in Pouch - R-4 2.71 lbs

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWXFN1214TH	3/8 × ⁷ /16	JHWXFN2022TH	5/8 x ¹¹ / ₁₆	JHWXFN2836TH	⁷ /8 × 1 ½
IHW/YEM1619TH	16 × 9/40	IH/WAENI3/4331H	3/4 × 1	1	

Features

- . Will not mar fittings on pipes and tubing.
- · Satin chrome textured finish provides great feel and extra gripping power
- · Recessed corners in ends provide extra turning power





JHWBWM0810TH

JHWWS-14-TH



Wrench with Safety Coil – Secure lanyard attachments need to withstand tough site use, including low temperature, so structural integrity is critical

- Superior Design No welds to fail High Performance Made from polished stainless steel, they have superior flexibility and shock-absorbing qualities ver welded attachments
- en sizes available to support wrenches up to 1 $\frac{1}{2}$ or 55mm
- Slides out of the way along the wrenches handle to provide full use of the handle and achieve greatest leverage









JHW11692-TH

JHWRB-810-TH



TOOLS@HEIGHT™ DOUBLE HEAD FLARE NUT WRENCHES

Chrome Satin Finish, 6 Point, Metric

Toll Free 1 800 563 1293

		Α	В	С	D	E	
Product	Size	Overall Length	Open End Dia	Open End Thickness	Open End Dia	Open End Thickness	
Code	(MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	Weight (lbs)
JHW10650-TH	9 × 11	5 11/16	13/16	11/32	15/16	5/16	0.11
JHW10652-TH	10 × 12	6 ½	7/8	3/8	²⁹ / ₃₂	5/16	0.15
JHW10654-TH	13 × 14	6 ⁷ / ₈	1	3/8	1 ³ / ₃₂	3/8	0.20
JHW10656-TH	15 × 17	7 1/8	1 1/16	7/16	1 7/32	1/2	0.28
JHW10658-TH	19 × 21	8 ⁷ /8	1 9/32	1/2	1 13/32	17/32	0.43

Fed. Spec.: ANSI B107.9M

JHW11692-TH 5 Piece Double Head Flare Nut Wrench Set, 6 Point, Metric, in Pouch - 50001 1.43 lbs.

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW10650-TH	9 x 11	JHW10654-TH	13 × 14	JHW10658-TH	19 × 21
JHW10652-TH	10 × 12	JHW10656-TH	15 × 17		

Features

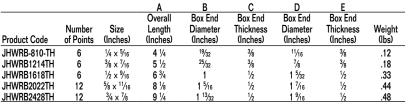
- Will not damage fittings on pipes and tubing
- · Satin chrome textured finish provides great feel and extra gripping power
- · Recessed corners in ends provide extra turning power











Features

- · Allows fast removal of fasteners with a ratcheting action at each end
- · Ideal for long "bolt-through" applications
- · Flat handle allows access to tight clearance areas







Product Code	Size (Inches)	Overall Length (Inches)	Head Diameter	Head Thickness	Weight (lbs.)
3524-TH	3/4	6 1/4	1 11/16	1/4	.31
3526-TH	¹³ / ₁₆	6 1/4	1 11/16	1/4	.28
3528-TH	7/8	6 1/4	1 11/16	1/4	.28
3530-TH	¹⁵ / ₁₆	6 ⁷ / ₈	1 1/8	1/4	.36
3532-TH	1	6 %	1 1/8	1/4	.37
3534-TH	1 1/16	6 1/8	1 1/8	1/4	.35
3536-TH	1 1/8	7	2 1/16	1/4	.37
3538-TH	1 3/16	7	2 1/16	1/4	.37
3540-TH	1 1/4	7	2 1/16	1/4	.36
3542-TH	1 5/16	7 %	2 1/2	9/32	.51
3544-TH	1 3/8	7 %	2 1/2	9/32	.49
3546-TH	1 7/16	7 %	2 1/2	9/32	.45
3548-TH	1 1/2	7 %	2 1/2	9/32	.48

- Ultra thin pattern for use on jam nuts and access to confined areas
- · 30° offset head
- · Satin chrome finish





BAHCO® TOOLS@HEIGHT™ ADJUSTABLE WRENCH



Industrial Grade Steel Handles

	Length	Maximum Jaw	Head Thickness	Jaw Tip Thickness	Weight	
Product Code	(Inches)	Opening (Inches)	(Inches)	(Inches)	(lbs.)	
8070RCUS-TH	6	3/4	7/16	3/16	.30	
8071RCUS-TH	8	1 1/16	1/2	1/4	.96	
8072RCUS-TH	10	1 1/8	5/8	5/16	.96	
8073RCUS-TH	12	1 5/16	11/16	7/16	1.47	
8074RCUS-TH	15	1 11/16	¹³ / ₁₆	9/16	2.44	
8075RCUS-TH	18	2 1/16	7/8	11/16	3.85	

Features

- . Slim head with tapered jaws combine easy accessibility with extra turning strength
- . Measurement scale on head conveniently shows fastener size
- · Precision hardened and anti-corrosion treated.



TOOLS@HEIGHT™ ADJUSTABLE CONSTRUCTION WRENCH

Heavy-Duty With Polished Head and Measurement Scales

	Length	Maximum Jaw	Head Thickness	Weight
Product Code	(Inches)	Opening (Inches)	(Inches)	(lbs)
JHW13625-TH	15	1 ½	23/32	2.24

Features

- Tapered spud handle locates and aligns bolts and rivets
- Hole in handle permits tethering wrench for safety
- . Measurement scale on head conveniently shows fastener size
- · Economical black phosphate finish resists rust



TOOLS@HEIGHT™ SINGLE HEAD OPEN END OFFSET STRUCTURAL WRENCHES



Industrial Black Finish, SAE

		Α	В	С	D	
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Handle Offset (Inches)	Weight (lbs)
JHW1905-TH	7/8	14 5/16	2	9/16	1	1.42
JHW1906-TH	15/16	14 ³ / ₁₆	1 31/32	19/32	1	1.51
JHW1907-TH	1 1/16	16 ¹³ /16	2 5/32	5/8	1 1/8	1.85
JHW1908-TH	1 1/4	17 ¹¹ /16	2 ²³ / ₃₂	11/16	1 1/4	2.85
JHW1909-TH	1 7/16	19 ¾	3 ⁵ / ₃₂	²⁵ / ₃₂	1 1/4	3.68
JHW1910-TH	1 5/8	21 1/16	3 ⁷ / ₃₂	7/8	1 1/2	4.26
JHW1911-TH	1 ¹³ / ₁₆	23	3 3/4	1 3/4	1 5/8	6.49
JHW1912-TH	2	23 ¾	4 7/32	31/32	1 %	7.02

- · Long offset handle is designed for clearance of obstructions while providing greater leverage
- · Tapered spud handle locates and aligns bolt and rivet holes

















Industrial Black Finish, SAE

Toll Free 1 800 563 1293

Product Code	Span Diameter (Inches)	Pin Diameter (Inches)	Pin Length (Inches)	Overall Length (Inches)	Weight (lbs.)
JHWO-471-TH	3/4 to 2	1/8	1/8	5 %	.27
JHWO-472-TH	1 ¼ to 3	3/16	3/16	6 %	.48
JHWO-474-TH	2 to 4 3/4	1/4	1/4	9 1/2	.93
JHWO-474A-TH	4 ½ to 6 ¼	3/8	1/4	9 %	1.10

Features

- · Ideal for adjusting collars, lock nut rings, and bearings
- . Specifically engineered to hold up under the most rigorous industrial use





JHWO-472-TH

JHWO-474-TH



Industrial Black Finish, SAE

Product Code	Span Diameter (Inches)	Hook Depth (Inches)	Hook Thickness (Inches)	Overall Length (Inches)	Weight (lbs.)
JHW471-TH	3/4 to 2	1/8	11/32	5 ¾	.26
JHW472-TH	11/4 to 3	5/32	13/32	7 1/4	.49
JHW474-TH	2 to 4 3/4	3/16	15/32	11 ½	.97
JHW474A-TH	4 ½ to 6 ¼	1/4	15/32	17 ½	1.05

Features

- Ideal for adjusting collars, lock nut rings, and bearings
- . Specifically engineered to hold up under the most rigorous industrial use







TOOLS@HEIGHT™ ADJUSTABLE FACE SPANNER WRENCHES

Industrial Black Finish, SAE

Product Code	Span Diameter (Inches)	Pin Diameter (Inches)	Pin Length (Inches)	Overall Length (Inches)	Weight (lbs.)
JHW482-TH	2	3/16	1/4	6 1/4	.31
JHW483-TH	3	1/4	1/4	8 ½	.63
JHW484-TH	4	5/16	1/2	10 %	1.01

- · Ideal for adjusting collars, lock nut rings, and bearings
- . Specifically engineered to hold up under the most rigorous industrial use











TOOLS@HEIGHT™ OFFSET PATTERN BOX END STRIKING WRENCHES

Industrial Black Finish, 12 Point, SAE / Metric

			Α	В	С	
			Overall	Box End	Box End	
			Length	Diameter	Thickness	
Product Code	Size (Inches)	Size (MM)	(Inches)	(Inches)	(Inches)	Weight (lbs)
JHW8807W-TH	1 1/16	27	9 31/32	1 21/32	23/32	2.36
JHW8807AW-TH	1 1/8	-	10 31/32	1 ¹⁵ / ₁₆	3/4	2.71
JHW8808BW-TH	1 ³ / ₁₆	30	10 ³¹ / ₃₂	1 ¹⁵ / ₁₆	3/4	2.85
JHW8808W-TH	1 1/4	32	10 ³¹ / ₃₂	1 ¹⁵ / ₁₆	3/4	2.84
JHW8808AW-TH	1 5/16	33	10 ³¹ / ₃₂	1 ¹⁵ / ₁₆	3/4	2.7
JHW8808CW-TH	1 %	35	11 ½	2 5/32	29/32	3.43
JHW8809W-TH	1 7/16	-	11 ½	2 5/32	²⁹ / ₃₂	3.21
JHW8809BW-TH	-	36	11 ½	2 5/32	29/32	3.46
JHW8809AW-TH	1 ½	38	12	2 ½16	1	4.29
JHW8810W-TH	1 %	41	12	2 ½16	1	4.10
JHW8810AW-TH	1 ¹¹ / ₁₆	43	12 % 16	2 11/16	1 1/8	5.22
JHW8811BW-TH	1 3/4	44	12 % 16	2 ¹¹ / ₁₆	1 1/8	5.14
JHW8811W-TH	1 ¹³ / ₁₆	46	12 % 16	2 11/16	1 1/8	5.11
JHW8811AW-TH	1 1/8	-	13	2 %	1 1/4	5.18
JHW8812AW-TH	1 ¹⁵ / ₁₆	49	13	2 %	1 1/4	5.26
JHW8812BW-TH	-	50	13	2 7/8	1 1/4	5.40
JHW8812W-TH	2	51	13	2 7/8	1 1/4	5.53
JHW8813BW-TH	2 1/8	54	13 % 16	3 ½	1 13/32	7.4
JHW8813W-TH	2 3/16	55	13 % 16	3 1/4	1 13/32	7.05
JHW8813AW-TH	2 1/4	57	13 % 16	3 1/4	1 13/32	7.41
JHW8814AW-TH	2 5/16	59	13 %	3 1/4	1 13/32	7.35
JHW8814W-TH	2 %	60	14 1/8	3 ¹¹ / ₁₆	1 1/2	8.20
JHW8815BW-TH	2 ½	64	14 1/8	3 ¹¹ / ₁₆	1 1/2	8.07
JHW8815W-TH	2 %16	65	14 1/8	3 ¹¹ / ₁₆	1 1/2	7.82
JHW8815AW-TH	2 %	67	15	3 ¹⁵ / ₁₆	1 %	9.53
JHW8816W-TH	2 3/4	70	15	3 ¹⁵ / ₁₆	1 %	9.40
JHW8816CW-TH	2 %	73	16	4 7/16	1 3/4	12.50
JHW8816BW-TH	2 ¹⁵ / ₁₆	75	16	4 7/16	1 3/4	12.12
JHW8817AW-TH	3	76	16	4 7/16	1 3/4	12.34
JHW8817W-TH	3 1/8	80	16	4 7/16	1 3/4	11.62
JHW8818AW-TH	3 %	85	18 ⁹ / ₃₂	6	2	28.59
JHW8818W-TH	3 ½	89	18 ⁹ ⁄ ₃₂	6	2	28.54
JHW8819BW-TH	3 3/4	95	18 ⁹ / ₃₂	6 6 6	2 2 2 2	27.86
JHW8819W-TH	3 %	98	18 1/32	6	2	27.34
JHW8819CW-TH	4 1/8	105	18 ⁹ / ₃₂	6		25.72
JHW8819AW-TH	4 1/4	108	18 ⁹ / ₃₂	6	2	26.82



Features

- Striking face wrenches are designed to be struck by a hammer on the anvil area in order to loosen frozen fasteners or to set and tighten fasteners
- Anvils are proportional to opening sizes. Special heat treating provides maximum durability for long life
- Offset handle is close to head to provide clearance in confined areas
- Williams' expanded line of offset striking face wrenches, up to 4 1/4", provides the most extensive line on the market
- · Specifically engineered to hold up under the most rigorous industrial use

JHW88SET-TH 36 Piece Set Offset Pattern Box End Striking Wrenches

Contents Include: One of each Offset Pattern Box End Striking Wrench

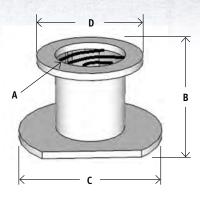
• Weight - 355 lbs.













TOOLS@HEIGHT™ SLUGGING WRENCH RETAINERS

Product Code	Stud Size	Length	С	D
SWR-24	3/8	1 29/32	1 15/16	1 3/4
SWR-28	7/8	2	2 ³ / ₁₆	1 ²⁹ / ₃₂
SWR-32	1	2 ¹ /8	2 1/2	2 ¹ / ₃₂
SWR-36	1 ¹ /8	2 1/4	2 1/2	2 ⁵ / ₃₂
SWR-40	1 1/4	2 ³ / ₈	2 7/8	2 ⁹ / ₃₂
SWR-44	1 ³ / ₈	2 ¹⁵ / ₃₂	3 ¹ / ₈	2 ³ / ₈
SWR-48	1 1/2	2 5/8	3 1/8	2 1/2
SWR-52	1 ⁵ /8	2 3/4	3 ⁵ / ₈	2 ²¹ / ₃₂
SWR-56	1 ³ / ₄	2 ⁷ /8	3 7/8	2 ³ / ₄
SWR-60	1 7/8	3	4 1/2	2 7/8

- SWR-SET includes one of each retainer in a plastic box.
- · Retainers feature attachment point to prevent drop during use.
- Slugging Wrench Retainers thread onto the end of the stud over the slugging wrench to ensure the wrench stays affixed to the fastener
- A spring loaded plate allows for easy adjustment of the wrench without having to unscrew the retainer.
- Increased productivity and safer operation by eliminating the need for a second worker to hold and slugging wrench in place
- . Available in 10 sizes, marked with stud sizes (not hex sizes)
- Configured to work with offset and straight handle slugging wrenches





TOOLS@HEIGHT™ FOLDING HEX KEY SETS





SAE and Metric

pplīfast

Product Code	JHWWS-45-TH		JHWWS-46-TH		JHWMWS-47-TH		
Number of Pieces	8		9		7		
	Hex Size (Inches)	Key Length (Inches)	Hex Size (Inches)	Key Length (Inches)	Includes Hex Size (MM)	Key Length (Inches)	
	.050	1 1/4	5/64	1 ½	1.5	1 %	
	1/16	1 3/8 1 7/16	3/32	1 %16	2	1 1/2	
	5/64		7/64	1 11/16	2.5	1 %	
	3/32	1 %16	1/8	1 ¹⁵ /16	3	1 3/4	
	7/64	1 %	9/64	2	4	2	
	1/8	1 11/16	5/32	2 1/4	5	2 1/4	
	9/64	1 13/16	3/16	2 1/2	6	2 ½	
	5/32	2	7/32	2 5/8			
			1/4	2 1/8			

Features

- Steel case is chrome plated to resist corrosion
- Keys are black oxide finish
- Convenient item for pocket or tool box
- Modified to prevent disassembly during use



TOOLS@HEIGHT™ METAL HANDLE CLICK TYPE **TORQUE WRENCHES - DUAL SCALE**

Metal Handle Dual Scale. The metal handle series offers the user a rugged, industrial strength torque wrench able to withstand the rigors of professional use. Handles are lightly knurled for a tough, non-slip grip. There are 21 models of metal handle micrometer adjustable torque wrenches available.

Product Code	Drive Size	English Range	Incr.	Num Range	Incr.	A in.	B in.	C in.	D in.	Wt. Lbs.
2503MFRMH-TH	1/2"	30-250 ft. lb.	1	47-332 Nm	1.4	24.40	1.70	1.40	1.40	4.73
6004MFRMH-TH	3/4"	100-600 ft. lb.	5	169-779 Nm	6.8	42.00	2.50	2.00	1.15	7.85

Features

- Dual scale, calibrated dual direction
- Positive lock with spring loaded pull down lock ring
- · Fast, accurate and easy to set
- Easy-to-read laser marked scales
- Accuracy: ± 3% CW ± 4% CCW of indicated value, CW, from 20% to 100% of full scale
- Individually serialized with matching certificate of calibration traceable to N.I.S.T.









Williams® Tools@Height™ sockets, extensions, and adaptors feature a locking hole on all four sides, not just one. Williams® Tools@Height™ ratchets and drive tools feature a locking pin which mates with the side lock hole for positive retention. This reduces the risk of misaligning the socket that typical competitor's sockets with just one side hole create.

Release pin with THPRTA - Pin Release Tool for Williams® Square Drive Tools

Do not use quick release tools with locking collars or push button release. These tools can be disengaged inadvertently.



















TOOLS@HEIGHT™ 1/4" DRIVE ENCLOSED HEAD RATCHETS

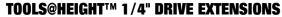
Sealed Narrow Head Design, Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Number of Teeth	Weight (lbs)
JHWM52EHATH	Chrome Finish Enclosed Head Ratchet	5 ¹ / ₄	36	0.00
JHWMB52EHATH	Black Industrial Finish Enclosed Head Ratchet	5 ¹ / ₄	36	0.21

Fed. Spec: ANSI B107.10M

Features

- Enclosed head is sealed to prevent dust, dirt, and liquids from entering head, preserving internal
- Forged one-piece ratchet provide strength and safety for industrial applications
- 36 tooth gear with 10 degree of engagement allows engagement in tight working areas
- Nickel/Chrome plating provides increase protection from rust and corrosion
- Chrome finish models feature mirror-like exterior that can be easily cleaned after each use
- Single Pawl ratchet design:
 - 1) Designed for tighter tolerances between pawl and gear which reduces metal fatigue and slippage
- 2) Does not require as many working parts, reducing possible breakage and parts to repair
- · Easy access reverse lever allows user to change working direction quickly and easily with only one hand



High-Polished Chrome Finish

Description	Length (Inches)	Weight (lbs.)
Extension	2	.06
Extension	4	.11
Extension	6	.15
U-Joint	1 7/16	.11
	Extension Extension Extension	Extension 2 Extension 4 Extension 6

Fed. Spec: ANSI B107.10M

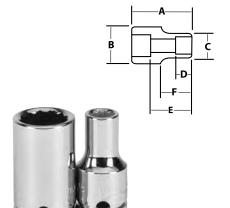
Features



· Flexible extension is designed for low torque applications in limited access areas







JHWM-115-TH

JHW30210-TH JHW30206-TH

TOOLS@HEIGHT™ 1/4" DRIVE SHALLOW SOCKETS. 12 POINT, SAE

High-Polished Chrome Finish

		Α	В	С	D	E		F	
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose	
Product Code	Size (Inches)	OAL (Inches)	Diameter (Inches)	Diameter (Inches)	Depth (Inches)	Depth (Inches)	Diameter (Inches)	Length (Inches)	Weight (lbs)
JHW30206-TH	3/16	1	15/32	5/16	9/32	19/32	3/16	1/2	0.03
JHW30207-TH	7/32	1	15/32	11/32	5/16	19/32	7/32	1/2	0.03
JHW30208-TH	1/4	1	15/32	3/8	5/16	19/32	7/32	1/2	0.03
JHW30209-TH	9/32	1	15/32	7/16	5/16	19/32	1/4	1/2	0.03
JHW30210-TH	5/16	1	15/32	15/32	⁵ /16	19/32	1/4	-	0.03
JHW30211-TH	11/32	1	1/2	1/2	5/16	19/32	11/32	•	0.04
JHW30212-TH	3/8	1	9/16	9/16	11/32	19/32	3/8	-	0.04
JHW30214-TH	7/16	1	5/8	5/8	7/16	19/32	7/16	-	0.05
JHW30216-TH	1/2	1	11/16	11/16	7/16	19/32	1/2	-	0.06
JHW30218-TH	9/16	1	3/4	3/4	⁷ /16	19/32	17/32	-	0.07

Fed. Spec: ANSI B107.1

SUPERTORQUE® lobular openings for greater turning power without deforming the fastener

Williams® Tools@Height™ sockets, extensions, and adaptors feature a

Designed for maximum engagement on both 6 and 12 point fasteners



locking hole on all four sides, not just one. Williams® Tools@Height™ ratchets and drive tools feature a locking pin which mates with the side lock hole for positive retention. This reduces the risk of misaligning the socket that typical competitor's sockets with just one side hole create.

Release pin with THPRTA - Pin Release Tool for Williams® Square Drive Tools Do not use quick release tools with locking

collars or push button release. These tools can be disengaged inadvertently.













TOOLS@HEIGHT™ 1/4" DRIVE DEEP SOCKETS, 12 POINT, SAE

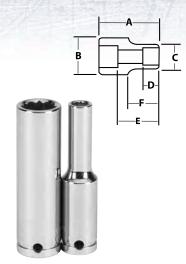
High-Polished Chrome Finish

		Α	В	С	D	E		F	
5 1 . 6 1	Size	OAL	Drive End Diameter	Working End Diameter	Broach Depth	Bolt Clearance Depth	Bolt Clearance Diameter	Nose Length	Weight
Product Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(lbs)
JHW30406-TH	3/16	1 31/32	15/32	5/16	5/16	1 ⁵ / ₁₆	1/8	1 1/32	0.04
JHW30407-TH	7/32	1 31/32	15/32	11/32	3/8	1 5/16	3/16	¹⁵ /16	0.05
JHW30408-TH	1/4	1 31/32	15/32	7/16	13/16	1 11/32	7/32	1 1/32	0.05
JHW30409-TH	9/32	1 31/32	15/32	7/16	25/32	1 11/32	1/4	31/32	0.05
JHW30410-TH	5/16	1 31/32	15/32	15/32	13/16	1 5/16	9/32	-	0.05
JHW30411-TH	11/32	1 31/32	1/2	1/2	23/32	1 ⁵ ⁄16	9/32	•	0.07
JHW30412-TH	3/8	1 ³¹ / ₃₂	9/16	⁹ /16	7/8	1 11/32	5/16		0.09
JHW30414-TH	7/16	1 31/32	5/8	5/8	7/8	1 ½	13/32	-	0.10
JHW30416-TH	1/2	1 31/32	11/16	11/16	27/32	1 17/32	7/16		0.11
JHW30418-TH	9/16	1 31/32	3/4	3/4	29/32	1 %16	17/32	•	0.14

Fed. Spec: ANSI B107.1

Features

- SUPERTORQUE® lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 12 point fasteners



JHW30410-TH JHW30406-TH



TOOLS@HEIGHT™ 1/4" DRIVE STANDARD LENGTH HEX BIT SOCKETS, SAE

High-Polished Chrome Finish

Product Code	Size (Inches)	Socket Length (Inches)	Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)	Weight (lbs)
JHW35000-TH	1/8	13/16	15/32	1 13/32	5/8	0.04
JHW35001-TH	5/32	13/16	15/32	1 13/32	5/8	0.04
JHW35002-TH	3/16	13/16	15/32	1 13/32	5/8	0.04
JHW35003-TH	7/32	13/16	15/32	1 13/32	5/8	0.04
JHW35004-TH	1/4	13/16	15/32	1 13/32	5/8	0.04
JHW35005-TH	5/16	13/16	15/32	1 13/32	5/8	0.04

Cooket Outside



Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW35000-TH	1/8	JHW35002-TH	³ / ₁₆	JHW35004-TH	1/ ₄
JHW35001-TH	5/32	JHW35003-TH	⁷ / ₃₂	JHW35005-TH	5/ ₁₆



Features

· High-polished chrome finish socket cleans easily



TOOLS@HEIGHT™ 1/4" DRIVE STANDARD LENGTH HEX BIT SOCKETS, METRIC

High-Polished Chrome Finish

Product Code	Size (MM)	Socket Length (Inches)	Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)	Weight (lbs)
JHW35070-TH	3	13/16	15/32	1 13/32	5/8	0.04
JHW35071-TH	4	13/16	15/32	1 13/32	5/8	0.04
JHW35072-TH	5	13/16	15/32	1 13/32	5/8	0.04
JHW35073-TH	6	¹³ / ₁₆	15/32	1 13/32	5/8	0.04
JHW35074-TH	7	13/16	15/32	1 13/32	5/8	0.04
JHW35075-TH	8	13/16	15/32	1 13/32	5/8	0.04



JHW35072-TH

30904-TH 6 Piece Hex Bit Socket Set on Clip Rail .51 lbs **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW35070-TH	3	JHW35072-TH	5	JHW35074-TH	7
JHW35071-TH	4	JHW35073-TH	6	JHW35075-TH	8



. High-polished chrome finish socket cleans easily





Do not use quick release tools with locking

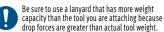
collars or push button release. These tools can be disengaged inadvertently.















JHWB52EHLATH

JHWB-118-TH



Williams® Sealed Narrow Head Design, Chrome and Black **Industrial Finish** Lauraba Mirrahan at Matalat

		Lengin	number of	vveignt	
Product Code	Description	(Inches)	Teeth	(lbs)	
JHWBB52EHATH	Black Industrial Finish Enclosed Head Ratchet	8	36	.76	_
JHWB52EHATH	Chrome Finish Enclosed Head Ratchet	8	36	.76	
JHWB52EHLATH	Chrome Finish Enclosed Head Ratchet, Long	10 ¹ / ₄	36	.87	
End Speed ANSI B107	10M				

Features

- Enclosed head is sealed to prevent dust, dirt, and liquids from entering head preserving internal lubrication
- Forged one-piece ratchet provide strength and safety for industrial applications
- Smooth comfort-grip handle permits all-day use without gloves
- 36 tooth gear with 10 degree of engagement allows engagement in tight working areas
- Nickel/Chrome plating provides increase protection from rust and corrosion
- Chrome finish models feature mirror-like exterior that can be easily cleaned after each use
- Single Pawl ratchet design:
- 1) Designed for tighter tolerances between pawl and gear which reduces metal fatigue and slippage under load
- 2) Does not require as many working parts, reducing possible breakage and parts to repair
- Easy access reverse lever allows user to change working direction quickly and easily with only



High-Polished Chrome Finish

Product Code	Description	Length (Inches)	Weight (lbs)
JHWB-108-TH	Extension	3	.19
JHWB-110-TH	Extension	6	.34
JHWB-115-TH	Extension	11	.61
JHWB-118-TH	Extension	18	.93
JHWB-140A-TH	Universal Joint	2	.15
JHWB-70-TH	Ratchet Spinner Disk	1 1/4	.14

Fed. Spec: ANSI B107.10M

Features

- · Chrome plating provides increased protection from rust and corrosion
- Flexible extension is designed for low torque applications in limited access areas
- · Spinner disk is ideal for fast turn down of fasteners



JHWB-40A-TH

JHWB-140A-TH

TOOLS@HEIGHT™ 3/8" DRIVE HANDLE

Knurled Handle, High-Polished Chrome Finish

i tilialica i lallalic	, ingiri onsiic			
Product Code	Description	Length (Inches)	Weight (lbs)	
JHWB-40A-TH	Flex Handle	8 ⁹ /16	.67	

Fed. Spec: ANSI B107.10M

Features

- · Chrome plating provides increased protection from rust and corrosion
- · Drive handles provide extra leverage with greater strength than ratchets





Williams® Tools@Height™ sockets, extensions, and adaptors feature a locking hole on all four sides, not just one. Williams* Tools@Height* ratchets and drive tools feature a locking pin which mates with the side lock hole for positive retention. This reduces the risk of misaligning the socket that typical competitor's sockets with just one side hole create.

Release pin with THPRTA – Pin Release Tool for Williams® Square Drive Tools Do not use quick release tools with locking collars or push button release. These tools can be disengaged inadvertently.













TOOLS@HEIGHT™ 3/8" DRIVE SHALLOW SOCKETS, 12 POINT, SAE

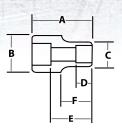
High-Polished Chrome Finish

		Α	В	С	D	E		F	
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)	Weight (lbs.)
JHW31208-TH	1/4	1	11/16	7/16	11/32	9/16	7/32	17/32	0.04
JHW31210-TH	5/16	1	11/16	15/32	3/8	17/32	1/4	17/32	0.05
JHW31212-TH	3/8	1	11/16	9/16	3/8	1/2	9/32	17/32	0.05
JHW31214-TH	7/16	1	11/16	5/8	11/32	17/32	13/32	17/32	0.05
JHW31216-TH	1/2	1	3/4	3/4	13/32	19/32	7/16	-	0.07
JHW31218-TH	9/16	1 1/16	²⁵ / ₃₂	25/32	17/32	5/8	17/32		0.08
JHW31220-TH	5/8	1 1/16	7/8	7/8	19/32	11/16	19/32		0.09
JHW31222-TH	11/16	1 1/16	¹⁵ / ₁₆	¹⁵ /16	1/2	11/16	21/32		0.11
JHW31224-TH	3/4	1 1/8	1	1	9/16	23/32	23/32		0.15
JHW31226-TH	¹³ / ₁₆	1 1/8	1 1/8	1 1/8	9/16	²³ / ₃₂	²⁵ / ₃₂	-	0.17
JHW31228-TH	7/8	1 7/32	1 3/16	1 ³ / ₁₆	21/32	¹³ / ₁₆	²⁷ / ₃₂	-	0.21
JHW31230-TH	15/16	1 7/32	1 1/4	1 1/4	21/32	13/16	27/32		0.23
JHW31232-TH	1	1 7/32	1 ½16	1 5/16	11/16	13/16	31/32		0.26

Fed. Spec: ANSI B107.1

Features

- SUPERTORQUE® lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 12 point fasteners





JHW31216-TH

JHW31208-TH





TOOLS@HEIGHT™ 3/8" DRIVE DEEP SOCKETS, 12 POINT, SAE

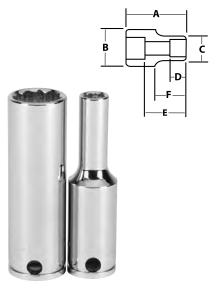
High-Polished Chrome Finish

•		Α	В	С	D	E		F	
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)	Weight (lbs)
JHW31408-TH	1/4	2 1/2	11/16	7/16	11/32	1 11/16	7/32	1 1/16	0.11
JHW31410-TH	5/16	2 1/2	11/16	15/32	3/8	1 11/16	5/16	1 1/16	0.11
JHW31412-TH	3/8	2 1/2	11/16	9/16	3/8	1 11/16	3/8	1 1/16	0.12
JHW31414-TH	7/16	2 1/2	11/16	5/8	11/32	1 11/16	7/16	1 1/16	0.12
JHW31416-TH	1/2	2 1/2	3/4	3/4	13/32	1 11/32	15/32		0.15
JHW31418-TH	9/16	2 1/2	25/32	25/32	17/32	1 %16	17/32		0.18
JHW31420-TH	5/8	2 1/2	7/8	7/8	19/32	1 %16	19/32		0.21
JHW31422-TH	11/16	2 1/2	15/16	¹⁵ / ₁₆	1/2	1 11/16	21/32		0.25
JHW31424-TH	3/4	2 1/2	1	1	9/16	1 11/16	23/32		0.27
JHW31426-TH	¹³ / ₁₆	2 1/2	1 1/8	1 1/8	9/16	2 ½32	25/32		0.34
JHW31428-TH	7/8	2 1/2	1 3/16	1 3/16	21/32	2 1/32	27/32		0.38
JHW31430-TH	¹⁵ / ₁₆	2 1/2	1 1/4	1 1/4	21/32	2 1/32	27/32		0.44
JHW31432-TH	1	2 1/2	1 5/16	1 5/16	11/16	2	31/32		0.49

Fed. Spec: ANSI B107.1

Features

- SUPERTORQUE® lobular openings for greater turning power without deforming the fastener
- · Designed for quick engagement on both 6 and 12 point fasteners



JHW31416-TH JHW31408-TH





Williams® Tools@Height™ sockets, extensions, and adaptors feature a locking hole on all four sides, not just one. Williams® Tools@Height™ ratchets and drive tools feature a locking pin which mates with the side lock hole for positive retention. This reduces the risk of misaligning the socket that typical competitor's sockets with just one side hole create.

Release pin with THPRTA – Pin Release Tool for Williams® Square Drive Tools

Do not use quick release tools with locking collars or push button release. These tools can be disengaged inadvertently.















JHW35100-TH

TOOLS@HEIGHT™ 3/8" DRIVE STANDARD **LENGTH HEX BIT SOCKETS, SAE**

High-Polished Chrome Finish

Toll Free 1 800 563 1293

Product Code	Size (Inches)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)	Weight (lbs.)
JHW35100-TH	1/8	1 3/16	3/4	1 27/32	21/32	0.09
JHW35101-TH	9/64	1 ³ / ₁₆	3/4	1 27/32	21/32	0.09
JHW35102-TH	5/32	1 ³ / ₁₆	3/4	1 27/32	21/32	0.10
JHW35103-TH	³ / ₁₆	1 ³ / ₁₆	3/4	1 27/32	21/32	0.09
JHW35104-TH	7/32	1 ³ / ₁₆	3/4	1 27/32	21/32	0.10
JHW35105-TH	1/4	1 3/16	3/4	1 ²⁷ / ₃₂	21/32	0.09
JHW35106-TH	⁵ / ₁₆	1 ³ / ₁₆	3/4	1 31/32	¹³ / ₁₆	0.11
JHW35107-TH	3/8	1 ³ / ₁₆	3/4	1 31/32	¹³ / ₁₆	0.12

Features

· High-polished chrome finish socket cleans easily.





TOOLS@HEIGHT™ 3/8" DRIVE UNIVERSAL SOCKETS, 6 POINT, SAE

High-Polished Chrome Finish

		Α	В	С	D	E		F	
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Open End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)	Weight (lbs.)
JHW31142-TH	3/8	1 53/64	3/4	9/16	3/8	35/64	21/64	5/16	0.11
JHW31144-TH		1 53/64	3/4	5/8	3/8	35/64	21/64	5/16	0.11
JHW31146-TH	1/2	1 57/64	3/4	45/64	13/32	37/64	21/64	13/32	0.12
JHW31148-TH	9/16	1 ⁵⁷ / ₆₄	3/4	25/32	7/16	43/64	21/64	33/64	0.13
JHW31150-TH	5/8	2	3/4	55/64	7/16	45/64	21/64	33/64	0.14
JHW31152-TH	11/16	2 3/64	3/4	15/16	31/64	3/4	21/64	17/32	0.15
JHW31154-TH	3/4	2 3/64	3/4	1 1/64	1/2	51/64	21/64	17/32	0.16

Fed. Spec: ANSI B107.1

Features

· Ideal for work in confined areas where fastener is inaccessible to standard sockets

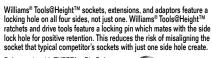


JHW31154-TH

JHW31142-TH







Release pin with THPRTA – Pin Release Tool for Williams® Square Drive Tools Do not use quick release tools with locking collars or push button release. These tools can be disengaged inadvertently.



* AUSTA



pplīfast

TOOLS@HEIGHT™ 1/2" DRIVE SCAFFOLDING RATCHET

Product Code	Description	Product Code	Description
BS-63A	Scaffolding Ratchet with reversed pry bar	JHWBS-63BRK	Repair Kit
JHWBS-62	Scaffolding Ratchet with out pry bar	JHWBS-63BTIP	Hammer Tip
JHWBS-63B	Scaffolding Ratchet with pry bar	JHWBS-63BBAR	Pry Bar

Features

- 1/2" Drive with pinned 7/8" 6-point socket, 2-1/4" length
- · 36 tooth gear with 10 degree of engagement allows engagement in tight working areas
- Bronze hammer head reduces rebound
- . Pry bar handle provide alignment option
- . Socket feature SUPERTORQUE lobular opening for greater turning power without deforming the fastener
- · Easy access reversing lever allows user to change working direction quickly and easily with only one hand
- · Tethering device attached to handle



TOOLS@HEIGHT™ 1/2" DRIVE ENCLOSED HEAD RATCHETS

Williams® Sealed Narrow Head Design, Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Number of Teeth	Weight (lbs)
JHWS52EHATH	Chrome Finish Enclosed Head Ratchet	10 1/4	36	1.61
JHWS52EHLATH	Chrome Finish Enclosed Head Ratchet, Long	15	36	1.94
JHWSB52EHATH	Black Industrial Finish Enclosed Head Ratchet	10 1/4	36	1.61
Fed. Spec: ANSI B107.				

Features

- · Enclosed head is sealed to prevent dust, dirt, and liquids from entering head, preserving internal lubrication
- Forged one-piece ratchet provide strength and safety for industrial applications
- Smooth comfort-grip handle permits all-day use without gloves
- 36 tooth gear with 10 degree of engagement allows engagement in tight working areas
- Nickel/Chrome plating provides increase protection from rust and corrosion
- · Chrome finish models feature mirror-like exterior that can be easily cleaned after each use



JHWBS41AATH

JHWS-40AA-TH

TOOLS@HEIGHT™ 1/2" DRIVE HANDLES

Knurled Handle. Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Weight (lbs)
JHWS-40AA-TH	Chrome Flex Handle	10 ¹³ / ₁₆	1.34
JHWS-41AA-TH	Chrome Flex Handle	15 ½	2.07
JHWBS41AATH	Black Industrial Finish Flex Handle	15 ½	2.06
JUMP94 I WALL	DIACK INQUSTRIAL FINISH FIEX HANGIE	15 72	2.00

Fed. Spec: ANSI B107.10M

Features

- Chrome plating provides increased protection from rust and corrosion.
- Drive handles provide extra leverage with greater strength than ratchets.
- · Speeder handle is ideal for fast turn down of fasteners.







Williams® Tools@Height™ sockets, extensions, and adaptors feature a locking hole on all four sides, not just one. Williams® Tools@Height™ ratchets and drive tools feature a locking pin which mates with the side lock hole for positive retention. This reduces the risk of misaligning the socket that typical competitor's sockets with just one side hole create.

Release pin with THPRTA - Pin Release Tool for Williams® Square Drive Tools Do not use quick release tools with locking collars or push button release. These tools

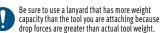
can be disengaged inadvertently.

















JHWS-140A-TH

JHW32220-TH

JHW32212-TH

TOOLS@HEIGHT™ 1/2" DRIVE EXTENSIONS AND ACCESSORIES

High-Polished Chrome Finish

Product Code	Description	Length (Inches)	Weight (lbs.)
JHWS-102P-TH	Extension	2	.38
JHWS-110P-TH	Extension	5	.50
JHWS-115P-TH	Extension	10	.93
JHWS-121P-TH	Extension	20	1.76
JHWS-140A-TH	Universal Joint	2 11/16	.29

Fed. Spec: ANSI B107.10M

Features

Chrome plating provides increased protection from rust and corrosion





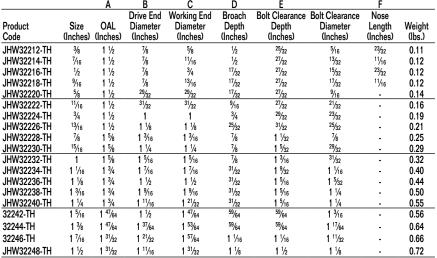
JHWS-121P-TH





TOOLS@HEIGHT™ 1/2" DRIVE SHALLOW 12 POINT SOCKETS, SAE

High-Polished Chrome Finish



Fed. Spec: ANSI B107.1

Features

- SUPERTORQUE® lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners



Competitor's socket Williams® socket





Williams® Tools@Height™ sockets, extensions, and adaptors feature a locking hole on all four sides, not just one. Williams® Tools@Height™ ratchets and drive tools feature a locking pin which mates with the side lock hole for positive retention. This reduces the risk of misaligning the socket that typical competitor's sockets with just one side hole create.

Release pin with THPRTA – Pin Release Tool for Williams® Square Drive Tools Do not use quick release tools with locking collars or push button release. These tools can be disengaged inadvertently.









TOOLS@HEIGHT™ 1/2" DRIVE DEEP SOCKETS, 12 POINT, SAE

High-Polished Chrome Finish

		Α	В	С	D	E		F	
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)	Weight (lbs.)
JHW32412-TH	3/8	3	7/8	5/8	1	2 7/32	11/32	1 ¹⁵ / ₃₂	0.23
JHW32414-TH	7/16	3 1/32	7/8	11/16	1 1/8	2 %32	13/32	1 ¹⁵ / ₃₂	0.24
JHW32416-TH	1/2	3 1/32	7/8	3/4	31/32	2 ⁷ / ₃₂	7/16	1 ¹⁵ / ₃₂	0.24
JHW32418-TH	9/16	3 1/32	7/8	13/16	1 3/32	2 7/32	1/2	1 15/32	0.26
JHW32420-TH	5/8	3 1/32	29/32	29/32	1 ¾16	2 3/16	9/16		0.27
JHW32422-TH	11/16	3 1/32	¹⁵ / ₁₆	¹⁵ / ₁₆	1 3/8	2 3/16	21/32	-	0.27
JHW32424-TH	3/4	3 1/32	1 1/16	1 1/16	1 1/4	2 11/32	23/32	-	0.27
JHW32426-TH	13/16	3 1/32	1 1/8	1 1/8	1 ¹⁵ / ₃₂	2 3/16	3/4	-	0.41
JHW32428-TH	7/8	3 1/32	1 ³ /16	1 ³ / ₁₆	1 ¹³ / ₃₂	2 1/4	27/32	-	0.45
JHW32430-TH	15/16	3 1/32	1 1/4	1 1/4	1 13/32	2 5/32	29/32	-	0.50
JHW32432-TH	1	3 1/32	1 11/32	1 11/32	1 13/32	2 5/32	15/16	-	0.58
JHW32434-TH	1 1/16	3 1/32	1 13/32	1 13/32	1 3/8	2 11/32	1 1/32	-	0.64
JHW32436-TH	1 1/8	3 1/32	1 1/2	1 ½	1 ½16	2 ¾	1 1/16	-	0.75
JHW32438-TH	1 ³ /16	3 1/32	1 %16	1 %16	1 ½16	2 3/16	1 1/16	-	0.81
JHW32440-TH	1 1/4	3 1/32	1 21/32	1 21/32	1 1/16	2 3/16	1 1/16	-	0.88
32442-TH	1 ⁵ /16	3 1/32	1 ⁴⁷ / ₆₄	1 ⁴⁷ / ₆₄	1 3/8	2 11/64	1 3/16	-	0.98
32444-TH	1 %	3 1/32	1 53/64	1 53/64	1 ¾	2 11/64	1 ¹⁷ / ₆₄	-	1.12
32446-TH	1 7/16	3 1/32	1 57/64	1 ⁵⁷ / ₆₄	1 ¾	2 11/64	1 11/32		1.19
JHW32448-TH	1 ½	3 1/32	1 ¹⁵ / ₁₆	1 31/32	1 7/16	2 3/16	1 1/16	-	1.38



Features

- SUPERTORQUE® lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners



JHW32420-TH





TOOLS@HEIGHT™ 1/2" DRIVE SHALLOW SOCKETS, 8 POINT, SAE

High-Polished Chrome Finish

		Α	В	С	D	E		F	
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)	Weight (lbs.)
JHWST-812-TH	3/8	1 1/2	7/8	23/32	5/16	²⁷ / ₃₂	5/16	7/8	0.14
JHWST-814-TH	7/16	1 1/2	7/8	¹³ / ₁₆	3/8	²⁷ / ₃₂	5/16	7/8	0.13
JHWST-816-TH	1/2	1 1/2	29/32	29/32	13/32	²⁷ / ₃₂	11/32		0.16
JHWST-818-TH	9/16	1 1/2	31/32	31/32	7/16	²⁷ / ₃₂	7/16		0.18
JHWST-820-TH	5/8	1 1/2	1 1/16	1 1/16	1/2	27/32	7/16		0.24
JHWST-822-TH	11/16	1 1/2	1 3/16	1 3/16	1/2	²⁷ / ₃₂	17/32		0.37
JHWST-824-TH	3/4	1 1/2	1 %32	1 1 1/32	9/16	¹³ / ₁₆	23/32		0.37
JHWST-826-TH	¹³ / ₁₆	1 1/8	1 1/16	17/16	9/16	31/32	²⁷ / ₃₂		0.49
JHWST-828-TH	7/8	1 3/4	1 1/2	1 1/2	5/8	1 1/16	15/16		0.53
JHWST-830-TH	15/16	1 13/16	1 1 1/8	1 %	11/16	1 1/8	1 1/32	-	0.63
JHWST-832-TH	1	1 15/16	1 11/16	1 11/16	11/16	1 1/4	1 1/32		0.78

Fed. Spec: ANSI B107.1

Features

- SUPERTORQUE® lobular openings for greater turning power without deforming the fastener
- 8 point sockets are designed for quick engagement on 4 point fasteners













ratchets and drive tools feature a locking pin which mates with the side lock hole for positive retention. This reduces the risk of misaligning the socket that typical competitor's sockets with just one side hole create. Release pin with THPRTA - Pin Release

Williams® Tools@Height™ sockets, extensions, and adaptors feature a locking hole on all four sides, not just one. Williams® Tools@Height™

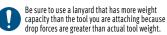




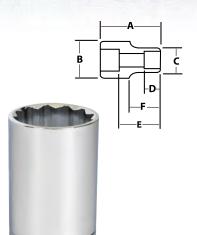
MARNING











JHW32820-TH

TOOLS@HEIGHT™ 1/2" DRIVE DEEP SOCKETS, 12 POINT, METRIC

High-Polished Chrome Finish

		Α	В	С	D	E		F	
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)	Weight (lbs)
JHW32809-TH	9	3 1/4	29/32	19/32	5/16	2 15/32	11/32	2 19/32	0.22
JHW32810-TH	10	3 1/4	29/32	19/32	5/16	2 15/32	11/32	2 19/32	0.22
JHW32811-TH	11	3 1/4	29/32	11/16	5/16	2 ¹⁵ / ₃₂	13/32	2 ¹⁹ / ₃₂	0.22
JHW32812-TH	12	3 1/4	29/32	23/32	13/32	2 ¹⁵ / ₃₂	7/16	2 ¹⁹ / ₃₂	0.23
JHW32813-TH	13	3 1/4	29/32	25/32	3/8	2 15/32	15/32	2 19/32	0.24
JHW32814-TH	14	3 1/4	29/32	27/32	3/8	2 ¹⁵ / ₃₂	15/32	2 19/32	0.24
JHW32815-TH	15	3 1/4	29/32	7/8	3/8	2 11/32	15/32		0.24
JHW32816-TH	16	3 1/4	29/32	²⁹ / ₃₂	9/16	2 11/32	15/32		0.27
JHW32817-TH	17	3 1/4	31/32	31/32	9/16	2 ¹ / ₃₂	15/32		0.31
JHW32818-TH	18	3 1/4	1	1	13/16	2 11/32	15/32		0.34
JHW32819-TH	19	3 1/4	1 1/32	1 1/32	13/16	2 5/16	23/32		0.37
JHW32820-TH	20	3 1/4	1 1/16	1 1/16	13/16	2 5/16	23/32		0.40
JHW32821-TH	21	3 1/4	1 1/8	1 1/8	¹³ / ₁₆	2 5/16	3/4		0.41
JHW32822-TH	22	3 1/4	1 ³ /16	1 3/16	¹³ / ₁₆	2 5/16	²⁵ / ₃₂		0.46
JHW32823-TH	23	3 1/4	1 1/4	1 1/4	25/32	2 5/16	27/32		0.49
JHW32824-TH	24	3 1/4	1 %2	1 %2	13/16	2 5/16	7/8		0.52
JHW32825-TH	25	3 1/4	1 5/16	1 5/16	13/16	2 1/4	15/16		0.55
JHW32826-TH	26	3 1/4	1 %	1 %	29/32	2 1/4	31/32		0.57
JHW32827-TH	27	3 1/4	1 7/16	1 7/16	31/32	2 1/4	1		0.66
JHW32828-TH	28	3 1/4	1 1/2	1 ½	1	2 1/4	1 1/32		0.73
JHW32829-TH	29	3 1/4	1 %	1 %6	1 1/32	2 1/4	1 1/16		0.78
JHW32830-TH	30	3 1/4	1 %	1 %	1 1/32	2 1/4	1 3/32		0.83
JHW32832-TH	32	3 1/4	1 11/16	1 11/16	1 1/8	2 1/4	1 3/16		0.93
32834-TH	34	3 1/4	1 3/4	1 3/4	7/8	2 1/4	1		0.93
JHW32836-TH	36	3 1/4	1 15/16	1 15/16	7/8	2 1/4	1 13/32	•	1.16

Fed. Spec: ANSI B107.5

JHW32949-TH - 24 Piece 1/2" Drive Deep 12 Point Socket Set on Clip Rail 12.02 lbs.

Features

- SUPERTORQUE® lobular openings for greater turning power without deforming the fastener
- · Designed for quick engagement on both 6 and 12 point fasteners



TOOLS@HEIGHT™ 1/2" DRIVE STANDARD LENGTH HEX BIT SOCKETS, SAE



High-Polished Chrome Finish

Product Code	Size (Inches)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)	Weight (lbs)
JHW35208-TH	1/4	1 7/16	²⁹ / ₃₂	2 ¹³ / ₃₂	27/32	0.17
JHW35210-TH	5/16	1 ⁷ /16	²⁹ / ₃₂	2 ¹³ / ₃₂	27/32	0.17
JHW35212-TH	3/8	1 7/16	²⁹ / ₃₂	2 ¹³ / ₃₂	27/32	0.19
JHW35214-TH	7/16	1 7/16	²⁹ / ₃₂	2 ¹³ / ₃₂	27/32	0.22
JHW35202-TH	1/2	1 19/32	7/8	2 ¹³ / ₃₂	27/32	0.26
JHW35203-TH	9/16	1 19/32	1	2 ¹³ / ₃₂	²⁷ / ₃₂	0.33
JHW35204-TH	5/8	1 19/32	1 1/16	2 ¹³ / ₃₂	²⁷ / ₃₂	0.39
JHW35206-TH	3/4	1 19/32	1 3/16	2 ¹³ / ₃₂	27/32	0.51

TOOLS@HEIGHT™ 1/2" DRIVE STANDARD **LENGTH HEX BIT SOCKETS, METRIC**



High-Polished Chrome Finish

Product Code	Size (MM)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)	Weight (lbs)
JHW35274-TH	8	1 19/32	29/32	2 13/32	27/32	0.17
JHW35275-TH	10	1 19/32	29/32	2 7/16	27/32	0.19
JHW35276-TH	12	1 ¹⁹ /32	²⁹ / ₃₂	2 7/16	²⁷ / ₃₂	0.22
JHW35277-TH	14	1 ¹⁹ /32	1	2 7/16	²⁷ / ₃₂	0.32
JHW35278-TH	17	1 ¹⁹ /32	1 3/32	2 7/16	²⁷ / ₃₂	0.43
JHW35279-TH	19	1 19/32	1 3/16	2 7/16	27/32	0.51

ratchets and drive tools feature a locking pin which mates with the side lock hole for positive retention. This reduces the risk of misaligning the socket that typical competitor's sockets with just one side hole create. Release pin with THPRTA - Pin Release Tool for Williams® Square Drive Tools

Do not use quick release tools with locking collars or push button release. These tools can be disengaged inadvertently.



Features

• High-polished chrome finish socket cleans easily





TOOLS@HEIGHT™ 3/4" DRIVE INTEGRATED **HANDLE RATCHETS**

Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Number of Teeth	Weight (lbs)
JHWH-51B-TH	Chrome Finish Ratchet	20 1/8	24	6.04
JHWHB-51B-TH	Black Industrial Finish Ratchet	20 1//8	24	6.04
Fed. Spec: ANSI B10	07.10M			NATION 1

Features

- . Forged one-piece ratchet provide strength and safety for industrial applications
- . Smooth comfort-grip handle permits all-day use without gloves



JHWH-110-TH

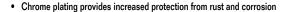
JHWH-104B-TH

TOOLS@HEIGHT™ 3/4" DRIVE EXTENSIONS

Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Weight (lbs)
JHWH-104B-TH	Black Industrial Finish Drive Extension	3	0.73
JHWH-110B-TH	Black Industrial Finish Drive Extension	8	1.70
JHWH-110-TH	Chrome Finish Drive Extension	8	1.72
JHWH-115-TH	Chrome Finish Drive Extension	16	3.25

Fed. Spec: ANSI B107.10M **Features**





TOOLS@HEIGHT™ 3/4" DRIVE HANDLE

Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Finish
JHWH-41AA-TH	Flex Handle Breaker Bar, Knurled Grip	22 1/8	Chrome
Fed. Spec: ANSI B10	7.10M		

Features

- · Chrome plating provides increased protection from rust and corrosion
- Drive handles provide extra leverage with greater strength than ratchets
- Square drive slides on T-Handles for versatility
- Flex handle flex drive swivels 110° in either direction

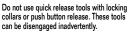






Williams® Tools@Height™ sockets, extensions, and adaptors feature a locking hole on all four sides, not just one. Williams* Tools@Height*w ratchets and drive tools feature a locking pin which mates with the side lock hole for positive retention. This reduces the risk of misaligning the socket that typical competitor's sockets with just one side hole create.

Release pin with THPRTA – Pin Release Tool for Williams® Square Drive Tools

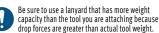
















TOOLS@HEIGHT™ 3/4" DRIVE SHALLOW **12 POINT SOCKETS, SAE**





High-Polished Chrome Finish

		Α	В	С	F	
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Nose Length (Inches)	Weight (lbs)
JHW33228-TH	7/8	1 15/16	1 7/16	1 1/4	35/64	0.46
JHW33230-TH	15/16	2	1 7/16	1 %	5/8	0.49
JHW33232-TH	1	2 1/16	1 7/16	1 7/16	5/8	0.49
JHW33234-TH	1 1/16	2 1/16	1 7/16	1 1/2	7/8	0.49
JHW33236-TH	1 1/8	2 1/16	1 1/2	1 %16	7/8	0.54
JHW33238-TH	1 3/16	2 1/8	1 1/2	1 11/16	15/16	0.60
JHW33240-TH	1 1/4	2 3/16	1 1/2	1 3/4	15/16	0.64
JHW33242-TH	1 5/16	2 3/16	1 1/2	1 13/16	1	0.69
JHW33244-TH	1 %	2 1/4	1 %	1 7/8	1	0.83
JHW33246-TH	1 7/16	2 1/4	1 %	1 31/32	1 7/64	0.90
JHW33248-TH	1 1/2	2 3/8	1 3/4	2 1/16	1 7/64	1.01
JHW33252-TH	1 %	2 1/2	1 3/4	2 3/16	1 3/16	1.17
JHW33256-TH	1 3/4	2 1/16	1 13/16	2 5/16	1 1/4	1.37
JHW33258-TH	1 ¹³ / ₁₆	2 11/16	1 13/16	2 ¾	1 1/4	1.37
JHW33260-TH	1 1/8	2 3/4	1 1/8	2 ½	1 11/32	1.57
JHW33264-TH	2	2 13/16	1 %	2 11/16	1 13/32	1.64

Fed. Spec: ANSI B107.1



TOOLS@HEIGHT™ 1" DRIVE HANDLE

Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Finish	Weight (lbs)
JHWX-41C-TH	Flex Handle Breaker Bar, Knurled Grip	34 3/16	Chrome	10.93

Fed. Spec: ANSI B107.10M

Features

- · Chrome plating provides increased protection from rust and corrosion
- . Drive handles provide extra leverage with greater strength than ratchets
- . Square drive slides on T-Handles for versatility
- Flex handle flex drive swivels 110° in either direction
- · Spring and plunger socket retention



TOOLS@HEIGHT™ 1" DRIVE RATCHET

Integrated Handle, Chrome Finish

Product Code	Description	Length (Inches)	Number of Teeth	Weight (lbs)
JHWX-51B-TH	Chrome Ratchet	20 1/8	24	6.25

Fed. Spec: ANSI B107.10M

Features

- · Forged one-piece ratchet provide strength and safety for industrial applications
- Smooth comfort-grip handle permits all-day use without gloves
- · 24 tooth gear with 15 degree of engagement allows engagement in tight working areas
- Chrome finish with mirror-like exterior can be easily cleaned after each use

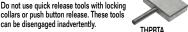




Williams® Tools®Height™ sockets, extensions, and adaptors feature a locking hole on all four sides, not just one. Williams® Tools®Height™ ratchets and drive tools feature a locking pin which mates with the side lock hole for positive retention. This reduces the risk of misaligning the socket that typical competitor's sockets with just one side hole create.

Release pin with THPRTA – Pin Release Tool for Williams® Square Drive Tools Do not use quick release tools with locking





* AUSA



pplīfast

TOOLS@HEIGHT™ 1000V ERGO® SCREWDRIVERS

Three Component Handle with Black Oxide Tips Overall Length Blade Length

	Overall Length	Blade Length	Tip Width	Weight
Product Code	(Inches)	(Inches)	(Inches)	(lbs)
SLOTTED				
BE-8220S-TH	9	4	1/8	.089
BE-8040S-TH	8 3/4	4	5/32	.136
BE-8050S-TH	8 3/4	4	7/32	.089
PHILLIPS				
BE-8610S-TH	8	3 5/32	1	.141
BE-8620S-TH	8 3/4	4	2	.241

Features

- The three component ergonomically designed handle provides comfort and maximum grip even with oily hands
- . For use with optional WTHUNIRET1 retractable lanyard





TOOLS@HEIGHT™ 5 PIECE PREMIUM MIXED **SCREWDRIVER SET**

Premium Comfort Grip Handles and Blades

Product Code	Description
100P-5MD-TH	5 Piece Premium Screwdriver Set Phillips/Slotted

Contents Include:

Product Code	Overall length (Inches)	Blade Length (Inches)	Tip Width/Point Size
JHWSDR-22-TH	6 1/8	3	3/16
JHWSDR-24-TH	7 7/8	4	1/4
JHWSDR-26-TH	10 11/16	6	5/16
JHWSDP13TH	6 1/4	3	#1 Phillips
JHWSDP24TH	7 15/16	4	#2 Phillips

TOOLS@HEIGHT™ SLOTTED SCREWDRIVERS



	Overall Length	Blade Length	Tip Width	
Product Code	(Inches)	(Inches)	(Inches)	Weight (lbs)
JHWSDS-62-TH	3 7/8	1 1/2	3/16	0.09
JHWSDR-22-TH	6 ¹ / ₈	3	3/16	0.17
JHWSDR-24-TH	7 ⁷ /8	4	1/4	0.26
JHWSDR-26-TH	10 11/16	6	5/16	0.38
JHWSDR-28-TH	12 11/16	8	3/8	0.59
JHWSDR-30-TH	14 ³ / ₄	10	⁷ / ₁₆	0.66

Features

- . Comfort-grip handle with thumb stop allow for added turning power without discomfort or slippage.
- · Hi-polish chrome blades prevent corrosion and can be easily cleaned.
- · Vapor-blasted tips grip fasteners and prevent chipping, extending tool life.
- · Blades are made from special alloy steel for extra strength.



Rotating screwdriver tabs – tab is located for secure retention and allow full use of the screwdriver handle • Stainless steel tab is corrosion resistant

- the users hand
- Nylon bushing has a shoulder so the tab will not bind

















TOOLS@HEIGHT™ PHILLIPS® SCREWDRIVERS W/ROUND BLADES

Premium Comfort Grip Handles and Blades

	Overall Length	Blade Length	Point	Weight
Product Code	(Inches)	(Inches)	Size	(lbs)
JHWSDP2STTH	3 7/8	1 1/2	2	0.10
JHWSDP13TH	6 1/4	3	1	0.15
JHWSDP24TH	7 15/16	4	2	0.25
JHWSDP28TH*	12	8	2	0.30
JHWSDP36TH	10 ¹ / ₂	6	3	0.39
JHWSDP46TH	10 ³ / ₄	6	4	0.53

^{*} Does not have Bolster

Features

Toll Free 1 800 563 1293

- . Comfort-grip handle with thumb stop allow for added turning power without discomfort or slippage
- · Hi-polish chrome blades prevent corrosion and can be easily cleaned
- · Vapor-blasted tips grip fasteners and prevent chipping, extending tool life
- Blades are made from special alloy steel for extra strength.

TOOLS@HEIGHT™ WEDGE WIDTH POSITION **ADJUSTABLE SHACKLE**

Durable Shackle with Wave Washers

Product Code	Overall Length Wedge Only (Inches)	Overall Length Including Shackle (Inches)	Overall Width Including Shackle (Inches)	Width Wedge Working Area (Inches)	Tip Thickness (Inches)	Weight (lbs)
JHWWG6412TH JHWWG2408TH	12	14 9	2.3 1.82	2 1.5	0.1 0.1	6.9 1.5
THCARA257FTB	SST Carabiner to carabiner bungee lanyard, medium duty					

Features

- . Wedge features a durable shackle with wave washers that allow the shackle to be positioned out of the way while being struckPrecision machined socket end
- Useful for most separating and positioning tasks
- . Designed to allow the shackle to swivel fully from one side to the other
- . Made from heat treated alloy steel; Stainless steel shackle is durable and will not corrode in harsh
- Shackle has position adjustment feature to keep the shackle out of the hammer path, even when used upside down
- . Shackle pin is locked in place to prevent it from "walking out" during use

TOOLS@HEIGHT™ BULL PINS WIDTH POSITION **ADJUSTABLE SHACKLE**

Durable Shackle with Wave Washers

	Overall Length	Overall Length	Overall Width	Diameter Bull Pir	1	
	Bull Pin Only	Including Shackle	Including Shackle	Working Area	Point Diameter	Weight
Product Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(lbs)
JHWBP4014TH	14	16	2 5/16	1 1/4	5/16	3.5
JHWBP3410TH	10	11	1 ¹³ /16	1 ¹ / ₁₆	1/4	3
THCARA257FTB	SST Cara	biner to carabiner bu	ingee lanyard, medit	ım duty		
KLE5417T	Bull Pin I	Holder - Leather				

Features

- . Bull Pins feature a durable shackle with wave washers that allow the shackle to be positioned out of the way while being struck
- · Broad head bull pin for most alignment tasks
- Head of bull pin designed to allow the shackle to swivel fully from one side to the other
- Bull Pin made from heat treated alloy steel; Stainless steel shackle is durable and will not corrode in harsh environments
- · Shackle has position adjustment feature to keep the shackle out of the hammer path, even when used
- . Shackle pin is locked in place to prevent it from "walking out" during use
- . Broad head angle allows shackle to pass from side to side, even as head mushrooms from being struck



JHWWG6412TH



TOOLS@HEIGHT™ UTILITY SUPERJOINT PLIERS

Double-Dipped Plastic Handles

Features	Overall Length (Inches)	Maximum Opening (Inches)	Tip Width (Inches)	Weight (lbs)
JHWPL1519CTH	5	1/2	3/16	0.22
JHWPL1520CTH	10	1 1/2	5/16	0.92
JHWPL1523CTH	12	2 ⁵ /8	1/2	1.50
JHWPL1524CTH	16	4	1/2	2.78

Features

- . Multiple parallel jaw positions are locked in to proper groove for superior non-slip performance
- Serrated jaws for maximum gripping power
- · Polished heads resist rust and corrosion, extending the tool life



TOOLS@HEIGHT™ COMBINATION SLIP-JOINT PLIERS

Double-Dipped Plastic Handles

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Tip Width (Inches)	Weight (lbs)
JHWPL-8C-TH	8	1 13/32	3/8	0.73
JHWPL-10C-TH	10	1 ¹³ / ₃₂	1/2	1.04

Features

- . Multiple parallel jaw positions are locked in to proper groove for superior non-slip performance
- · Serrated jaws for maximum gripping power
- · Polished heads resist rust and corrosion, extending the tool life
- . Shear type wire cutter extends tool use





JHWPL204CTH **Features**

- · Designed for wiring, electrical equipment installation and maintenance for utility linemen
- · Polished faces look good and resist corrosion
- · Induction hardened cutting edges stay sharp longer

Electrician's

- · Diamond serrated jaws provide solid grip on wire
- Double-dipped plastic handle grips are comfortable yet durable



JHWPL-10C-TH











TOOLS@HEIGHT™ HIGH LEVERAGE **DIAGONAL CUTTING PLIERS**

Double-Dipped Plastic Handles

Toll Free 1 800 563 1293

Product Code	Description	Overall Length (Inches)	Cutting Blade Length (Inches)	Weight (lbs)
JHWPL-57C-TH	High Leverage Head	7 1/4	¹⁵ / ₁₆	0.50

Features

- · Handles are designed to cut wire with ease
- · Polished heads resist rust and corrosion, extending the tool life
- · Induction hardened cutting edges





JHWPL-76C-TH

JHWPL149CTH

TOOLS@HEIGHT™ INDUSTRIAL GRADE **DIAGONAL CUTTING PLIERS**

Double-Dipped Plastic Handles

	Overall Length	Cutting Blade Length	Weight
Product Code	(Inches)	(Inches)	(lbs)
JHWPL-46C-TH	6	3/4	.37
JHWPL-47C-TH	7	11/16	.50

Features

- Handles are designed to cut wire with ease
- Polished heads resist rust and corrosion, extending the tool life
- · Induction hardened cutting edges
- Regular flush cutters are used for cutting hard wire



TOOLS@HEIGHT™ CHAIN NOSE PLIERS

Double-Dipped Plastic Handles

		Overall Length	Jaw Length	Weight
Product Code	Description	(Inches)	(Inches)	(lbs)
JHWPL-76C-TH	Long Nose w/cutter	6 1/2	1 5/16	.38

Features

- · Polished heads resist rust and corrosion, extending the tool life
- Diamond serrated jaws with industrial hardened cutting edges





Double-Dipped Plastic Handles

Product Code	Description	Overall Length (Inches)	Jaw Length (Inches)	Weight (lbs)
JHWPL149CTH	High Leverage	8	1 1/4	.44

- · Jaws are polished with rust-protective coating
- Flat wide nose provides a better grip than the regular needle nose models







plitast

TOOLS@HEIGHT™ THIN BENT CHAIN NOSE PLIERS

Double-Dipped Plastic Handles

Product Code	Description	Overall Length (Inches)	Jaw Length (Inches)	Weight (lbs)
JHWPL126CTH	73° Bent Thin Nose	6 1/4	1 1/4	0.33

Features

- · Polished heads resist rust and corrosion, extending the tool life
- · Serrated jaws for extra gripping power
- 73° bent nose model featured thin jaws angled to reach around obstacles and hard-to-reach spaces



TOOLS@HEIGHT™ HEAVY DUTY FRONT END WIRE STRIPPERS

Double-Dipped Plastic Handles

Product Code	Overall Length (Inches)	Capacity (AWG-solid wire)	(stranded wire)	Weight (lbs)
JHW23506-TH	6 ¹ / ₄	10-20	12-20	.24

Features

- Double-dipped handles with air cushion pockets provide comfortable grip, reducing hand fatigue
- Spring-loaded handles speed work and reduce hand effort
- · Serrated gripping jaws in nose for use as pliers
- · 2-piece hardened steel pivot for long life service
- Lock protects cutting edges in storage



TOOLS@HEIGHT™ MULTI-PURPOSE COMBINATION WIRE TOOLS

Double-Dipped Plastic Handles with Curved Wire Cutter

		Overall Length	Nose	Weight
Product Code	Description	(Inches)	Style	(lbs)
JHW23503-TH	Front-end Stripper	8 1/4	Serrated Pliers	0.45

Features

- Crimp and strip wire sizes 10-22 AWG
- Double-dipped handles with air cushion pockets provide comfortable grip, reducing hand fatigue
- 23503 cuts 6 bolt sizes: 4-40 / 5-40 / 6-32 / 8-32 / 10-32 / 10-24



TOOLS@HEIGHT™ WIRE TWISTER / CUTTER

Produces Right Hand (clockwise) Twists

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Cutting Blade Length (Inches)	Weight (lbs)	
JHWWTC-11-TH	8.5	1 ¹ / ₁₆	1/4	.53	

- Diamond-shaped, flat top jaw serrations hold wire firmly and resist nicking material being worked on
- Diagonal nose configurations & "mini" frame allows access in tight quarters
- · Automatic return feature retracts automatically, speeding up operation use and reducing operator fatigue
- · Heat-treated cutting edge holds it edge for cutting tough (up to .041) stainless steel and safety wire
- . One hand operation allows for operator closing and locking with minimum of handle force
- · High carbon alloy steel forging are used for maximum durability and long life













TOOLS@HEIGHT™ CABLE CUTTER FOR FERROUS MATERIALS

Locking Pliers

Product Code	Overall Length (Inches)	Weight (lbs)
JHW23302A-TH	7	0.71
JHW23303A-TH	10	1.15

Features

- · Convenient one-hand release lever
- Heavy-duty jaw surfaces provide extra gripping power



TOOLS@HEIGHT™ LOCKING PLIERS

Long Nose with Wire	Cutter Locking Pliers	
Product Code	Overall Length (Inches)	Weight (lbs)
JHW23310A-TH	9	0.80

Locking C-Clamps

Product Code	Overall Length (Inches)	Throat Depth	Capacity (Lbs.)	Weight (lbs)
JHW23321A-TH	11	21/4"	900	1.65

Features

- Convenient one-hand release lever
- · Heavy-duty jaw surfaces provide extra gripping power



TOOLS@HEIGHT™ DROP FORGED C-CLAMPS

Deep Throat Design, Copper Plated Screw

		Throat Depth	Screw Diameter	Min Test	
Product Code	Capacity (Inches)	(Inches)	(Inches)	Load (lbs)	Weight (lbs)
JHWCC402CTH	2	2 11/32	1/2	3500	1.50
JHWCC404CTH	4	3 ¾16	3/4	6500	3.15
JHWCC406CTH	6	4 ½	3/4	6900	5.24
JHWCC408CTH	8	5 ¾16	3/4	6900	7.5

- Copper plated screw resists weld splatter
- . Drop-forged and heat treated for maximum strength and greater rigidity
- I-Beam design for extra strength
- Highly resistant to "springing"



* AUSA



oplifast

TOOLS@HEIGHT™ PIPE WRENCHES

Aluminum, Heavy Duty

Product Code	Overall Capacity (Inches)	Maximum jaw Opening	Weight (lbs)
R31090-TH	10	1 1/2	1
R47057-TH	12	2	2.5
R31095-TH	14	2	2.5
R31100-TH	18	2 1/2	3.75
R31105-TH*	24	3	6.5
R31110-TH*	36	5	11.2
R31115-TH*	48	6	19.5

Features

- · Professional strength in lightweight aluminum
- Offers the durability and ease-of-use



We pin the tang of the removable pipe wrench jaw so it cannot become separated from the handle

TOOLS@HEIGHT™ PIPE WRENCHES

Cast Iron, Heavy Duty

Product Code	Overall Capacity (Inches)	Maximum jaw Opening	Weight (lbs)
R31000-TH	6	3/4	0.5
R31005-TH	8	1	0.75
R31010-TH	10	1 1/2	1.75
R31015-TH	12	2	2.75
R31020-TH	14	2	3.5
R31025-TH*	18	2 ⁹ / ₁₆	5.8
R31030-TH*	24	3	9.5
R31035-TH*	36	5	19.5
R31040-TH*	48	6	32

Features

- Sturdy, cast-iron housing and I-beam handle with full floating forged hook jaw, featuring self-cleaning threads with replaceable hook and heel jaws
- . Heavy-duty pipe wrenches comply with federal specifications GGG-W65IE, Type II, Class A



Tools@Height Tools Over 5 lbs. with Engineered Attachment Point. Three-foot-long web strap/carabiner system designed for use with "master ring" systems.

TOOLS@HEIGHT™ PIPE CHAIN WRENCH

Heat Treated

Product Code	Pipe Diameter Minimum - Maximum (Pipe Size)	Handle Length (Inches)	Chain Length (Inches)	Weight (lbs)
JHWCW-4-TH	3/8 - 4	11	15	1.80

Features

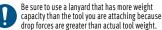
- · Forged handle is fully heat-treated
- · Ideal for use in close quarters and where space is at a premium
- . Successive "bites" can be taken without removal of wrench from the work piece
- Fully adjustable to fit any shape pipe











* USA

^{*}Tools@Height Tools Over 5 lbs. with Engineered Attachment Point. Three-foot-long web strap/carabiner system designed for use with "master ring" systems.

^{*}Tools@Height Tools Over 5 lbs. with Engineered Attachment Point. Three-foot-long web strap/carabiner system designed for use with "master ring" systems.





TOOLS@HEIGHT™ CLAW HAMMER

Solid steel hammer with Cushion Grip

Pr	oduct Code	Head Weight (ozs.)	Handle Length (Inches)	Overall Length (Inches)	Weight (lbs.)
TH	IFSNE3-22SM	22	7 1/4	15 ³ / ₄	2.13
M	OIE3-16C-TH	16	11	13	1.5

Features

- · Cushion grip handle provides greater comfort and safety
- Durable design for a long lasting hammer





TOOLS@HEIGHT™ BALL PEIN HAMMERS

Fiberglass Handles with Cushion Grip

Product Code	Handle Length (Inches)	Overall Length (Inches)	Face Diameter (Inches)	Weight (lbs.)
JHW20542-TH	9 1/2	10 ¾	7/8	1.84
JHW20543-TH	10 1/4	11 ¾	7/8	1.23
JHW20544-TH	11 1/4	13	1 %	1.67
JHW20545-TH	13	15	1 1/4	2.31
JHW20546-TH	12 ¾	15	1 1/4	2.69

Features

- Ideal for driving punches, chisels and other metal work
- · Fiberglass handle has a cushion grip for greater comfort and safety
- · Hammer heads are drop-forged from specially selected steel and carefully heat treated for dependable strength, hardness and uniformity



TOOLS@HEIGHT™ BRONZE HAMMER

Fiberglass Handles with Cushion Grip

Product Code	Handle Length (Inches)	Overall Length (Inches)	Face Diameter (Inches)	Weight Class (lbs)
HSB-1.5A-TH	10 %	12	1	1.91

- · Ideal for applications which require non-sparking conditions
- . The flat surface brass head absorbs impact blows, reduces rebound and helps eliminate marred work surfaces
- . Non-slip cushion grip provides greater comfort and safety





TOOLS@HEIGHT™ DRILLING HAMMER

Fiberglass Handles with Cushion Grip

Product Code	Handle Length (Inches)	Overall Length (Inches)	Weight (lbs.)
JHW20678-TH	8 1/2	10 1/4	2.55

Features

- Handles are durable and comfortable
- · Heavy duty construction for strength and durability



TOOLS@HEIGHT™ CROSS PEIN HAMMER

Fiberglass Handles with Cushion Grip

Product Code	Weight (ozs.)	Handle Length (Inches)	Overall Length (Inches)	Weight (lbs.)
20651-TH	48	13	15 ¾	4.96

Features

- Handles are durable and comfortable
- · Heavy duty construction for strength and durability

TOOLS@HEIGHT™ SLEDGE HAMMERS

Fiberglass Handles

Product Code	Weight Class (lbs.)	Handle Length (Inches)	Overall Length (Inches)	Face Diameter (Inches)	Weight (lbs.)
SHF-4SA-TH **	4	14	14	1 1/4	4.93
SHF-8SA-TH **	8	32	32	2	10.34
SHF-12SA-TH **	12	32	32	2 ½	14.45
SHF-4A-TH	4	14	14	1 %	4.78
SHF-6A-TH	6	32	32	1 3/4	7.74
SHF-8A-TH	8	32	32	2	9.89
SHF-10A-TH	10	16	16	2 1/8	11.34
SHF-10LA-TH	10	32	32	2 1/8	12.18
SHF-12A-TH	12	32	32	2 ¹ / ₄	14.70
SHF-16A-TH	16	24	24	2 %	18.43

- ** Soft steel safety head is similar in hardness to brass
- ** Ideal replacement for Brass Head where non-sparking is not required
- . Double faced head is hardened and tempered forged for maximum strength and durability















TOOLS@HEIGHT™ PRY BARS - SCREWDRIVER TYPE

Comfort Grip Handles

Product Code	Size	Overall Length (inches)	Weight (lbs)
C-807-TH	3/8	12	0.67
C-812-TH	3/8	17	0.86
C-818-TH	1/2	25	1.9491

Features

- · Blade is heat-treated the entire length
- Handle is ergonomically designed to provide a more comfortable and secure grip
- Curved blade style gives extra leverage
- Capped end allows for striking without damage to handl.



TOOLS@HEIGHT™ 17 PIECE PUNCH & CHISEL SET

Packed in a Roll Pouch

Product Code	Description	Weight (lbs)
JHWPC-17-TH	17 Piece Punch & Chisel Set	4.93

Contents Include:

		Point			Blade
Product		Diameter	Product		Width
Code	Description	(Inches)	Code	Description	(Inches)
JHWP-4-TH	Pin Punch	1/8	C-10-TH	Cold Chisel	5/16
JHWP-6-TH	Pin Punch	3/16	C-12-TH	Cold Chisel	3/8
JHWP-8-TH	Pin Punch	1/4	C-16-TH	Cold Chisel	1/2
JHWP-14-TH	Solid Punch	1/8	C-20-TH	Cold Chisel	5/8
JHWP-15-TH	Solid Punch	5/32	C-24-TH	Cold Chisel	3/4
JHWP-16-TH	Solid Punch	3/16	C-42-TH	Cape Chisel	1/4
JHWP-25-TH	Long Taper Punch	5/32	C-62-TH	Diamond Point	3/8
JHWP-28-TH	Long Taper Punch	1/4		Chisel	
JHWP-32-TH	Prick Punch	-			
JHWP-40-TH	Center Punch	-			

Features

Heavy duty construction for strength and durability.





TOOLS@HEIGHT™ COLD CHISELS

Heavy Duty Industrial Grade

Product Code	Stock Size	Blade Width (Inches)	Length (Inches)	Weight (lbs)
JHWC-10-TH	1/4	5/16	5	0.07
JHWC-12-TH	5/16	3/8	5 ½	0.13
JHWC-15-TH	3/8	⁷ / ₁₆	6	0.20
JHWC-16-TH	7/16	1/2	6	0.26
JHWC-20-TH	1/2	5/8	6 1/2	0.33
JHWC-24-TH	5/8	3/4	7	0.59
JHWC-32-TH	7/8	1	8	1.28

Features

- The most commonly used chisels in the chisel line
- For cutting, shaping and removing metal softer than the cutting edge of the chisel



TOOLS@HEIGHT™ CAPE CHISELS

Heavy Duty	Industrial	Grade		
Product Code	Stock Size	Blade Width (Inches)	Length (Inches)	Weight (lbs)
JHWC-42-TH	3/8	1/4	5	0.15

Features

· Designed for cutting or grooving keyholes or slots





TOOLS@HEIGHT™ DIAMOND POINT CHISELS

Heavy Duty Industrial Grade

Product Code	Stock Size	Square Cut	Length (Inches)	Weight (lbs)
JHWC-62-TH	5/8	3/8	7	.56

Features

. Designed for making a V-groove in metal and to clean out inside corners











PUNCHES





TOOLS@HEIGHT™ PIN PUNCHES

Heavy Duty Industrial Grade

Product Code	Stock Size	Point Diameter	Length (Inches)	Weight (lbs)
JHWP-4-TH	5/16	1/8	4 3/4	0.09
P-5-TH	5/16	5/32	5	0.10
JHWP-6-TH	5/16	³ / ₁₆	5 1/4	0.15
JHWP-8-TH	3/8	1/4	5 ¾	0.17
JHWP-10-TH	7/16	5/16	6	0.24

Features

 For driving out and removing already loosened pins and keys after initial movement by a solid or starter punch





TOOLS@HEIGHT™ SOLID PUNCHES

Heavy Duty Industrial Grade

Product Code	Stock Size	Point Diameter	Length (Inches)	Weight (lbs)
JHWP-14-TH	3/8	1/8	5	0.15
JHWP-15-TH	3/8	5/32	5	0.15
JHWP-16-TH	3/8	3/16	5	0.16
JHWP-17-TH	1/2	1/4	5	0.16
JHWP-18-TH	3/8	7/32	5	0.15

Features

- For loosening frozen or tight pins and keys or knocking out rivets
- · Also called starter punches because they are ideal for loosening frozen pins



TOOLS@HEIGHT™ PRICK PUNCHES

Heavy Duty Industrial Grade

Product Code	Stock Size	Length (Inches)	Weight (lbs)
JHWP-32-TH	1/2	6	.28

Features

- For scribing lines into metal before cutting or riveting, and for punching starting holes for short metal screws
- Point is more tapered than center punch





TOOLS@HEIGHT™ CENTER PUNCHES

Heavy Duty Industrial Grade

, ,				
Product Code	Stock Size	Blade Width (Inches)	Weight (lbs)	
JHWP-38-TH	1/4	4	.05	
JHWP-39-TH	5/6	4 1/2	.08	
JHWP-40-TH	3/8	5	.09	
JHWP-42-TH	1/2	6	.07	

Features

 Pierces or marks work by indentation for starting pilot drills in metal or other materials





plrfast

TOOLS@HEIGHT™ LONG TAPER PUNCHES

Heavy Duty Industrial Grade

Product Code	Stock Size	Point Diameter	Length (Inches)	Weight (lbs)
JHWP-25-TH	3/8	5/32	9	0.25
JHWP-28-TH	5/8	1/4	12	0.82
JHWP-28A-TH	3/4	1/4	15	1.50

Features

- Designed for aligning the holes in metal pieces through which rivets, bolts, or screws will be inserted
- · Not intended for driving pins as punch may become stuck in work
- · Also called line-up aligning or drift punches



TOOLS@HEIGHT™ PUNCH AND CHISEL HOLDER

Comfort Grip Handle

Product Code	Description	Weight (lbs)
28449-TH	7/8	0.50

Features

- · Holds chisel and punch securely
- · Protect user from hand injury



TOOLS@HEIGHT™ PINCH BARS

Heavy Duty Industrial Grade

Product Code	Overall Length (Inches)	Stock Size	Width of Flat (Inches)	Weight (lbs)
JHWC-83-TH	19 %	3/4	7/8	2.32
JHWC-84-TH	30	7/8	1	5.0

Features

• Used for aligning, prying and positioning



TOOLS@HEIGHT™ SUPERIOR HANDSAWS WITH XT TOOTHING

ERGO® handle - Unique XT toothing - Low Friction Coating

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)	Type of cut	Weight (lbs)
2700-24-XT7-HP-TH	24	7	Aggressive	1.24

Features

- Hard point saw with substantially thicker blade which results in less power-consuming side vibrations
- Bevel ground teeth on thick blade for height precision and straight cutting with exceptionally good stability
- Screwed, one piece two-component Ergo® handle
- . Handle placement provides even distribution of power along the tooth line
- Comes with reusable plastic patented tooth protector



JHWC-83-TH











TOOLS@HEIGHT™ PROFESSIONAL HAND HACKSAW

Non-Slip Handles Ensures a Solid and Secure Grip.

Product Code	Description	Blade Length (Inches)	Weight (lbs)
319-TH	Professional Hand Hacksaw	12	1.26

Features

Toll Free 1 800 563 1293

- Alternative 55° blade mounting for flush cutting
- Offers a strong steel frame that is covered with a protective dual component plastic
- Comfortable, non-slip back handle and front grip ensures a solid, secure grip
- . Tension mechanism is fully integrated into the handles so there is no obstruction during use
- . Supplied with reliable and shatterproof 12 inch bi-metal blade, 24 TPI.



TOOLS@HEIGHT™ TRADITIONAL HAND HACKSAW

Heavy Duty Frame with Blade Storage

Product Code Description		Blade Length (Inches)	Weight (lbs)
	Traditional Hand		
225-PLUS-3906-TH	Hacksaw	12	1.48

Features

- · Allows very high blade tension for accurate and fast cuts
- Strong rectangular back section for blade storage with easy-to-handle retaining screws
- Can also be used as a compass saw
- Alternative 55° blade mounting for flush cutting
- Supplied with reliable and shatterproof 12 inch bi-metal blade, 24 TPI.



TOOLS@HEIGHT™ GASKET SCRAPER

Bi-Mold Comfort Grip Handle

	•			
Product Code	Blade Length (Inch)	Overall Length	Blade Width	Weight (lbs)
JHW40000-TH	6	9 3/4	7/8	.32

- . Bi-mold handle provides comfortable grip, reducing hand fatigue
- · Ideal for gasket removal and cleaning rust and corrosion.



TOOLS@HEIGHT™ 6 PIECE ENGINEERING FILE SET

Product Code	Description	
1-476-04-3-2-TH	6 Piece Engineering File Set	

Plastic Handled Files Contents Include:

Description	Length (Inch)	Type of Cut	Weight (lbs)
Hand Smooth	4	Smooth	.15
Warding Smooth	4	Smooth	.15
Square Smooth	4	Smooth	.15
Three Square Smooth	4	Smooth	.15
Half Round Smooth	4	Smooth	.15
Round Smooth	4	Smooth	.15

Features

- Files are smooth, double cut and designed for the fine filing and polishing applications
- · Supplied with pouch
- For use with optional THUNIRET1A Retractable Lanyard



1-476-04-3-2

TOOLS@HEIGHT™ MILL FILE (USA TYPE)-TWO FLAT EDGES

Engineering File With Bi-Molded ERGO® Handle

Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut	Weight (lbs)
1-143-08-1-2-TH	8	25/32	1/8	44	Bastard	.31

Features

- · Surfaces and edges are single cut
- · Suitable for engineering and sharpening file applications
- Can be used for polishing and deburring work in lathes
- · Widely used for sharpening tools and implements such as spades, shovels, hoes, scrapers, etc.



TOOLS@HEIGHT™ ROUND FILE

Engineering File With Bi-Molded ERGO® Handle

•	•						
Product	Length	Width	Height	Teeth Per Inch			
Code	(Inch)	(Inch)	(Inch)	(TPI)	Type of Cut	Weight (lbs)	
1-230-08-2-2-TH	8	5/16	-	36	Second	.25	

Features

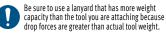
Regularly used for filing holes, large fillets and concave surfaces.
 File is tapered to a point and has a double cut.















TOOLS@HEIGHT™ MAGNETIC PICK-UP TOOL WITH LIGHT

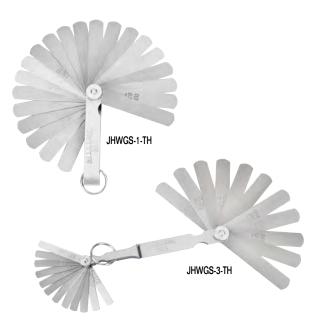
Product Code	Description	Extended Length (Inches)	Weight (lbs)
2535L-TH	Magnetic Pick-up Tool with Light	30	.23

Features

· Wide area lighting

Toll Free 1 800 563 1293

- Soft grip handle
- Powerful magnetic tip
- Pick-up weight is 11/4 pounds



TOOLS@HEIGHT™ FEELER GAUGE SET

Heavy Duty	Machine Shop Too	ls		
Product Code	Description	Thickness	Number of Blades	Weight (lbs)
JHWGS-1-TH	Master Feeler Gauge Set	.0015 - ¹ /32	25	.19

Features

- 25 blades 3-5/16" x 1/2" in the following thicknesses: .0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .018, .020, .022, .024, .025, .028, .030, .032, and .035.
- Both decimal and equivalent metric size etched in each blade
- Gauges supplied in holder with knurled lock-nut which allows the user to select the required blade size and lock it into position

Product Code	Description	Thickness	Number of Blades	Weight (lbs)
JHWGS-3-TH	Combination Feeler Gauge Set	.002025	22	.11

Features

- · Contains total of 22 blades
- 10 blades 3" x 1/2" in the following thicknesses:
- .002, .003, .004, .005, .006, .007, .008, .010, .013, .015.
- 12 blades 1-3/4" x 1/4" in the following thicknesses: .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .022, .025.
- Overall length 5"
- Both decimal and equivalent metric size etched in each blade
- Gauges supplied in holder with knurled lock-nut which allows the user to select the required blade size and lock it into position



TOOLS@HEIGHT™ AVIATION SNIPS

Bi-Mold Comfort Grip Handles

B 1 10 1	Cutting	Overall Length		Cutting Capacity	Weight
Product Code	Direction	(Inches)	(Inches)	(cold-rolled/stainless)	(lbs)
JHW28201-TH	Left	9 3/4	1 3/8	18 ga.CR / 22 ga.SS	.93
JHW28203-TH	Right	9 3/4	1 3/8	18 ga.CR / 22 ga.SS	.93
JHW28205-TH	Straight	9 13/16	1 1/2	18 ga.CR / 22 ga.SS	.96

- Color-coded handles help quickly identify the cutting direction
- Bi-mold handles provide comfortable grip, reduces hand fatigue
- Meet ANSI and DIN standards



pplīfast

TOOLS@HEIGHT™ TORPEDO LEVEL

Product Code	Description
THF\$N25100	10" Magnetic Torped Level

Features

- . Big, bright easy to read vials
- · Heavy-duty, die-cast frame
- Certified Level accuracy; in top read position: (1/32" over 72")
- · Level accuracy guaranteed for life; vials will never fog, leak or require adjustment
- · Ideal for scaffolding as well as general construction and maintenance



TOOLS@HEIGHT™ TAPE MEASURE

Construction Grade Tape Rule

Product Code	Blade Length (Width and Length Inch)	Weight (lbs.)
JHWTM25X1-TH	1 x 25	0.85
JHWTM16X1-TH	1 x 16	1.00

Features

- . Measurements on both sides of the blade
- Auto lock feature
- . Triple riveted stainless steel magnetic hook on the end of the blade

Measurements on both sides of the blade



1 2 4	5	6	7	8	9	10	11	12	1 13	2 14	3 15	4 5 16 1	ТОР
2 8 4	2	9	7	©	6	01		12	13	14	15	116+ 17	воттом

TOOLS@HEIGHT™ INSPECTION MIRROR

Product Code	Description
IM1-TH	Tools@Height Tether-Ready Inspection Mirror

Features

- Installed safety-coil can be tethered to prevent dropping
- · Hinged rectangular glass mirror
- Mirror is 1-3/16" x 1-1/2"



TOOLS@HEIGHT™ GREASE GUN

Product Code	Description
THYA728A	Tools@Height Tether-Ready Grease Gun

- Lever-operated large capacity gun develops 6,000 PSI
- Accepts 16 oz. bulk or 14-1/4 oz. cartridge grease
- Includes 18" flexible whip hose with coupler and 6" rigid extension

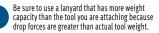


THYA728A













Max Load: 5 pounds





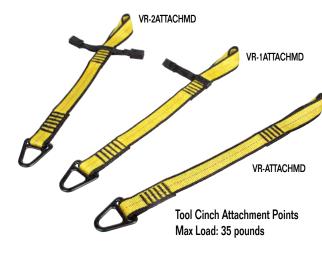
DR5X22510PK DR5X225NC10PK Max Load: 2 pounds Max Load: 2 pounds

D-RINGS

Product Code	Description	Quantity
DR5X22510PK	D-Ring 0.5" X 2.25"	10
DR5X225100PK	D-Ring 0.5" X 2.25"	100
DR5X225NC10P	D-Ring 0.5" X 2.25" Non-Conductive	10
DR5X225NC100	D-Ring 0.5" X 2.25" Non-Conductive	100
DR1X3.5-10PK	D-Ring 1" X 3.5"	10
DR1X3.5-50PK	D-Ring 1" X 3.5"	50

Features

- D-Rings combined with Quick Wrap Tape can create attachment points on tools that are otherwise impossible to tether
- Non-conductive variant also available (DR5X225NC10PK)
- Third-party load rated for 5 pounds and 2 pounds



TOOL CINCH ATTACHMENTS

Product Code	Description	Quantity
VRATTHMD10PK	Tool Cinch Medium Duty	10
VR1ATTMD10PK	Tool Cinch Single Wing Medium Duty	10
VR2ATTMD10PK	Tool Cinch Dual Wing Medium Duty	10

QUICK SPINS

Product Code

OS-S-10PK

QS-M-10PK

QS-L-10PK

OS-XL-10PK

OS-P-10PK

OSPCOIL-10PK

OSPMCOIL10PK

OS-PM-10PK

Features

- Patent-pending Tool Cinch Attachment Points are third-party load rated for 35 pounds.
- The VR-1ATTACHMD and VR-2ATTACHMD feature stabilization wings that can be taped down using Quick Wrap Tape to create a strong connection that won't slide off a tool.
- With a Tool Cinch, it's possible to create attachment points on heavy, difficult to tether tools and equipment.
- The VR-ATTACHMD is perfect for tools with closed handles, or pre-drilled holes.
- The VR-1ATTACHMD is designed to be used with tools that do not have pre-drilled holes or closed handles. It can even be used on tools with triggers such as grinders, bandsaws, or drills.

Load Rating (Pounds)

No Rated

No Rated

No Rated

No Rated

. The VR-2ATTACHMD is intended to be used on long cylindrical tools where there is at least 5.5 inches of space available for the stabilization wings to be taped down.

Diameter (Inches)

0.6

0.8

1

1.2

0.3

0.3

0.5

0.5





QS-PCOIL

- The unique, patented Quick Spins accommodate a wide selection of tools, making them tether-ready in seconds
- Reusable, and suitable for non-conductive use, the tangle-resistant spin tops make Quick Spins an outstanding drop prevention solution that doesn't deface tools
- . Body is made from a Thermoplastic Rubber and Polyester material (TPU), while the spin tops are made of polyacetal and black carbon (POM)

Quantity

10

10

10

10

10

10

10

10



pplifast

QUICK WRAP TAPE

Product Code	Length (Inches)	Width (Inches)	Color	Quantity
QWHDBLU110PK	108	1	Blue	10
QWHDYLW110PK	108	1	Yellow	10

Features

- Quick Wrap Tape is made from a self-fusing silicone rubber, and features inner fiberglass webbing reinforcement.
- . Quick Wrap Tape is intended to be used with D-Rings and Tool Cinch Attachment Points.



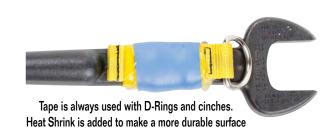
HEAT SHRINK

Product Code	Length (Inches)	Diameter (Inches)	Quantity
PYT1500019	1.75	0.75	25
HS1X175-25PK	1.75	1	25
HS1.5X2-25PK	2	1.5	25
HS-2X4-10PK	4	2	10
HS-3X4-10PK	4	3	10

Features

- . Heat Shrink is used to create an even stronger connection that is more resistant to abrasives and harsh environments
- . Links shrink 300% in size, while an inner adhesive securely fastens itself to whatever is being wrapped.

Tools not included



D-RING CORD

Product Code	Load Rating (Pounds)	Quantity
DR-CORD-10PK	5	10

Features

. The D-Ring cord (patent pending) easily cinches to tools weighing under 5 pounds, creating an instant attachment point for many tools Tools not included

MICRO D-RING

Product Code	Quantity		
DR-MICRO10PK	10		

- The Micro D-Ring is an attachment point that can be used on small tools and equipment that are otherwise not possible to tether.
- The DR-MICRO is a flexible piece of ballistic plastic that can conform to the shape of many objects. A piece of industrial grade double-sided adhesive tape sticks to the bottom of the Micro D-Ring, allowing it to be attached to a clean surface.

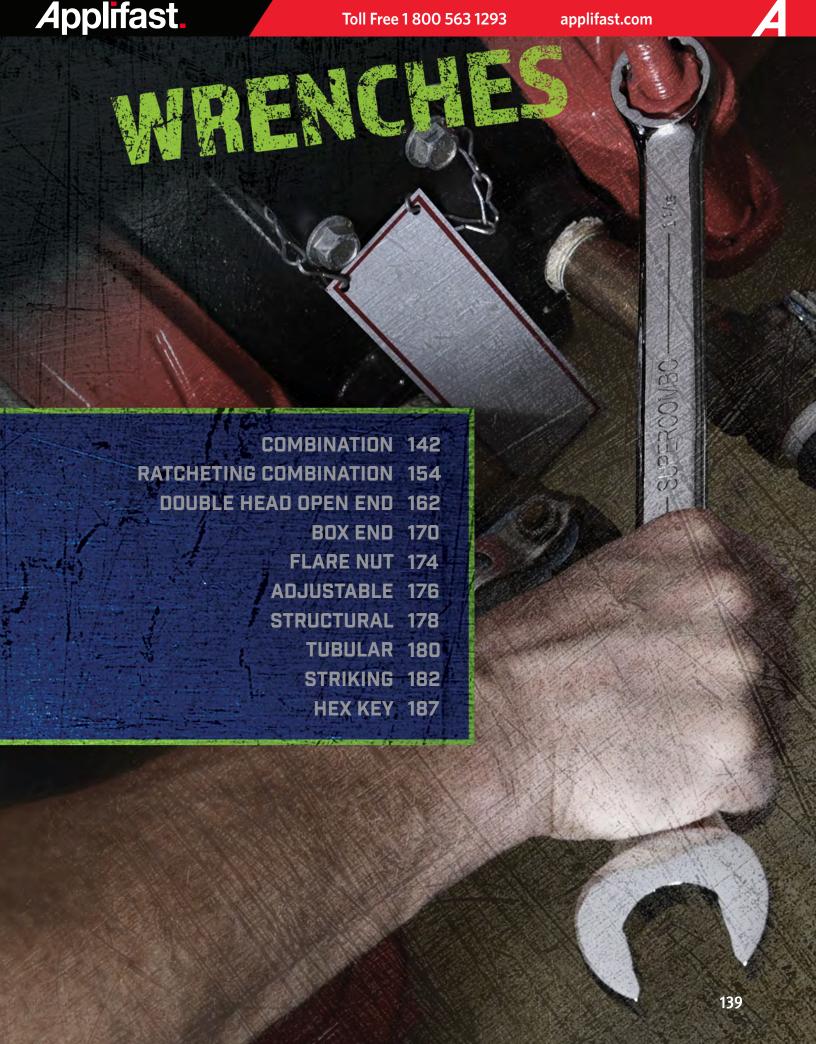














ADJUSTABLE WRENCHES

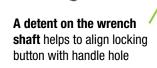


Slim head with tapered jaws combine easy accessibility with extra turning strength

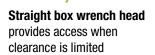
TUBULAR WRENCHES

Unique, versatile design allows wrench to be used with or without optional handles to quickly run down nuts

Handle can be attached to provide maximum turning power for final tightening or to reach otherwise inaccessible fasteners



Offset box wrench head provides turning clearance



RATCHETING COMBINATION WRENCHES

Ratcheting gear up to 80 teeth that minimizes the swing arc in tight spaces

Low profile, easy action, reverse lever won't get in your way

WRENCHES **OT JUST HEAVY-DUTY. NDUSTRIAL DUTY.** SUPERTORQUE™ **BOX END DESIGN** allows application of higher torque without rounding or deforming hex fasteners points **SUPERCOMBO®** WRENCHES High polish nickel-chrome plating textured finish provides great feel and wipes clean easily Manufactured from special alloy steel, precision forged and heat treated for optimum strength and durability Longer length wrench handle is sized for optimum comfort and balance that provides increased leverage SUPERCOMBO® OPEN END has specially designed grooves that direct wrench force away from fastener corners and onto the flats preventing rounding of fasteners



pplīfast

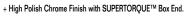
SUPERCOMBO® COMBINATION WRENCHES





High Polish Chrome and Satin Chrome Finish, 12 Point, SAE

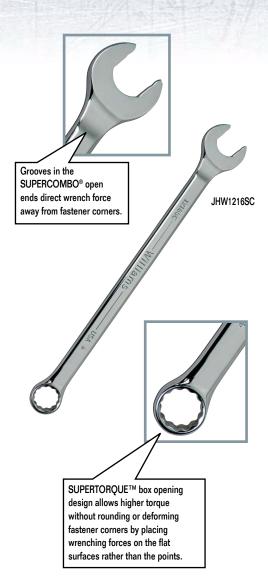
•		Α	В	C	D	Е
		Overall	Open End	Open End	Box End	Box End
		Length	Width	Thickness	Diameter	Thickness
Product Code	Size (Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHW1208SC +	1/4	4 1/4	9/16	1/8	13/32	3/16
JHW1210SC +	5/16	5 ¾	11/16	5/32	1/2	7/32
JHW1211SC +	11/32	6 1/4	3/4	3/16	9/16	1/4
JHW1212SC++	3/8	6 ½	13/16	3/16	9/16	1/4
JHW1214SC++	7/16	7 1/4	¹⁵ /16	7/32	11/16	9/32
JHW1216SC++	1/2	8	1 1/16	1/4	3/4	11/32
JHW1218SC++	9/16	8 3/4	1 1/4	1/4	7/8	3/8
JHW1220SC++	5/8	9 ½	1 ¾	9/32	¹⁵ / ₁₆	13/32
JHW1222SC++	11/16	10 1/4	1 ½	5/16	1 1/32	7/16
JHW1224SC++	3/4	11	1 %	5/16	1 1/8	1/2
JHW1226SC++	13/16	11 3/4	1 3/4	3/8	1 7/32	17/32
JHW1228SC++	7/8	12 ½	1 7/8	13/32	1 5/16	9/16
JHW1230SC++	15/16	13 1/4	2	7/16	1 3/8	19/32
JHW1232SC++	.1.	14	2 1/8	15/32	1 ¹⁵ / ₃₂	5/8
JHW1234SC++	1 1/16	14 3/4	2 1/4	1/2	1 %16	21/32
JHW1236SC++	1 1/8	15 ½	2 13/32	17/32	1 21/32	11/16
JHW1238SC++	1 3/16	16 1/4	2 17/32	17/32	1 23/32	3/4
JHW1240SC++	1 1/4	17	2 21/32	9/16	1 13/16	3/4
JHW1242 **	1 ⁵ ⁄16	17 3/4	2 13/16	19/32	1 29/32	3/4
JHW1244 **	1 3/8	18 ½	2 ¹⁵ / ₁₆	5/8	2	3/4
JHW1246 **	1 7/16	19 1/4	3 1/16	5%	2 3/32	⁷ / ₈
JHW1248 **	1 ½	20 1/32	3 3/16	11/16	2 3/16	⁷ / ₈
JHW1178A **	1 %6	20 25/32	3 3/16	21/32	2 1/4	7/8
JHW1180 **	1 5/8 1 11/16	21 ½	3 ½6	11/ ₁₆ 23/ ₃₂	2 11/32 2 7/16	7/8
JHW1182 **	1 1/16 1 3/4	22 ⁹ / ₃₂	3 7/16			⁷ / ₈
JHW1184 **	1 % 1 ¹³ / ₁₆	22 ⁷ /8 23 ¹⁵ / ₃₂	3 % 3 11/16	²³ / ₃₂ ³ / ₄	2 ¹⁷ / ₃₂ 2 ⁵ / ₈	1 ¹ / ₃₂ 1 ¹ / ₃₂
JHW1186 **	1 '9/16 1 ⁷ /8		3 1/16 3 13/16		2 % 2 ²³ / ₃₂	1 ¹ /32 1 ¹ /32
JHW1188 ** JHW1190 **	1 1/8 2	24 ½ 25 ¼	3 1916 4 1/16	²⁵ / ₃₂ ²⁷ / ₃₂	2 ² / ₃₂ 2 ⁷ / ₈	1 ½32 1 ½32
JHW1190 JHW1191 **	2 ½ 2 ½6	25 ¹ / ₄ 25 ¹³ / ₁₆	4 7/16 4 3/16	27/32	2 ¹ /8 2 ³¹ / ₃₂	1 5/32
JHW1192 **	2 1/8	26 %	4 916 4 5/16	7/8	3 1/16	1 5/32
JHW1192 JHW1193 **	2 ⁷⁸ 2 ³ / ₁₆	26 ³¹ / ₃₂	4 7/16 4 7/16	²⁹ / ₃₂	3 7/16 3 5/32	1 5/32
JHW1194 **	2 1/4	20 °/32 27 %16	4 %6	15/ ₁₆	3 ⁷ / ₃₂	1 5/32
JHW1195 **	2 ⁷⁴ 2 ³ / ₈	28 3/4	4 13/16	31/32	3 ¹³ / ₃₂	1 %2
JHW1193 JHW1197 **	2 1/2	20 ⁷⁴ 29 ²⁹ / ₃₂	5 ½6	1 1/32	3 ⁷³² 3 ¹⁹ / ₃₂	1 %2
JHW1197 JHW1198 *	2 ½ 2 5/8	32	6 5/8	1 7/32	3 732 4 7/8	1 732
JHW1198A *	2 3/4	32	6 %	1 7/32	4 1/8	1 5/8
JHW1198B *	2 1/4	32	6 %	1 7/32	4 %	1 %
JHW1198C *	2 /8 2 ¹⁵ / ₁₆	32	6 %	1 7/32	4 /8 4 ⁷ /8	1 %
JHW1199 *	3	32	6 %	1 7/32	4 %	1 %
JHW1199A *	3 1/8	32	6 %	1 7/32	4 %	1 %
JHW1199B *	3 %	31 %	6 %	1 7/32	4 1/8	1 %
JHW1199C *	3 1/2	31 ²⁹ / ₃₂	6 %	1 7/32	4 1/8	1 %
U	U / L	U I /32	V /0	1 /32	1 /0	1 /0

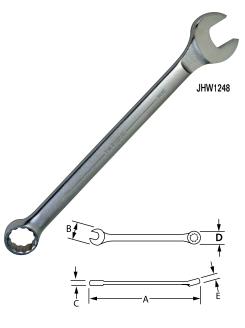


⁺⁺ High Polish Chrome Finish with SUPERCOMBO® Open End and SUPERTORQUE™ Box End.

- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners
- SUPERTORQUE™ box opening design allows application of higher torque without rounding or deforming hex fastener points
- No contact is made at the corners
- . Instead, wrenching forces are placed on the flat surfaces behind the points
- Meets or exceeds aerospace specification AS 954 for 12 point fasteners (as defined by AS 870) to provide accurate torque/tension relationship for precision application
- . May be used on all common hex (6 point) fasteners with considerable advantage over conventional box end wrenches to increase both hand tool flexibility and economy
- · Box and open end openings are identical













^{**} Satin Chrome Finish with SUPERTORQUE™ Box End and Standard Open End.

^{*} Satin Chrome Finish with Standard Open and Box Ends.

Fed. Spec.: ANSI B107.6; SAE AS 954

High Polish Chrome and Satin Chrome Finish, 12 Point, SAE















JHWWS-1175

Contents			AJenra	AJerr	AJEST.	AJenov.	ATATA	.175	۰۵۱، ۱۳۵
Include:		THMM2,	1705CA WWW.	1171SCA JHWWS1	HAMAS	11905CA JHWW ⁹	3-1174TA JHWW	5.11 ⁷⁵ WWW	3-1 ¹⁷⁶ 3-1 ¹⁷⁶
	Size	7-Piece Set	11-Piece Set	15-Piece Set	26-Piece	10-Piece	6-Piece	16-Piece	32-Piece
Product Code	(Inches)	in Pouch	in Pouch	in Pouch	Set	Set	Set	Set	Set
JHW1208SC	1/4				χ				Χ
JHW1210SC	5/16			Χ	X				Х
JHW1212SC	3/8	Х	Х	Χ	Χ				Χ
JHW1214SC	7/16	Х	Х	X	X				Χ
JHW1216SC	1/2	Х	Х	Χ	χ				Χ
JHW1218SC	9/16	Х	Х	X	X				X
JHW1220SC	5/8	χ	Х	Х	Х				X
JHW1222SC	11/16	Χ	Х	Χ	X				X
JHW1224SC	3/4	Х	Х	Χ	Х				Х
JHW1226SC	13/16		Х	Х	X				X
JHW1228SC	7/8		Х	Χ	χ				Χ
JHW1230SC	15/16		X	X	X				X
JHW1232SC	1		Х	Х	Χ				Х
JHW1234SC	1 1/16			Χ	Χ				X
JHW1236SC	1 1/8			Χ	χ				Χ
JHW1240SC	1 1/4			Χ	Χ				Χ
JHW1242	1 5/16				Х	χ		Х	X
JHW1244	1 %				χ	χ		Х	Χ
JHW1246	1 7/16				X	X		X	X
JHW1248	1 1/2				χ	χ		Х	Χ
JHW1180	1 %		-		Х	Χ		X	X
JHW1182	1 11/16				χ	χ		Х	X
JHW1184	1 3/4		-	-	Χ	χ		Х	X
JHW1186	1 ¹³ / ₁₆				χ	χ		Х	Χ
JHW1188	1 1/8				Х	Χ		Х	Х
JHW1190	2				χ	Χ		Х	Χ
JHW1191	2 1/16						X	X	X
JHW1192	2 1/8						Χ	Х	X
JHW1193	2 3/16		-	-			Х	Х	X
JHW1194	2 1/4						X	X	X
JHW1195	2 %						Х	Х	X
JHW1197	2 1/2						Χ	Х	Χ











pplifast

SUPERCOMBO® COMBINATION WRENCHES





High Polished Chrome Finish, 6 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW608SC	1/4	4 1/4	9/16	1/8	13/32	3/16
JHW612SC	3/8	6 1/2	13/16	3/16	9/16	1/4
JHW614SC	7/16	7 1/4	15/16	7/32	11/16	9/32
JHW616SC	1/2	8	1 1/16	1/4	3/4	11/32
JHW618SC	9/16	8 3/4	1 1/4	1/4	7/8	3/8
JHW620SC	5/8	9 1/2	1 %	9/32	15/16	13/32
JHW622SC	11/16	10 1/4	1 1/2	5/16	1 1/32	7/16
JHW624SC	3/4	11	1 %	5/16	1 1/8	1/2
JHW626SC	13/16	11 3/4	1 3/4	3/8	1 7/32	17/32
JHW628SC	7/8	12 1/2	1 1/8	13/32	1 5/16	9/16
JHW630SC	15/16	13 1/4	2	7/16	1 %	19/32
JHW632SC	1	14	2 1/8	15/32	1 15/32	5/8
JHW640SC	1 1/4	17	2 21/32	9/16	1 13/16	3/4

JHWWS-SC11 11 Piece SUPERCOMBO® Wrench Set, SAE

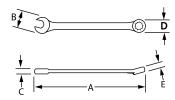
Contents Include:

Product Code:	Size (Inches)	Product Code:	Size (Inches)	Product Code:	Size (Inches)
JHW612SC	3/8	JHW614SC	7/16	JHW616SC	1/2
JHW618SC	9/16	JHW620SC	5/8	JHW622SC	11/16
JHW624SC	3/4	JHW626SC	13/16	JHW628SC	7/8
JHW630SC	¹⁵ / ₁₆	JHW632SC	1		

- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners
- SUPERTORQUE™ box opening design allows application of higher torque without rounding or deforming hex fastener points
- No contact is made at the corners, instead wrenching forces are placed on the flat surfaces behind the points
- · High polish chrome textured finish provides great feel and wipes clean easily















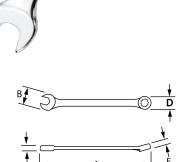






High Polish Chrome Finish, 12 Point Offset Box End, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW11950	1/4	3 3/4	9/16	5/32	13/32	5/32
JHW11951	5/16	4 1/2	11/16	3/16	1/2	7/32
JHW11970	11/32	5	25/32	3/16	17/32	1/4
JHW11952	3/8	5	25/32	3/16	9/16	1/4
JHW11953	7/16	5 ¾	15/16	3/16	5/8	1/4
JHW11954	1/2	6 ³ / ₄	1 1/8	7/32	23/32	5/16
JHW11955	9/16	7 1/4	1 7/32	1/4	13/16	3/8
JHW11956	5/8	8 1/8	1 ¾	1/4	29/32	3/8
JHW11957	11/16	8 3/4	1 7/16	9/32	31/32	13/32
JHW11958	3/4	9 %	1 %	5/16	1 1/16	15/32
JHW11959	¹³ / ₁₆	10 ½	1 21/32	5/16	1 5/32	15/32
JHW11960	7/8	10 ½	1 7/8	11/32	1 %32	1/2
JHW11961	15/16	11 ¾	2 1/32	11/32	1 11/32	9/16
JHW11962	1	13	2 ⁵ / ₃₂	11/32	1 7/16	19/32
JHW11963	1 1/16	13	2 %2	3/8	1 17/32	5/8
JHW11964	1 1/8	14 1/2	2 ¹³ / ₃₂	3/8	1 19/32	11/16
JHW11965	1 1/4	15 ½	2 ²¹ / ₃₂	7/16	1 ²⁵ / ₃₂	23/32
JHW11966	1 5/16	16 ½	2 ¹³ / ₁₆	15/32	1 1/8	²⁵ / ₃₂
JHW11967	1 ¾	16 %	2 ¹³ / ₁₆	15/32	1 1/8	²⁵ / ₃₂
JHW11968	1 ½16	17	3 1/16	9/16	2 1/8	7/8
JHW11969	1 1/2	17	3 ½16	17/32	2 3/32	27/32



JHW11954

JHW11990 9 Piece Offset Combination Wrench Set, 12 Point, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW11952	3/8	JHW11955	9/16	JHW11958	3/4
JHW11953	⁷ / ₁₆	JHW11956	5/8	JHW11959	¹³ / ₁₆
JHW11954	1/2	JHW11957	11/16	JHW11960	7/8

- Unique 15° offset box end provides extra knuckle clearance
- High-polished chrome finish cleans easily
- 12 point box end provides maximum versatility
- Recessed corners in box end provide extra turning power
- Includes pouch





SUPERCOMBO® COMBINATION WRENCHES





Black Industrial Finish, 12 Point, SAE

		Α	В	С	D	E
		Overall	Open End	Open End	Box End	Box End
		Length	Width	Thickness	Diameter	Thickness
Product Code	Size (Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHW1210BSC +	5/16	5 3/4	11/16	5/32	1/2	7/32
JHW1212BSC ++	3/8	6 1/2	13/16	3/16	9/16	1/4
JHW1214BSC ++	7/16	7 1/4	15/16	7/32	11/16	9/32
JHW1216BSC ++	1/2	8	1 1/16	1/4	3/4	11/32
JHW1218BSC ++	9/16	8 3/4	1 1/4	1/4	7/8	3/8
JHW1220BSC ++	5/8	9 ½	1 ¾	9/32	¹⁵ / ₁₆	13/32
JHW1222BSC ++	11/16	10 ½	1 ½	5/16	1 1/32	⁷ / ₁₆
JHW1224BSC ++	3/4	11	1 %	5/16	1 1/8	1/2
JHW1226BSC ++	¹³ / ₁₆	11 ¾	1 3/4	3/8	1 7/32	17/32
JHW1228BSC ++	7/8	12 ½	1 %	13/32	1 5/16	9/16
JHW1230BSC ++	15/16	13 1/4	2	7/16	1 %	19/32
JHW1232BSC ++	1	14	2 1/8	15/32	1 ¹⁵ / ₃₂	5/8
JHW1234BSC ++	1 1/16	14 ¾	2 1/4	1/2	1 %16	21/32
JHW1236BSC ++	1 1/8	15 ½	2 ¹³ / ₃₂	17/32	1 ²¹ / ₃₂	11/16
JHW1240BSC ++	1 1/4	17	2 21/32	9/16	1 13/16	3/4
JHW1242B **	1 5/16	17 ¾	2 ¹³ / ₁₆	19/32	1 29/32	3/4
JHW1244B **	1 3/8	18 ½	2 ¹⁵ / ₁₆	5/8	2	3/4
JHW1246B **	1 7/16	19 1/4	3 1/16	5/8	2 3/32	7/8
JHW1248B **	1 ½	20 1/32	3 3/16	11/16	2 ³ ⁄ ₁₆	7/8
JHW1178AB **	1 %16	20 25/32	3 3/16	21/32	2 1/4	7/8
JHW1180B **	1 5/8	21 ½	3 5/16	11/16	2 11/32	7/8
JHW1182B **	1 11/16	22 1/32	3 7/16	23/32	2 7/16	7/8
JHW1184B **	1 3/4	22 7/8	3 %16	23/32	2 17/32	1 1/32
JHW1186B **	1 13/16	23 15/32	3 11/16	3/4	2 %	1 1/32
JHW1188B **	1 1/8	24 1/32	3 13/16	25/32	2 23/32	1 1/32
JHW1190B **	2	25 ¹ / ₄	4 1/16	27/32	2 1/8	1 1/32
JHW1191B **	2 1/16	25 ¹³ / ₁₆	4 3/16	²⁷ / ₃₂	2 31/32	1 5/32
JHW1192B **	2 1/8	26 ¾	4 5/16	7/8	3 1/16	1 5/32
JHW1193B **	2 3/16	26 ³¹ / ₃₂	4 7/16	29/32	3 5/32	1 5/32
JHW1194B **	2 1/4	27 %16	4 %16	15/16	3 7/32	1 5/32
JHW1195B **	2 3/8	28 3/4	4 13/16	31/32	3 13/32	1 %2
JHW1197B **	2 ½	29 ²⁹ / ₃₂	5 ½16	1 1/32	3 19/32	1 %32
JHW1198BL *	2 ⁵ / ₈	32	6 ½	1 7/32	4 1/8	1 %
JHW1198ABL *	2 3/4	32	6 ½	1 7/32	4 1/8	1 %
JHW1198BBL *	2 1/8	32	6 5/8	1 7/32	4 1/8	1 %
JHW1198CBL *	2 15/16	32	6 %	1 7/32	4 %	1 %
JHW1199BL *	3	32	6 % 6 5/	1 7/32	4 7/8	1 %
JHW1199ABL *	3 1/8	32	6 %	1 7/32	4 1/8	1 %
JHW1199BBL *	3 %	31 ²⁹ / ₃₂	6 %	1 7/32	4 1/8	1 %
JHW1199CBL *	3 ½	31 ²⁹ / ₃₂	6 %	1 7/32	4 %	1 %

- + Black Industrial Finish with SUPERTORQUE™ Box End
- ++ Black Industrial Finish with SUPERCOMBO® Open End and SUPERTORQUE™ Box End
- ** Black Industrial Finish with SUPERTORQUE™ Box End and standard open end
- * Satin Chrome Finish with Standard Open and Box Ends

Fed. Spec.: ANSI B107.6; SAE AS 954

- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners
- SUPERTORQUE™ box opening design allows application of higher torque without rounding or deforming hex fastener points
- . No contact is made at the corners
- Instead, wrenching forces are placed on the flat surfaces behind the points
- Meets or exceeds aerospace specification AS 954 for 12 point fasteners (as defined by AS 870) to provide accurate torque/tension relationship for precision application
- May be used on all common hex (6 point) fasteners with considerable advantage over conventional box end wrenches to increase both hand tool flexibility and economy
- Box and open end openings are identical





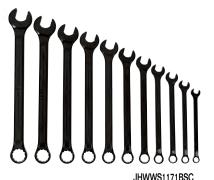










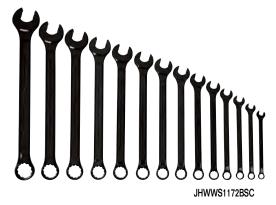


SUPERCOMBO® WRENCH SETS

Black Industrial Finish Set Contents			
Set Contents	JHWWS1170BSC	HWWS171BSC	,
	THANA	THMARA	,

Set Conter	nts	٠.,٠	10BSC	11BSC	2BSC	ongsc
		THMM21	JHWWS1	HWWS117	JHWWS11	JHWW ^E
	Size	7-Piece Set	11-Piece Set	15-Piece Set	26-Piece	11- Piece
Product Code	(Inches)	in Pouch	in Pouch	in Pouch	Set	Set
JHW1210BSC	5/16			Χ	Χ	
JHW1212BSC	3/8	Χ	Χ	Χ	Χ	
JHW1214BSC	7/16	Х	Х	Х	Х	
JHW1216BSC	1/2	Χ	Χ	Χ	Χ	
JHW1218BSC	9/16	Х	Х	Х	Х	
JHW1220BSC	5/8	Χ	Χ	Χ	Χ	
JHW1222BSC	11/16	Х	Χ	Х	Х	
JHW1224BSC	3/4	Χ	Χ	Χ	Χ	
JHW1226BSC	¹³ /16		Χ	Х	Х	
JHW1228BSC	7/8		Χ	Χ	Χ	
JHW1230BSC	¹⁵ /16		Χ	Χ	Χ	
JHW1232BSC	1		Χ	Χ	Χ	
JHW1234BSC	1 1/16			Х	Х	
JHW1236BSC	1 1/8			Χ	Χ	
JHW1240BSC	1 1/4			Χ	Χ	
JHW1242B	1 5/16				Χ	Χ
JHW1244B	1 %				Х	Х
JHW1246B	1 7/16				Χ	Х
JHW1248B	1 1/2				Х	Х
JHW1178AB	1 %16				Χ	Х
JHW1180B	1 %				Х	Χ
JHW1182B	1 11/16				Х	X
JHW1184B	1 ¾				Х	Х
JHW1186B	1 13/16				Х	X
JHW1188B	1 1/8				Χ	Χ
JHW1190B	2				Χ	Х











pplīfast

SUPERCOMBO® COMBINATION WRENCHES





High Polish Chrome Finish, 12 Point, Metric

		Α	В	С	D	E
		Overall	Open End	Open End	Box End	Box End
	Size	Length	Width	Thickness	Diameter	Thickness
Product Code	(MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHW1206MSC +	6	4 27/32	9/16	1/8	13/32	3/16
JHW1207MSC ++	7	5 ⁵ ∕16	5/8	5/32	15/32	7/32
JHW1208MSC ++	8	5 ²⁵ / ₃₂	23/32	5/32	1/2	7/32
JHW1209MSC ++	9	6 %32	13/16	3/16	9/16	1/4
JHW1210MSC ++	10	6 ¾	7/8	3/16	5/8	9/32
JHW1211MSC ++	11	7 1/4	31/32	7/32	11/16	5/16
JHW1212MSC ++	12	7 ¹¹ / ₁₆	1 1/32	7/32	3/4	5/16
JHW1213MSC ++	13	8 1/32	1 1/8	1/4	25/32	11/32
JHW1214MSC ++	14	8 %	1 7/32	1/4	27/32	3/8
JHW1215MSC ++	15	9 3/32	1 %32	9/32	29/32	13/32
JHW1216MSC ++	16	9 1/2	1 3/8	9/32	15/16	13/32
JHW1217MSC ++	17	10 ½16	1 15/32	5/16	1	7/16
JHW1218MSC ++	18	10 17/32	1 17/32	5/16	1 ½16	15/32
JHW1219MSC ++	19	11 ¹ / ₃₂	1 %	11/32	1 1/8	1/2
JHW1220MSC ++	20	11 ½	1 23/32	3/8	1 3/16	1/2
JHW1221MSC ++	21	11 ²⁵ / ₃₂	1 3/4	3/8	1 7/32	17/32
JHW1222MSC ++	22	12 ½	1 29/32	13/32	1 5/16	9/16
JHW1223MSC ++	23	12 %	1 31/32	7/16	1 11/32	9/16
JHW1224MSC ++	24	13 1/32	2	7/16	1 ¾	19/32
JHW1225MSC ++	25	14 ¹ / ₃₂	2 5/32	15/32	1 ¹⁵ /32	5/8
JHW1226MSC +	26	14 5/16	2 3/16	1/2	1 1/2	21/32
JHW1227MSC +	27	14 ²⁵ / ₃₂	2 1/32	1/2	1 %16	11/16
JHW1229MSC +	29	15 ¹⁷ / ₃₂	2 ¹³ / ₃₂	17/32	1 21/32	23/32
JHW1230MSC +	30	16 %2	2 17/32	17/32	1 3/4	3/4
JHW1232MSC +	32	17 ¹ / ₃₂	2 11/16	9/16	1 ¹³ / ₁₆	3/4
JHW1234MSC +	34	17 ²⁵ / ₃₂	2 ¹³ / ₁₆	19/32	1 ²⁹ / ₃₂	3/4
JHW1236MSC +	36	19 %2	3 ½16	21/32	2 3/32	7/8

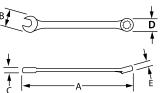
- + High Polish Chrome Finish with SUPERTORQUETM Box End
- ++ High Polish Chrome Finish with SUPERCOMBO® Open End and SUPERTORQUE™ Box End

Fed. Spec.: ANSI B107.6; SAE AS 954

- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners
- SUPERTORQUE™ box opening design allows application of higher torque without rounding or deforming hex fastener points
- No contact is made at the corners
- . Instead, wrenching forces are placed on the flat surfaces behind the points
- Meets or exceeds aerospace specification AS 954 for 12 point fasteners (as defined by AS 870) to provide accurate torque/tension relationship for precision application
- May be used on all common hex (6 point) fasteners with considerable advantage over conventional box end wrenches to increase both hand tool flexibility and economy
- · Box and open end openings are identical



















SUPERCOMBO® WRENCH SETS

High Polish Chrome Finish, 12 Point, Metric Set Contents:

							_		
		JHWWW.	HWWW.	JHWNWE	HWWW.	i-15A JHWWW	.155A JHWNWS	.18 ^A JHWWW5.6	SA JHWNWS:
Product Code	Size (MM)	8-Piece Set in Pouch	10-Piece Set in Pouch	10-Piece Set in Pouch	15-Piece Set in Pouch	15-Piece Set in Pouch	18-Piece Set in Pouch	10-Piece Set in Pouch	27-Piece Set
JHW1206MSC	6	Х	Out in 1 oddin	Out iii i odoii	Oot III 1 Oddii	Cot III i cucii	Cot III i cucii	Cot III i cacii	X X
JHW1200MSC	7	χ̈́	Χ		χ	Х	χ		χ̈́
JHW1208MSC	8	X	X		X	X	X		X
JHW1209MSC	9	χ̈́	X		χ̈́	Λ	χ̈́		X
JHW1210MSC	10	X	X	Х	X	Х	X		X
JHW1211MSC	11	x	χ̈́	x	χ̈́	Λ.	χ̈́		X
JHW1212MSC	12	X	X	X	X	Х	X		X
JHW1213MSC	13	X	X	X	X		X		X
JHW1214MSC	14		X	X	X	Х	X		X
JHW1215MSC	15		X	X	X		X		X
IHW1216MSC	16			X	X	Х	X		X
IHW1217MSC	17		Χ	X	X		X		X
IHW1218MSC	18			Х	Х	Х	Х	Х	X
JHW1219MSC	19			Χ	Χ		Х	Х	Χ
JHW1220MSC	20				Х	Х	Х		X
IHW1221MSC	21				Χ		Х	Х	Х
IHW1222MSC	22					Х	Х	Χ	Х
IHW1223MSC	23						Х		Х
IHW1224MSC	24					Х	Х	Χ	Х
IHW1225MSC	25								X
JHW1226MSC	26					Х			Х
IHW1227MSC	27					Х		X	X
JHW1229MSC	29					Х			Х
JHW1230MSC	30					Х		X	X
JHW1232MSC	32					Х		Χ	Х
JHW1234MSC	34							Х	Х
JHW1236MSC	36							Χ	Χ















SUPERCOMBO® COMBINATION WRENCHES





High Visibility Red Finish, 12 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW1212RSC ++	3/8	6 1/2	13/16	3/16	9/16	1/4
JHW1214RSC ++	7/16	7 1/4	15/16	7/32	11/16	9/32
JHW1216RSC ++	1/2	8	1 1/16	1/4	3/4	11/32
JHW1218RSC ++	⁹ /16	8 3/4	1 1/4	1/4	7/8	3/8
JHW1220RSC ++	5/8	9 1/2	1 3/8	9/32	¹⁵ / ₁₆	13/32
JHW1222RSC ++	11/16	10 ½	1 1/2	5/16	1 ¹ / ₃₂	⁷ / ₁₆
JHW1224RSC ++	3/4	11	1 %	5/16	1 1/8	1/2
JHW1226RSC ++	13/16	11 3/4	1 3/4	3/8	1 7/32	17/32
JHW1228RSC ++	7/8	12 ½	1 1/8	13/32	1 5/16	9/16
JHW1230RSC ++	¹⁵ / ₁₆	13 ½	2	7/16	1 %	19/32
JHW1232RSC ++	1	14	2 ½	15/32	1 ¹⁵ / ₃₂	5/8
JHW1234RSC ++	1 1/16	14 ¾	2 1/4	1/2	1 %16	21/32
JHW1236RSC ++	1 1/8	15 ½	2 13/32	17/32	1 21/32	11/16
JHW1240RSC ++	1 1/4	17	2 ²¹ / ₃₂	9/16	1 ¹³ / ₁₆	3/4

++ Hi-Vis Red Finish with SUPERCOMBO® Open End and SUPERTORQUE™ Box End

Fed. Spec.: ANSI B107.6

JHWWS1170RSC

7 Piece Hi-Vis Red Combination Wrench Set, 12 Point, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1212RSC	3/8	JHW1218RSC	9/16	JHW1224RSC	3/4
JHW1214RSC	7/16	JHW1220RSC	5/8	Pouch	
JHW1216RSC	1/2	JHW1222RSC	11/16		

JHWWS1171RSC

11 Piece Hi-Vis Red Combination Wrench Set, 12 Point, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1212RSC	3/8	JHW1220RSC	5/8	JHW1228RSC	7/8
JHW1214RSC	7/16	JHW1222RSC	11/16	JHW1230RSC	15/16
JHW1216RSC	1/2	JHW1224RSC	3/4	JHW1232RSC	1
JHW1218RSC	9/16	JHW1226RSC	¹³ / ₁₆	Pouch	

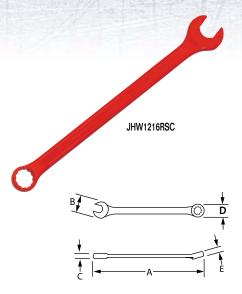
JHWWS1172RSC

14 Piece Hi-Vis Red Combination Wrench Set, 12 Point, SAE, in Pouch **Contents Include:**

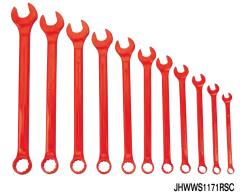
Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1212RSC	3/8	JHW1222RSC	11/16	JHW1232RSC	1
JHW1214RSC	7/16	JHW1224RSC	3/4	JHW1234RSC	11/16
JHW1216RSC	1/2	JHW1226RSC	13/16	JHW1236RSC	11/8
JHW1218RSC	⁹ ⁄16	JHW1228RSC	7/8	JHW1240RSC	11/4
JHW1220RSC	5/8	JHW1230RSC	¹⁵ / ₁₆	Pouch	

- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners
- SUPERTORQUE™ box opening design allows application of higher torque without rounding or deforming hex fastener points
- . No contact is made at the corners
- Instead, wrenching forces are placed on the flat surfaces behind the points
- . Meets or exceeds aerospace specification AS 954 for 12 point fasteners (as defined by AS 870) to provide accurate torque/tension relationship for precision application
- . May be used on all common hex (6 point) fasteners with considerable advantage over conventional box end wrenches to increase both hand tool flexibility and economy
- · Box and open end openings are identical









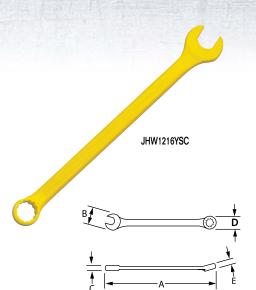


JHWWS1172RSC













JHWWS1171YSC



JHWWS1172YSC

WILLIAMS





SUPERCOMBO® COMBINATION WRENCHES

High Visibility Yellow Finish, 12 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW1212YSC ++	3/8	6 1/2	13/16	3/16	9/16	1/4
JHW1214YSC ++	7/16	7 1/4	15/16	7/32	11/16	9/32
JHW1216YSC ++	1/2	8	1 1/16	1/4	3/4	11/32
JHW1218YSC ++	9/16	8 3/4	1 1/4	1/4	7/8	3/8
JHW1220YSC ++	5/8	9 1/2	1 ¾	9/32	¹⁵ / ₁₆	13/32
JHW1222YSC ++	11/16	10 1/4	1 1/2	5/16	1 1/32	7/16
JHW1224YSC ++	3/4	11	1 %	5/16	1 ½	1/2
JHW1226YSC ++	13/16	11 ¾	1 3/4	3/8	1 7/32	17/32
JHW1228YSC ++	7/8	12 ½	1 1/8	13/32	1 5/16	9/16
JHW1230YSC ++	¹⁵ /16	13 1/4	2	7/16	1 ¾	19/32
JHW1232YSC ++	1	14	2 1/8	15/32	1 ¹⁵ / ₃₂	5/8
JHW1234YSC ++	1 1/16	14 ¾	2 ½	1/2	1 %16	21/32
JHW1236YSC ++	1 1/8	15 ½	2 ¹³ / ₃₂	17/32	1 21/32	11/16
JHW1240YSC ++	1 1/4	17	2 21/32	9/16	1 ¹³ / ₁₆	3/4

⁺⁺ Hi-Vis Yellow Finish with SUPERCOMBO® Open End and SUPERTORQUE™ Box End

Fed. Spec.: ANSI B107.6

JHWWS1170YSC

7 Piece Hi-Vis Yellow Combination Wrench Set, 12 Point, SAE, in Pouch Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1212YSC	3/8	JHW1218YSC	9/16	JHW1224YSC	3/4
JHW1214YSC	⁷ / ₁₆	JHW1220YSC	5/8	Pouch	
JHW1216YSC	1/2	JHW1222YSC	11/16		

JHWWS1171YSC

11 Piece Hi-Vis Yellow Combination Wrench Set, 12 Point, SAE, in Pouch Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1212YSC	3/8	JHW1220YSC	5/8	JHW1228YSC	7/8
JHW1214YSC	7/16	JHW1222YSC	11/16	JHW1230YSC	¹⁵ /16
JHW1216YSC	1/2	JHW1224YSC	3/4	JHW1232YSC	1
JHW1218YSC	9/16	JHW1226YSC	13/16	Pouch	

JHWWS1172YSC

14 Piece Hi-Vis Yellow Combination Wrench Set, 12 Point, SAE, in Pouch Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1212YSC	3/8	JHW1222YSC	11/16	JHW1232YSC	1
JHW1214YSC	⁷ / ₁₆	JHW1224YSC	3/4	JHW1234YSC	11/16
JHW1216YSC	1/2	JHW1226YSC	¹³ / ₁₆	JHW1236YSC	11//8
JHW1218YSC	9/16	JHW1228YSC	7/8	JHW1240YSC	11/4
JHW1220YSC	5/8	JHW1230YSC	¹⁵ / ₁₆	Pouch	

- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners
- SUPERTORQUE™ box opening design allows application of higher torque without rounding or deforming hex fastener points
- No contact is made at the corners
- Instead, wrenching forces are placed on the flat surfaces behind the points
- Meets or exceeds aerospace specification AS 954 for 12 point fasteners (as defined by AS 870) to provide accurate torque/tension relationship for precision application
- May be used on all common hex (6 point) fasteners with considerable advantage over conventional box end wrenches to increase both hand tool flexibility and economy
- · Box and open end openings are identical





MINIATURE COMBINATION WRENCH







High Polished Chrome Finish, 6 & 12 Point, SAE

			Α	В	С	D	E
Product Code	Size (Inches)	Point	Box End Diameter (Inches)	Open End Width (Inches)	Box End Thickness (Inches)	Open End Thickness (Inches)	Overall Length (Inches)
JHWMIDS4A	1/8	6	7/32	11/32	1/8	1/8	2 11/16
JHWMIDS5A	5/32	6	9/32	13/32	5/32	1/8	2 ²⁷ / ₃₂
JHWMIDS6A	3/16	6	5/16	7/16	5/32	1/8	2 ³¹ / ₃₂
JHWMID65A	13/64	12	3/8	1/2	1/8	1/8	3 1/8
JHWMID7A	7/32	12	3/8	1/2	3/16	1/8	3 3/32
JHWMID75A	15/64	12	3/8	1/2	2/8	1/8	3 1/4
JHWMID8A	1/4	12	13/32	17/32	3/16	5/32	3 7/32
JHWMID9A	9/32	12	7/16	19/32	7/32	5/32	3 11/32
JHWMID10A	5/16	12	1/2	21/32	7/32	5/32	3 1/2
JHWMID12A	3/8	12	19/32	25/32	1/4	3/16	3 3/4
JHWMID14A	7/16	12	21/32	29/32	5/16	7/32	4 1/32

JHWWS-MID10 10 Piece Miniature Combination Wrench Set in Pouch **Contents Include:**

Product Code:	Size (Inches)	Product Code:	Size (Inches)	Product Code:	Size (Inches)
JHWMIDS5A	5/32	JHWMIDS6A	3/16	JHWMID65A	13/64
JHWMID7A	7/32	JHWMID75A	15/64	JHWMID8A	1/4
JHWMID9A	9/32	JHWMID10A	5/16	JHWMID12A	3/8
JHWMID14A	7/16				







SHORT COMBINATION WRENCH

High Polish Chrome Finish, 12 Point, Metric

		Α	В	С	D	E
Product Code	Size (MM)	Box End Diameter (Inches)	Open End Width (Inches)	Box End Thickness (Inches)	Open End Thickness (Inches)	Overall Length (Inches)
JHW1208M	8	1/2	5/8	1/4	3/16	4 13/16
JHW1209M	9	1/2	3/4	1/4	3/16	5
JHW1210M	10	9/16	3/4	1/4	3/16	5 1/4
JHW1211M	11	11/16	1	5/16	1/4	5 1/16
JHW1212M	12	11/16	1	5/16	1/4	5 %16
JHW1213M	13	13/16	1	3/8	1/4	5 ¹³ / ₁₆
JHW1214M	14	13/16	1 1/8	3/8	1/4	6
JHW1215M	15	7/8	1 1/4	3/8	1/4	6 1/6
JHW1216M	16	1	1 1/4	3/8	1/4	6 ¾
JHW1217M	17	1	1 %	7/16	5/16	6 %
JHW1218M	18	1 1/16	1 ½	1	5/16	6 3/4
JHW1219M	19	1 2/16	1 1/2	1	3/8	7

MWS-MS-10 10 Piece Short Combination Wrench Set in Pouch **Contents Include:**

Product Code:	Sizes (mm)	Product Code:	Sizes (mm)	Product Code:	Sizes (mm)
JHW1208M	8	JHW1209M	9	JHW1210M	10
JHW1211M	11	JHW1212M	12	JHW1213M	13
JHW1214M	14	JHW1215M	15	JHW1217M	17
JHW1219M	19				



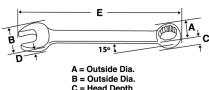


Features

- · Excellent wrench for fast turning of fasteners in limited clearance areas
- . Box and open end openings are identical size
- · High polish chrome textured finish provides great feel and wipes clean easily



- · Excellent wrench for fast turning of fasteners in limited clearance areas
- · Box and open end openings are identical size
- · High polish chrome textured finish provides great feel and wipes clean easily



- C = Head Depth
- D = Head Depth E = Length













SEMI DEEP, FLEX-HEAD COMBINATION WRENCHES

High Polish Chrome Finish, 12 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Socket Diameter (Inches)	Hex Depth (Inches)
JHW11900	3/8	7	15/16	7/32	9/16	1/2
JHW11901	7/16	7	15/16	7/32	5/8	17/32
JHW11902	1/2	8	1 15/16	1/4	25/32	19/32
JHW11903	9/16	8 3/4	1 %32	1/4	13/16	21/32
JHW11904	5/8	9 3/4	1 15/32	9/32	14/16	3/4
JHW11905	11/16	9 ¾	1 ¹⁵ / ₃₂	9/32	15/16	3/4
JHW11906	3/4	10 3/4	1 19/32	1/4	1	25/32

JHW11940

7 Piece Flex-Head Combination Wrench Set, 12 Point, SAE, in Pouch

Con	tents	Inc	lud	e:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW11900	3/8	JHW11903	9/16	JHW11906	3/4
JHW11901	7/16	JHW11904	5/8		
JHW11902	1/2	JHW11905	11/16		

SEMI DEEP, DOUBLE FLEX-HEAD WRENCHES







		Α	В	С	D	E
		Overall	Socket	Hex	Socket	Hex
		Length	Diameter	Depth	Diameter	Depth
Product Code	Size (Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHW12601	3/8 x 7/16	7 13/16	9/16	15/32	5/8	17/32
JHW12603	½ x %6	9 3/4	23/32	5/8	¹³ / ₁₆	21/32
JHW12605	5⁄8 x 11∕16	10	27/32	23/32	¹⁵ /16	3/4
JHW12607	3⁄4 x ⁷ ∕8	12	1	3/4	1 5/32	²⁹ / ₃₂

JHW12691 4 Piece Double Flex-Head Wrench Set, 12 Point, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW12601	3/8 x ⁷ /16	JHW12605	5/8 x ¹¹ / ₁₆
JHW12603	½ x ⁹ / ₁₆	JHW12607	3⁄4 x ⁷ ⁄8

Features

- Unique semi-deep socket end provides extra bolt clearance.
- High-polished chrome finish cleans easily.
- 12 point socket end provides maximum versatility.
- · Recessed corners in socket end provide extra turning power.







JHW12607

1/2 JHW11316

JHW12691



JHW11030

Features

- Extra short handle for access where clearance is limited
- · High-polished chrome finish cleans easily
- 12 point box end provides maximum versatility
- · Recessed corners in box end provide extra turning power

STUBBY COMBINATION WRENCHES

High Polish Chrome Finish, 12 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW11310	5/16	3 %16	11/16	5/32	1/2	7/16
JHW11312	3/8	33/4	13/16	3/16	19/32	1/2
JHW11314	7/16	3 ¹⁵ / ₁₆	¹⁵ / ₁₆	7/32	21/32	9/16
JHW11316	1/2	41/4	11/16	1/4	3/4	11/16
JHW11318	9/16	41/2	13/16	9/32	27/32	3/4
JHW11320	5/8	43/4	1 5/16	9/32	15/16	13/16
JHW11322	11/16	5	17/16	5/16	11/32	7/8
JHW11324	3/4	5 ⁷ / ₁₆	1 %16	11/32	11/8	¹⁵ / ₁₆

Fed. Spec.: ANSI B107.6

JHW11030 7 Piece Stubby Combination Wrench Set, 12 Point, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW11312	3/8	JHW11318	9/16	JHW11324	3/4
JHW11314	⁷ / ₁₆	JHW11320	5/8		
JHW11316	1/2	JHW11322	11/16		



STANDARD RATCHETING COMBINATION WRENCHES

- Nickel-chrome plating helps protect against corrosion and makes cleaning easy
- Sized for optimum comfort and balance
- Ratcheting gear features up to 80 teeth, minimizing swing arc in tight spaces
- Manufactured from special alloy steel, precision-forged and heat treated for optimum strength and durability
- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners
- SUPERTORQUE™ box opening design allows the application of higher torque without rounding or deforming hex fastener points. No contact is made at the corners. Instead, wrenching forces are placed on the flat surfaces behind the points.

High Polish Chrome Finish, 12 Point, SAE





		Α	В	С	D	Ε
	Size	Overall	Open End Width	Open End Thickness	Box End Width	Box End Thickness
Draduat Cada	(Inches)	Length (Inches)	(Inches)	(Inches)	(Inches)	(Inches)
Product Code	unchesi	unchesi	unchesi	unchesi	unchesi	unches
JHW1208RS	1/4	4 ¹⁵ / ₁₆	9/16	1/8	21/32	1/4
JHW1210RS	5/16	5 ⁷ / ₈	11/16	5/32	11/16	9/32
JHW1211RS	11/32	6 ¹⁵ / ₃₂	25/32	3/16	25/32	5/16
JHW1212RS	3/8	7 1/32	7/8	3/16	27/32	5/16
JHW1214RS	7/16	7 %	31/32	7/32	7/8	11/32
JHW1216RS	1/2	8 11/16	1 3/32	7/32	31/32	13/32
JHW1218RS	9/16	9 1/4	1 7/32	1/4	1 1/16	13/32
JHW1220RS	5/8	10 %2	1 11/32	9/32	1 ³ /16	7/16
JHW1222RS	11/16	10 ²⁹ / ₃₂	1 7/16	1/2	1 1/4	15/32
JHW1224RS	3/4	12	1 %	11/32	1 7/16	1/2

JHWWS1170RS 7 Piece Standard Ratcheting Combination Wrench Set, SAE, in Pouch

Contents Include:

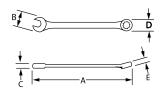
Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1212RS	3/8	JHW1220RS	5/8
JHW1214RS	7/16	JHW1222RS	11/16
JHW1216RS	1/2	JHW1224RS	3/4
JHW1218RS	9/16		

JHWWS1180RS 10 Piece Standard Ratcheting Combination Wrench Set, SAE, in Pouch

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1208RS	1/4	JHW1216RS	1/2
JHW1210RS	5/16	JHW1218RS	9/16
JHW1211RS	11/32	JHW1220RS	5/8
JHW1212RS	3/8	JHW1222RS	11/16
JHW1214RS	7/16	JHW1224RS	3/4





High Polish Chrome Finish, 12 Point, Metric





		Α	В	С	D	Ε
Product Code	Size (MM)	Overall Length (MM)	Open End Width (MM)	Open End Thickness (MM)	Box End Width (MM)	Box End Thickness (MM)
JHW1210MRS	10	179	22	5	22	8
JHW1211MRS	11	194	24	5	22	9
JHW1212MRS	12	207	26	6	24	9
JHW1213MRS	13	221	28	6	25	10
JHW1214MRS	14	235	31	7	27	10
JHW1215MRS	15	250	33	5	28	11
JHW1216MRS	16	261	34	7	31	11
JHW1217MRS	17	277	37	8	32	12
JHW1218MRS	18	291	39	8	35	12
JHW1219MRS	19	305	41	8	37	13

JHWMWS10RS 10 Piece Standard Ratcheting Combination Wrench Set, Metric, in Pouch

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)
JHW1210MRS	10	JHW1215MRS	15
JHW1211MRS	11	JHW1216MRS	16
JHW1212MRS	12	JHW1217MRS	17
JHW1213MRS	13	JHW1218MRS	18
JHW1214MRS	14	JHW1219MRS	19













REVERSIBLE RATCHETING COMBINATION WRENCHES

- Box ends are offset 15-degrees for knuckle clearance
- Sized for optimum comfort and balance Ratcheting gear features up to 80 teeth, minimizing swing arc in tight spaces
- Low-profile, easy-action, reverse lever won't get in your way
- Manufactured from special alloy steel, precision-forged and heat-treated for optimum strength and durability
- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners SUPERTORQUE™ box opening design allows the application of higher torque without rounding or deforming hex fastener points. No contact is made at the corners. Instead, wrenching forces are placed on the flat surfaces behind the points

High Polish Chrome Finish, 12 Point, SAE





		Α	В	С	D	Ε
	Size	Overall Length	Open End Width	Open End Thickness	Box End Width	Box End Thickness
Product Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHW1210RCU	5/16	5 ¾	11/16	5/32	11/16	9/32
JHW1212RCU	3/8	7 1/32	7/8	³ / ₁₆	²⁷ / ₃₂	5/16
JHW1214RCU	7/16	7 %	31/32	7/32	7/8	11/32
JHW1216RCU	1/2	8 ¹¹ / ₁₆	1 3/32	7/32	31/32	13/32
JHW1218RCU	9/16	9 1/4	1 7/32	1/4	1 1/16	13/32
JHW1220RCU	5/8	10 %2	1 11/32	9/32	1 ³ /16	⁷ / ₁₆
JHW1222RCU	11/16	10 ²⁹ / ₃₂	1 7/16	1/2	1 1/4	15/32
JHW1224RCU	3/4	12	1 %	11/32	1 7/16	1/2

JHWWS1170RCU 7 Piece Reversible Ratcheting Combination Wrench Set, SAE, in Pouch

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1212RCU	3/8	JHW1220RCU	5/8
JHW1214RCU	7/16	JHW1222RCU	11/16
JHW1216RCU	1/2	JHW1224RCU	3/4
JHW1218RCU	9/16		



High Polish Chrome Finish, 12 Point, Metric





		Α	В	С	D	E
Product Code	Size (MM)	Overall Length (MM)	Open End Width (MM)	Open End Thickness (MM)	Box End Width (MM)	Box End Thickness (MM)
JHW1208MRCU JHW1209MRCU	8	149 164	18 20	4	18 20	7 8
JHW1210MRCU JHW1211MRCU	10 11	179 194	22 24	5 5	22 22	8
JHW1212MRCU JHW1213MRCU	12 13	207 221	26 28	6	24 25	9 10
JHW1214MRCU	14	235	31	7	27	10
JHW1215MRCU JHW1216MRCU	15 16	250 261	33 34	7 7	28 31	11 11
JHW1217MRCU JHW1218MRCU	17 18	277 291	37 39	8 8	32 35	12 12
JHW1219MRCU	19	305	41	8	37	13

JHWMWS10RCU 10 Piece Reversible Ratcheting Combination Wrench Set, Metric, in Pouch **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)
JHW1210MRCU	10	JHW1215MRCU	15
JHW1211MRCU	11	JHW1216MRCU	16
JHW1212MRCU	12	JHW1217MRCU	17
JHW1213MRCU	13	JHW1218MRCU	18
JHW1214MRCU	14	JHW1219MRCU	19



STUBBY REVERSIBLE RATCHETING COMBINATION WRENCHES

- SUPERCOMBO® open end has specially designed grooves that direct wrench force away from fastener corners
- Manufactured from special alloy steel, precision forged and head treated for optimum strength and durability
- Nickel-chrome plating helps protect against corrosion and makes cleaning easy
- Ratcheting gear features up to 80 teeth, minimizing swing arc in tight places
- Sized for optimum comfort and balance
- SUPERTORQUE™ box opening design allows application of higher torque without rounding or deforming hex fasteners points. No contact is made at the corners. Instead, wrenching forces area placed on the flat surfaces behind the points

High Polish Chrome Finish, 12 Point, SAE





		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Width (Inches)	Box End Thickness (Inches)
JHW1210RSS	5/16	3 1/2	11/16	5/32	11/16	9/32
JHW1212RSS JHW1214RSS	3/8 ⁷ /16	3 ²⁷ / ₃₂ 4	7/8 31/ ₃₂	³ / ₁₆ ⁷ / ₃₂	²⁷ / ₃₂ ⁷ / ₈	⁵ /16 ¹¹ / ₃₂
JHW1216RSS	1/2	4 1/32	1 3/32	7/32	31/32	13/32
JHW1218RSS JHW1220RSS	%16 5%8	4 ½ 4 ²⁷ / ₃₂	1 ⁷ / ₃₂ 1 ¹¹ / ₃₂	1/4 9/32	1 ½16 1 ¾16	13/ ₃₂ 7/ ₁₆
JHW1222RSS	11/16	5	1 7/16	1/2	1 1/4	15/32
JHW1224RSS	3/4	5 ¹¹ / ₃₂	1 %	11/32	1 1/16	1/2

JHWWS1170RSS 7 Piece Stubby Reversible Ratcheting Combination Wrench Set, SAE, in Pouch

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1212RSS	3/8	JHW1220RSS	5/8
JHW1214RSS	7/16	JHW1222RSS	11/16
JHW1216RSS	1/2	JHW1224RSS	3/4
JHW1218RSS	9/16		



High Polish Chrome Finish, 12 Point, Metric





		Α	В	С	D	E
	Size	Overall Length	Open End Width	Open End Thickness	Box End Width	Box End Thickness
Product Code	(MM)	(MM)	(MM)	(MM)	(MM)	(MM)
JHW1208MRSS	8	89	18	4	18	7
JHW1209MRSS	9	93	20	4	20	8
JHW1210MRSS	10	98	22	5	22	8
JHW1211MRSS	11	102	24	5	22	9
JHW1212MRSS	12	106	26	6	24	9
JHW1213MRSS	13	110	28	6	25	10
JHW1214MRSS	14	114	31	7	27	10
JHW1215MRSS	15	119	33	5	28	11
JHW1216MRSS	16	123	34	7	31	11
JHW1217MRSS	17	127	37	8	32	12
JHW1218MRSS	18	135	39	8	35	12
JHW1219MRSS	19	135	41	8	37	13

JHWMWS10RSS 10 Piece Stubby Reversible Ratcheting Combination Wrench Set, Metric, in Pouch **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)
JHW1210MRSS	10	JHW1215MRSS	15
JHW1211MRSS	11	JHW1216MRSS	16
JHW1212MRSS	12	JHW1217MRSS	17
JHW1213MRSS	13	JHW1218MRSS	18
JHW1214MRSS	14	JHW1219MRSS	19





COMBINATION WRENCHES





High Polish Chrome Finish, 12 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW1208RC	1/4	4 1/2	21/32	5/32	21/32	9/32
JHW1210RC	5/16	5 1/4	23/32	5/32	23/32	9/32
JHW1212RC	3/8	6 1/4	7/8	3/16	7/8	5/16
JHW1214RC	⁷ / ₁₆	6 %	¹⁵ / ₁₆	7/32	²⁹ / ₃₂	11/32
JHW1216RC	1/2	7	1 1/32	1/4	1	13/32
JHW1218RC	⁹ /16	7 %	1 ³ / ₁₆	1/4	1 ³ / ₃₂	13/32
JHW1220RC	5/8	8 7/32	1 11/32	9/32	1 7/32	7/16
JHW1222RC	11/16	9	1 7/16	9/32	1 11/16	1/2
JHW1224RC	3/4	9 ¾	1 ¹⁷ / ₃₂	11/32	1 15/32	17/32
JHW1226RC	13/16	10 1/2	1 23/32	3/8	1 %16	17/32
JHW1228RC	7/8	11 ¹³ / ₃₂	1 ¾	11/32	1 21/32	¹⁹ /32
JHW1230RC	¹⁵ /16	12	1 ³¹ / ₃₂	15/32	1 ²⁷ / ₃₂	5/8
JHW1232RC	1	13	2 3/32	15/32	1 1/8	5/8



JHWWS-1168RC 8 Piece Reversible Ratcheting Combination Wrench Set, SAE, in Plastic Tray

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1210RC	5/16	JHW1216RC	1/2	JHW1222RC	11/16
JHW1212RC	3/8	JHW1218RC	9/16	JHW1224RC	3/4
JHW1214RC	7/16	JHW1220RC	5/8		

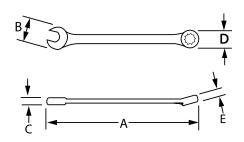
JHWWS-1164RC

4 Piece Reversible Ratcheting Combination Wrench Set, SAE, in Plastic Tray

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1226RC	13/16	JHW1230RC	15/16
JHW1228RC	7/8	JHW1232RC	1

- High-polished chrome finish cleans easily
- Ratchet lever is easily accessible for quick direction changes
- · Recessed corners in ends provide extra turning power







JHWWS-1168RC



JHWWS-1164RC

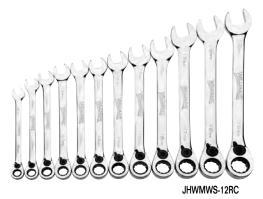
















REVERSIBLE RATCHETING COMBINATION WRENCHES

Toll Free 1 800 563 1293





High Polish Chrome Finish, 12 Point, Metric

		Α	В	С	ט	Ł
		Overall	Open End	Open End	Box End	Box End
		Length	Width	Thickness	Diameter	Thickness
Product Code	Size (MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHW1206MRC	6	4 1/2	21/32	5/32	21/32	1/4
JHW1208MRC	8	5 ½	23/32	3/16	23/32	9/32
JHW1209MRC	9	5 ⁷ / ₈	13/16	5/32	25/32	⁵ /16
JHW1210MRC	10	6 1/4	7/8	7/32	7/8	11/32
JHW1211MRC	11	6 %	15/16	7/32	29/32	11/32
JHW1212MRC	12	6 13/16	1	7/32	31/32	3/8
JHW1213MRC	13	7	1 1/32	1/4	1	13/32
JHW1214MRC	14	7 ¾	1 3/16	1/4	1 3/32	13/32
JHW1215MRC	15	7 3/4	1 1/4	9/32	1 5/32	⁷ / ₁₆
JHW1216MRC	16	8 3/16	1 11/32	9/32	1 7/32	⁷ / ₁₆
JHW1217MRC	17	9	1 7/16	9/32	1 %2	1/2
JHW1218MRC	18	9 %	1 17/32	5/16	1 3/8	15/32
JHW1219MRC	19	9 ¾	1 17/32	11/32	1 7/16	17/32
JHW1221MRC	21	10 ¾	1 23/32	3/8	1 %16	9/16
JHW1222MRC	22	11 1/4	1 27/32	3/8	1 21/32	19/32
JHW1224MRC	24	12	1 31/32	15/32	1 27/32	5/8
JHW1225MRC	25	12 ³¹ / ₃₂	2 ³ / ₃₂	15/32	1 1/8	5/8

JHWMWS-12RC

12 Piece Reversible Ratcheting Combination Wrench Set, Metric, in Plastic Tray

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW1208MRC	8	JHW1212MRC	12	JHW1216MRC	16
JHW1209MRC	9	JHW1213MRC	13	JHW1217MRC	17
JHW1210MRC	10	JHW1214MRC	14	JHW1218MRC	18
JHW1211MRC	11	JHW1215MRC	15	JHW1219MRC	19

JHWMWS-4RC

4 Piece Reversible Ratcheting Combination Wrench Set, Metric, in Pouch

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)
JHW1221MRC	21	JHW1224MRC	24
JHW1222MRC	22	JHW1225MRC	25

Features

- High-polished chrome finish cleans easily
- · Ratchet lever is easily accessible for quick direction changes
- · Recessed corners in ends provide extra turning power

4 PIECE RATCHETING ADAPTOR SET

Product Code	Description
JHWWS4RWA	4 Piece Ratcheting Adaptor Set
Contents Include:	
Description	Description
1/4" Drive male Ad	aptor 3/8" Drive Male Adaptor
1/4" Hex Shank Co	upler 1/2" Drive Male Adaptor

- · Converts a ratcheting wrench into a ratchet
- To be used with Ratcheting Combination Wrenches
- Allows the use of hex bits, 1/4", 3/8", 1/2" Drive Sockets
- Adaptor locks into the wrench by twisting the top cap
- Push-button socket release



RATCHETING COMBINATION WRENCHES





High Polish Chrome Finish, 12 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW1208NRC	1/4	5 1/3	3/4	1/4	3/4	1/4
JHW1210NRC	74 5/16	5 ½	3/4	1/4	3/4	1/4
JHW1212NRC	3/8	6 ½	3/4	1/4	3/4	1/4
JHW1214NRC	7/16	6 ½	1	1/4	3/4	1/4
JHW1216NRC	1/2	7	1	1/4	1	1/4
JHW1218NRC	⁹ /16	7 1/2	1 1/4	1/3	1	1/4
JHW1220NRC	5/8	8 1/2	1 5/16	1/3	1 1/4	3/8
JHW1222NRC	11/16	9	1 1/2	1/3	1 5/16	3/8
JHW1224NRC	3/4	10	1 1/2	5/8	1 5/16	3/8
JHW1226NRC	13/16	11 1/4	1 3/4	5/8	1 %	1/2
JHW1228NRC	7/8	11 1/4	1 3/4	5/8	1 %	1/2
JHW1230NRC	¹⁵ / ₁₆	13	2	5/8	1 3/4	1/2
JHW1232NRC	1	13	2	5/8	1 3/4	1/2
JHW1234NRC	1 1/16	14	2 ½	1/2	2	1/2
JHW1236NRC	1 1/8	16 ¾	2 1/2	1/2	2 5/16	5/8
JHW1238NRC	1 1/4	16 ¾	2 1/2	1/2	2 5/16	5/8

JHWWS-1120NRC 9 Piece Combination Wrench Set, in Pouch

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1208NRC	1/4	JHW1218NRC	9/16
JHW1210NRC	5/16	JHW1220NRC	5/8
JHW1212NRC	3/8	JHW1222NRC	11/16
JHW1214NRC	7/16	JHW1224NRC	3/4
JHW1216NRC	1/2		
		•	

JHWWS-1121NRC 11 Piece Combination Wrench Set, in Pouch

Contents Include:

Product Code	Size (Inches)	Product Code	Size (inches)	Product Code	Size (Inches)
JHW1212NRC	3/8	JHW1220NRC	5/8	JHW1228NRC	7/8
JHW1214NRC	⁷ / ₁₆	JHW1222NRC	11/16	JHW1230NRC	¹⁵ / ₁₆
JHW1216NRC	1/2	JHW1224NRC	3/4	JHW1232NRC	1
JHW1218NRC	9/16	JHW1226NRC	13/16		

JHWWS-1122NRC 16 Piece Combination Wrench Set, in Pouch

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1208NRC	1/4	JHW1220NRC	5/8	JHW1232NRC	1
JHW1210NRC	5/16	JHW1222NRC		JHW1234NRC	1 1/16
JHW1212NRC	3/8	JHW1224NRC		JHW1236NRC	1 1/8
JHW1214NRC	7/16	JHW1226NRC		JHW1238NRC	1 1/4
JHW1216NRC	1/2	JHW1228NRC	7/8		
JHW1218NRC	9/16	JHW1230NRC	15/16		

- 72-tooth gear requires only 5° of ratcheting arc to engage next gear High polish satin-chrome finish cleans easily & protects against corrosion
- Thin profile is perfect for tight clearances where accessibility is critical
 12-point ratcheting box end allows for superior fastener engagement







JHWWS-1122NRC















High Polish Chrome Finish, 12 Point, Metric

•		•	-			
		Α	В	С	D	E
		Overall	Open End	Open End	Box End	Box End
		Length	Width	Thickness	Diameter	Thickness
Product Code	Size (MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHW1206MNRC	6	5 ³ / ₈	3/4	1/4	1/4	1/4
JHW1207MNRC	7	5 ³ / ₈	3/4	1/4	1/4	1/4
JHW1208MNRC	8	5 ³ /8	3/4	1/4	1/4	1/4
JHW1209MNRC	9	5 ⁵ /8	3/4	1/4	1/4	1/4
JHW1210MNRC	10	6 ¹ / ₂	7/8	1/4	7/8	1/4
JHW1211MNRC	11	6 ⁵ /8	1	1/4	7/8	3/8
JHW1212MNRC	12	6 ⁷ /8	1	1/4	1	3/8
JHW1213MNRC	13	7 ¹ /8	1	1/4	1	3/8
JHW1214MNRC	14	7 ⁵ /8	1 1/4	3/8	1	3/8
JHW1215MNRC	15	7 ⁷ /8	1 1/3	3/8	1	3/8
JHW1216MNRC	16	8 ¹ / ₂	1 1/3	3/8	1 1/4	3/8
JHW1217MNRC	17	9 ¹ / ₈	1 1/2	3/8	1 1/4	3/8
JHW1218MNRC	18	9 ³ / ₈	1 1/2	3/8	1 1/4	1/2
JHW1219MNRC	19	9 ⁷ /8	1 %	3/8	1 1/4	1/2
JHW1220MNRC	20	11	1 1/8	3/8	1 5/8	1/2
JHW1221MNRC	21	11	1 1/8	3/8	1 5/8	1/2
JHW1222MNRC	22	11	1 1/8	3/8	1 5/8	1/2
JHW1223MNRC	23	11	1 1/8	3/8	1 5/8	1/2
JHW1224MNRC	24	12 ³ / ₄	2	3/8	1 1/8	1/2
JHW1225MNRC	25	12 ³ / ₄	2	3/8	1 1/8	1/2
JHW1226MNRC	26	12 3/4	2	3/8	1 1/8	1/2
JHW1227MNRC	27	14 ¹/s	2 1/8	1/2	2	1/2
JHW1228MNRC	28	14 ¹ /8	2 ½	1/2	2	1/2
JHW1230MNRC	30	16 ³ / ₄	2 1/2	1/2	2 ¾	5/8
JHW1232MNRC	32	16 ³ / ₄	2 1/2	1/2	2 3/8	5/8

JHMWS1123NRC 9 Piece Combination Wrench, in Pouch Contents Include:

	Size		Size		Size
Product Code	(MM)	Product Code	(MM)	Product Code	(MM)
JHW1206MNRC	6	JHW1209MNRC	9	JHW1212MNRC	12
JHW1207MNRC	7	JHW1210MNRC	10	JHW1213MNRC	13
JHW1208MNRC	8	JHW1211MNRC	11	JHW1214MNRC	14

JHMWS1124NRC 14 Piece Combination Wrench, in Pouch Contents Include:

	Size		Size		Size		Size
Product Code	(MM)	Product Code	(MM)	Product Code	(MM)	Product Code	(MM)
JHW1206MNRC	6	JHW1210MNRC	10	JHW1214MNRC	14	JHW1218MNRC	18
JHW1207MNRC	7	JHW1211MNRC	11	JHW1215MNRC	15	JHW1219MNRC	19
JHW1208MNRC	8	JHW1212MNRC	12	JHW1216MNRC	16		
JHW1209MNRC	9	JHW1213MNRC	13	JHW1217MNRC	17		

JHMWS1125NRC 19 Piece Combination Wrench, in Pouch Contents Include:

	Size		Size		Size		Size
Product Code	(MM)	Product Code	(MM)	Product Code	(MM)	Product Code	(MM)
JHW1206MNRC	6	JHW1211MNRC	11	JHW1216MNRC	16	JHW1221MNRC	21
JHW1207MNRC	7	JHW1212MNRC	12	JHW1217MNRC	17	JHW1222MNRC	22
JHW1208MNRC	8	JHW1213MNRC	13	JHW1218MNRC	18	JHW1223MNRC	23
JHW1209MNRC	9	JHW1214MNRC	14	JHW1219MNRC	19	JHW1224MNRC	24
JHW1210MNRC	10	JHW1215MNRC	15	JHW1220MNRC	20		

JHMWS1126NRC 25 Piece Combination Wrench, in Pouch **Contents Include:**

	Size		Size		Size		Size
Product Code	(MM)	Product Code	(MM)	Product Code	(MM)	Product Code	(MM)
JHW1206MNRC	6	JHW1213MNRC	13	JHW1220MNRC	20	JHW1227MNRC	27
JHW1207MNRC	7	JHW1214MNRC	14	JHW1221MNRC	21	JHW1228MNRC	28
JHW1208MNRC	8	JHW1215MNRC	15	JHW1222MNRC	22	JHW1230MNRC	30
JHW1209MNRC	9	JHW1216MNRC	16	JHW1223MNRC	23	JHW1232MNRC	32
JHW1210MNRC	10	JHW1217MNRC	17	JHW1224MNRC	24		
JHW1211MNRC	11	JHW1218MNRC	18	JHW1225MNRC	25		
JHW1212MNRC	12	JHW1219MNRC	19	JHW1226MNRC	26		



- Features
 72-tooth gear requires only 5° of ratcheting arc to engage next gear
 High polish satin-chrome finish cleans easily & protects against corrosion
 Thin profile is perfect for tight clearances where accessibility is critical
 12-point ratcheting box end allows for superior fastener engagement











JHMWS1125NRC



JHMWS1126NRC



STUBBY REVERSIBLE RATCHETING COMBINATION WRENCHES





High Polish Chrome Finish, 12 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW1210RCS	5/16	3 ½	23/32	5/32	23/32	9/32
JHW1212RCS	3/8	3 ²⁹ / ₃₂	7/8	3/16	7/8	11/32
JHW1214RCS	7/16	4	31/32	7/32	7/8	11/32
JHW1216RCS	1/2	4 1/2	1 1/16	1/4	1	13/32
JHW1218RCS	9/16	4 ¹¹ / ₁₆	1 ³ / ₁₆	1/4	1 3/32	13/32
JHW1220RCS	5/8	5	1 11/32	9/32	1 7/32	15/32
JHW1222RCS	11/16	5 1/4	1 ½	9/32	1 5/16	1/2
JHW1224RCS	3/4	5 ½	1 19/32	11/32	1 ¹⁵ / ₃₂	17/32



Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1210RCS	5/16	JHW1216RCS	1/2	JHW1222RCS	11/16
JHW1212RCS	3/8	JHW1218RCS	⁹ /16	JHW1224RCS	3/4
JHW1214RCS	7/16	JHW1220RCS	5/8		

Features

- · Fine tooth design with dual-pawl mechanism for extra strength
- High-polished chrome finish cleans easily
- · Ratchet lever is easily accessible for quick direction changes
- · Recessed corners in ends provide extra turning power

STUBBY REVERSIBLE RATCHETING COMBINATION WRENCHES





High Polish Chrome Finish, 12 Point, Metric

		Α	В	C	U	E
Product Code	Size (MM)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW1208MRCS	8	3 ½	23/32	5/32	23/32	9/32
JHW1209MRCS	9	3 3/4	13/16	5/32	3/ ₄	5/16
JHW1210MRCS	10	3 27/32	7/8	3/16	7/8	11/32
JHW1211MRCS	11	4 1/8	31/32	7/32	29/32	11/32
JHW1212MRCS	12	4 1/4	1	7/32	¹⁵ /16	3/8
JHW1213MRCS	13	4 1/2	1	1/4	1	13/32
JHW1214MRCS	14	4 11/16	1 5/32	1/4	1 3/32	13/32
JHW1215MRCS	15	4 29/32	1 1/4	9/32	1 5/32	7/16
JHW1216MRCS	16	5	1 3/8	9/32	1 1/4	15/32
JHW1217MRCS	17	5 5/32	1 7/16	9/32	1 %32	1/2
JHW1218MRCS	18	5 1/4	1 1/2	5/16	1 3/8	1/2
JHW1219MRCS	19	5 ½	1 %16	11/32	1 ¹⁵ / ₃₂	17/32

JHWMWS-12RCS 12 Piece Reversible Stubby Ratcheting Combination Wrench Set, Metric, in Plastic Tray

Contents Include:

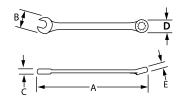
Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW1208MRCS	8	JHW1212MRCS	12	JHW1216MRCS	16
JHW1209MRCS	9	JHW1213MRCS	13	JHW1217MRCS	17
JHW1210MRCS	10	JHW1214MRCS	14	JHW1218MRCS	18
JHW1211MRCS	11	JHW1215MRCS	15	JHW1219MRCS	19

- · Fine tooth design with dual-pawl mechanism for extra strength
- High-polished chrome finish cleans easily
- Ratchet lever is easily accessible for quick direction changes
- · Recessed corners in ends provide extra turning power





JHWWS1168RCS

















FLEX-HEAD REVERSIBLE RATCHETING **COMBINATION WRENCHES**





High Polish Chrome Finish, 12 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW1210RCF	5/16	5 ½	23/32	5/32	23/32	1/4
JHW1212RCF	3/8	6 5/16	29/32	7/32	7/8	5/16
JHW1214RCF	7/16	6 11/16	31/32	7/32	29/32	11/32
JHW1216RCF	1/2	7 1/4	1 1/32	1/4	1	13/32
JHW1218RCF	9/16	7 19/32	1 3/16	1/4	1 3/32	13/32
JHW1220RCF	5/8	8 13/32	1 3/8	9/32	1 1/4	7/16
JHW1222RCF	11/16	9	1 ¹⁵ / ₃₂	9/32	1 %32	1/2
JHW1224RCF	3/4	10	1 %16	11/32	1 ¹⁵ / ₃₂	1/2

JHWWS1168RCF 8 Piece Reversible Flex-Head Ratcheting Combination Wrench Set, SAE, in Plastic Tray

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1210RCF	5/16	JHW1216RCF	1/2	JHW1222RCF	11/16
JHW1212RCF	3/8	JHW1218RCF	9/16	JHW1224RCF	3/4
JHW1214RCF	7/16	JHW1220RCF	5/8		

Features

- Flex-Head pivots 90° in either direction for access in tight areas
- Fine tooth design with dual-pawl mechanism for extra strength
- High-polished chrome finish cleans easily
- Ratchet lever is easily accessible for quick direction changes
- Recessed corners in ends provide extra turning power

JHW1213MRCF

JHW1216RCF

JHWMWS-12RCF

JHWWS1168RCF

FLEX-HEAD REVERSIBLE RATCHETING **COMBINATION WRENCHES**





High Polish Chrome Finish, 12 Point, Metric

		Α	В	С	D	E
Product Code	Size (MM)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW1208MRCF	8	5 %16	23/32	5/32	23/32	9/32
JHW1209MRCF	9	6	13/16	5/32	25/32	5/16
JHW1210MRCF	10	6 5∕16	29/32	7/32	27/32	5/16
JHW1211MRCF	11	63/4	31/32	7/32	29/32	11/32
JHW1212MRCF	12	7	1 1/32	7/32	31/32	3/8
JHW1213MRCF	13	7 11/16	1 1/16	1/4	1	13/32
JHW1214MRCF	14	7 19/32	1 3/16	1/4	1 3/32	13/32
JHW1215MRCF	15	8	1 1/4	9/32	1 5/32	7/16
JHW1216MRCF	16	8 5/16	1 %	9/32	1 7/32	7/16
JHW1217MRCF	17	9	1 ¹⁵ / ₃₂	9/32	1 %32	1/2
JHW1218MRCF	18	9 1/2	1 %16	5/16	1 3/8	1/2
JHW1219MRCF	19	10	1 %16	11/32	1 15/32	17/32

JHWMWS-12RCF 12 Piece Reversible Flex-Head Ratcheting Combination Wrench Set, Metric, in Plastic Tray

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	
JHW1208MRCF	8	JHW1212MRCF	12	JHW1216MRCF	16	
JHW1209MRCF	9	JHW1213MRCF	13	JHW1217MRCF	17	
JHW1210MRCF	10	JHW1214MRCF	14	JHW1218MRCF	18	
JHW1211MRCF	11	JHW1215MRCF	15	JHW1219MRCF	19	

- Flex-Head pivots 90° in either direction for access in tight areas
- Fine tooth design with dual-pawl mechanism for extra strength
- High-polished chrome finish cleans easily
- Ratchet lever is easily accessible for quick direction changes
- Recessed corners in ends provide extra turning power







Chrome Satin Finish, SAE

		Α	В	С	D	E
		Overall	Open End	Open End	Open End	Open End
		Length	Width	Thickness	Width	Thickness
Product Code	Size (Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHW1020	1/4 x 5/16	4 1/16	9/16	5/32	11/16	3/16
JHW1721	5∕16 x 3⁄8	4 11/16	11/16	5/32	¹³ / ₁₆	3/16
JHW1723	3/8 x 7/16	5 ⁵ ⁄16	13/16	3/16	15/16	7/32
JHW1725	⁷ / ₁₆ x ¹ / ₂	5 ³¹ / ₃₂	3/32	7/32	1 1/16	1/4
JHW1725B	½ x %16	6 ¹⁹ / ₃₂	1 1/16	1/4	1 ³ / ₁₆	9/32
JHW1727	%16 x 5/8	7 %2	1 3/16	9/32	1 5/16	9/32
JHW1027B	5/8 x 11/16	7 31/32	1 5/16	5/16	1 7/16	5/16
JHW1729	5⁄8 x 3∕4	8 3/32	1 5/16	9/32	1 %16	11/32
JHW1729B	11/16 x 3/4	8 ²¹ / ₃₂	1 ⁷ / ₁₆	5/16	1 %16	11/32
JHW1731	3/4 x ¹³ /16	9 11/32	1 %16	11/32	1 ¹¹ / ₁₆	3/8
JHW1731A	3/4 x 7/8	9 11/16	1 19/32	11/32	1 27/32	3/8
JHW1731B	¹³ / ₁₆ x ⁷ / ₈	10 1/32	1 ¹¹ / ₁₆	3/8	1 ¹³ / ₁₆	3/8
JHW1033A	7⁄8 x 15∕16	10 ¾	1 ¹³ / ₁₆	3/8	1 ¹⁵ / ₁₆	13/32
JHW1033C	¹⁵ / ₁₆ x 1	11 1/2	1 ¹⁵ / ₁₆	13/32	2 1/32	13/32
JHW1037	1 1/16 x 1 1/4	12 ¹⁵ / ₁₆	2 3/16	7/16	2 ¹⁷ / ₃₂	1/2
JHW1037B	1 1/8 x 1 3/16	13 ²³ / ₃₂	2 5/16	15/32	2 ⁷ /16	15/32
JHW1038	1 1/4 x 1 5/16	15 %2	2 %16	1/2	2 ¹ / ₁₆	17/32
JHW1038A	1 3/8 x 1 7/16	16 ⁷ / ₈	2 ¹³ / ₁₆	17/32	2 ¹⁵ / ₁₆	17/32
JHW1039B	1 ½ x 1 %	18 ²⁹ / ₃₂	3 1/16	9/16	3 5/16	19/32

Fed. Spec. ANSI B107.6

JHWWS-1705A

5 Piece Double Head Open End Wrench Set, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1723	3/8 x 7/16	JHW1727	%16 x 5∕8	JHW1731B	13/ ₁₆ x ⁷ / ₈
JHW1725B	½ x %16	JHW1729B	11/ ₁₆ x 3/ ₄		

JHWWS-1710A

10 Piece Double Head Open End Wrench Set, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW1020	1/4 x 5/16	JHW1727	%16 x 5 √8	JHW1037	1 1/16 x 1 1/4
JHW1723	3/8 x 7/ ₁₆	JHW1729B	11/ ₁₆ x 3/ ₄	JHW1037B	1 1/8 x 1 3/16
JHW1725	7/ ₁₆ x 1/ ₂	JHW1731B	13/ ₁₆ x ⁷ / ₈		
JHW1725B	¹⁄2 x ⁴⁄16	JHW1033C	¹⁵ / ₁₆ x 1		

Features

- . Two openings in each wrench with 45° chamfer on wrench ends allow easy placement of wrench on the fastener
- Continuous arc design minimizes spreading and is stronger than "V" design
- · Satin chrome finish provides good grip and cleans easily







JHWWS-1710A

JHWWS-1705A



















DOUBLE HEAD OPEN END WRENCHES

Chrome Satin Finish, Metric

		Α	В	С	D	E
Product Code	Size (MM)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Open End Width (Inches)	Open End Thickness (Inches)
JHWEWM-0607	6 x 7	3 ¹³ / ₁₆	17/32	5/32	19/32	5/32
JHWEWM-0708	7 x 8	43/16	19/32	5/32	11/16	3/16
JHWEWM-0910	9 x 10	5	3/4	3/16	27/32	7/32
JHWEWM-1011	10 x 11	5 %	27/32	7/32	¹⁵ / ₁₆	7/32
JHWEWM-1213	12 x 13	6 3/16	1	1/4	1 ³ / ₃₂	1/4
JHWEWM-1415	14 x 15	7 1/32	1 1/32	9/32	1 1/4	9/32
JHWEWM-1618	16 x 18	8 3/32	1 5/16	5/16	1 15/32	11/32
JHWEWM-1719	17 x 19	8 17/32	1 13/32	5/16	1 %16	11/32
JHWEWM-2124	21 x 24	10 ¹⁷ / ₃₂	1 23/32	3/8	1 ¹⁵ / ₁₆	13/32
JHWEWM-2224	22 x 24	10 3/4	1 13/16	3/8	1 15/16	13/32
JHWEWM-2427	24 x 27	11 ²⁹ / ₃₂	1 15/16	13/32	2 ³ / ₁₆	7/16
JHWEWM-2730	27 x 30	13 ⁵ ⁄16	2 3/16	7/16	2 ⁷ /16	15/32
JHWEWM3032	30 x 32	14 1/2	2 7/16	15/32	2 %16	1/2

Fed. Spec. ANSI B107.9M

JHWMWS-26 6 Piece Double Head Open End Wrench Set, Metric, in Pouch Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWEWM-0708	7 x 8	JHWEWM-1213	12 x 13	JHWEWM-1618	16 x 18
JHWEWM-1011	10 x 11	JHWEWM-1415	14 x 15	JHWEWM-1719	17 x 19

JHWMWS-31 10 Piece Double Head Open End Wrench Set, Metric, in Pouch Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWEWM-0607	6 x 7	JHWEWM-1415	14 x 15	JHWEWM-2427	24 x 27
JHWEWM-0708	7 x 8	JHWEWM-1618	16 x 18	JHWEWM-2730	27 x 30
JHWEWM-1011	10 x 11	JHWEWM-1719	17 x 19		
JHWEWM-1213	12 x 13	JHWEWM-2124	21 x 24		

Features

- Two openings in each wrench with 45° chamfer on wrench ends allow easy placement of wrench on the fastener
- Continuous arc design minimizes spreading and is stronger than "V" design
- Satin chrome finish provides good grip and cleans easily



SHORT DOUBLE HEAD OPEN END WRENCHES



Chrome Satin Finish, SAE $_{\rm A}$

		Α	В	С	D	E
		Overall Length	Open End Width	Open End Thickness	Open End Width	Open End Thickness
Product Code	Size (Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWOES-0607	3∕16 x ⁷ ∕32	2 ²⁷ / ₃₂	13/32	1/8	15/32	1/8
JHWOES-0809	¹⁄4 x ⁹ ∕32	3 1/32	1/2	1/8	9/16	1/8
JHWOES-1011	5/16 X 11/32	3 ⁷ ⁄16	5/8	5/32	11/16	1/8
JHWOES-1214	3⁄8 x ⁷ ∕16	3 ¾	3/4	5/32	²⁹ / ₃₂	1/8
JHWOES-1618	¹⁄2 x ⁹ ∕16	4 11/32	1	3/16	1 1/8	3/16

Fed. Spec. ANSI B107.6

JHWWS-1605

5 Piece Short Double Head Open End Wrench Set, SAE, in Pouch

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWOES-0607 JHWOES-0809	³ /16 x ⁷ /32 ¹ /4 x ⁹ /32	JHWOES-1011 JHWOES-1214	⁵ / ₁₆ x ¹¹ / ₃₂ ³ / ₈ x ⁷ / ₁₆	JHWOES-1618	½ x %16

- Two openings in each wrench with 45° chamfer on wrench ends allow easy placement of wrench on the fastener
- Continuous arc design minimizes spreading and is stronger than "V" design
- · Satin chrome finish provides good grip and cleans easily





MINIATURE 15° × 80° DOUBLE HEAD OPEN END WRENCHES

Satin Chrome Finish, SAE

Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Open End Width (Inches)	Open End Thickness (Inches)
JHW1112A	3/16	3	1/2	7/64	1/2	7/64
JHW1113A	13/64	3	1/2	7/64	1/2	7/64
JHW1114A	7/32	3	1/2	7/64	1/2	7/64
JHW1115A	15/64	3	1/2	7/64	1/2	7/64
JHW1116A	1/4	3	1/2	7/64	1/2	7/64
JHW1118A	9/32	3 1/2	5/8	9/64	5/8	9/64
JHW1120A	5/16	3 1/2	5/8	9/64	5/8	9/64
JHW1122A	11/32	3 ¾	3/4	9/64	3/4	9/64
JHW1124A	3/8	3 3/4	3/4	9/64	3/4	9/64
JHW1128A	7/16	4 7/16	⁷ / ₁₆	11/64	7/16	11/64
JHW1132A	1/2	4 7/16	7/16	11/64	7/16	11/64
JHW1136A	9/16	5 ¾	1 5/32	13/64	1 5/32	13/64
JHW1140A	5/8	5 ¾	1 5/32	13/64	1 5/32	13/64

Features

- Wrench heads are offset at 15° and 80° to the handle
- . Both ends are the same size to permit the wrench to be used in four different positions
- · 45° chamfer on wrench ends allow easy placement of wrench on the fastener
- Continuous arc design minimizes spreading and is stronger than "V" design
- Thin head is perfect for tight clearances
- Satin finish provides corrosion resistance and slip resistant grip
- Excellent for fast turning of fasteners in limited clearance areas
- Each wrench has the same size opening at both ends

JHWWS-1108SP 8 Piece Mini Double Open End Wrench & Plier Set, SAE, in Pouch Contents Include:

	Size		Size		
Product Code	(Inches)	Product Code	(Inches)	Product Code	Size (Inches)
JHW1114A	7/32	JHW1118A	9/32	JHW1124A	3/8
JHW1115A	15/64	JHW1120A	5/16	JHW1128A	⁷ / ₁₆
JHW1116A	1/4	JHW1122A	11/32		

JHWWS-1113CA 10 Piece Mini Double Open End Wrench & Plier Set, SAE, in Pouch Contents Include:

	Size		Size		
Product Code	(Inches)	Product Code	(Inches)	Product Code	Size (Inches)
JHW1112A	3/16	JHW1116A	1/4	JHW1124A	3/8
JHW1113A	13/64	JHW1118A	9/32	JHWPL-1519C	5" SUPERJOINT® Utility Pliers
JHW1114A	7/32	JHW1120A	5/16		•
JHW1115A	15/64	JHW1122A	11/32		

JHWWS1142PCA 14 Piece Mini Double Open End Wrench & Plier Set, SAE, in Pouch Contents Include:

	Size		Size		
Product Code	(Inches)	Product Code	(Inches)	Product Code	Size (Inches)
JHW1112A	3/16	JHW1118A	9/32	JHW1132A	1/2
JHW1113A	13/64	JHW1120A	5/16	JHW1136A	9/16
JHW1114A	7/32	JHW1122A	11/32	JHW1140A	5/8
JHW1115A	15/64	JHW1124A	3/8	JHWPL-1519C	5" SUPERJOINT® Utility Pliers
JHW1116A	1/4	JHW1128A	7/16		ŕ











WILLIAMS



Satin Chrome Finish, Metric

Product Code	Size (MM)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Open End Width (Inches)	Open End Thickness (Inches)
JHW1104MM	4	3	1/2	7/64	1/2	7/64
JHW1105MM	5	3	1/2	7/64	1/2	7/64
JHW1105.5MM	5.5	3	1/2	7/64	1/2	7/64
JHW1106MM	6	3	1/2	7/64	1/2	7/64
JHW1107MM	7	3 1/2	5/8	9/64	5/8	9/64
JHW1108MM	8	3 1/2	5/8	9/64	5/8	9/64
JHW1109MM	9	3 3/4	3/4	9/64	3/4	9/64
JHW1110MM	10	4 7/16	7/16	11/64	7/16	11/64
JHW1111MM	11	4 7/16	7/16	11/64	7/16	11/64
JHW1112MM	12	4 7/16	7/16	11/64	7/16	11/64
JHW1113MM	13	4 7/16	7/16	11/64	7/16	11/64
JHW1114MM	14	5 ¾	1 5/32	13/64	1 5/32	13/64
JHW1115MM	15	5 ¾	1 5/32	13/64	1 5/32	13/64
JHW1116MM	16	5 ³ / ₄	1 5/32	13/64	1 5/32	13/64



- Wrench heads are offset at 15° and 80° to the handle
- . Both ends are the same size to permit the wrench to be used in four different positions
- · 45° chamfer on wrench ends allow easy placement of wrench on the fastener
- · Continuous arc design minimizes spreading and is stronger than "V" design
- Thin head is perfect for tight clearances
- Satin finish provides corrosion resistance and slip resistant grip

JHWMWS-1110 10 Piece Mini Double Open End Wrench & Plier Set, Metric, in Pouch Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW1104MM	4	JHW1107MM	7	JHW1111MM	11
JHW1105MM	5	JHW1108MM	8	JHWPL-1519C	5" SUPERJOINT
JHW1105.5MM	5.5	JHW1109MM	9		Utility Pliers
JHW1106MM	6	JHW1110MM	10		

JHWMWS-1115 15 Piece Mini Double Open End Wrench & Plier Set, Metric, in Pouch Contents Include:

Contents III	iciuuc.				
Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW1104MM	4	JHW1108MM	8	JHW1113MM	13
JHW1105MM	5	JHW1109MM	9	JHW1114MM	14
JHW1105.5MM	5.5	JHW1110MM	10	JHW1115MM	15
JHW1106MM	6	JHW1111MM	11	JHW1116MM	16
JHW1107MM	7	JHW1112MM	12	JHWPL-1519C	5" SUPERJOINT Utility Pliers







JHWMWS-1115



līfast

15°-60° DOUBLE OPEN END ANGLE-HEAD WRENCHES

Chrome Satin Finish, SAE

		Α	В	С
		Head	Head	
	Size	Diameter	Thickness	Overall Length
Product Code	(Inches)	(Inches)	(Inches)	(Inches)
JHW3712	3/8	25/32	7/32	4 3/4
JHW3714	⁷ / ₁₆	7/8	7/32	5
JHW3716	1/2	1	7/32	5 ½
JHW3718	9/16	1 1/8	1/4	6
JHW3720	5/8	1 3/16	9/32	6 ½
JHW3722	11/16	1 5/16	9/32	7
JHW3724	3/4	1 1/16	9/32	7 1/4
JHW3726	¹³ / ₁₆	1 ¹⁹ / ₃₂	9/32	7 ½
JHW3728	7/8	1 21/32	9/32	8 1/4
JHW3730	¹⁵ / ₁₆	1 25/32	5/16	9 1/16
JHW3732	1	1 ¹⁵ / ₁₆	5/16	9 3/4
JHW3734	1 1/16	2 ½16	5/16	10
JHW3736	1 1/8	2 1/4	5/16	11
JHW3740	1 1/4	2 ¾	11/32	11 ½
JHW3744	1 %	2 11/16	13/32	12 ½
JHW3746	1 7/16	2 ¹¹ / ₁₆	13/32	12 ½
JHW3748	1 1/2	2 11/16	13/32	12 ½
JHW3752	1 %	3 ¹³ / ₆₄	15/32	15 ¾
JHW3754	1 ¹¹ / ₁₆	3 11/32	1/2	16 ½
JHW3756	1 3/4	3 ½6	17/32	17
JHW3758	1 13/16	3 %6	17/32	17 ¾
JHW3760	1 1/8	3 11/16	9/16	18 ½
JHW3764	2	3 15/16	19/32	19 1/4

Fed. Spec. ANSI B107.39 Type 2 Class 3

JHW3780

5 Piece Double Open End Wrench Set, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW3712	3/8	JHW3718	9/16
JHW3714	⁷ / ₁₆	JHW3720	5/8
JHW3716	1/2		

JHW3782

10 Piece Double Open End Wrench Set, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW3712	3/8	JHW3722	11/16
JHW3714	7/16	JHW3724	3/4
JHW3716	1/2	JHW3726	13/16
JHW3718	9/16	JHW3728	7/8
JHW3720	5/8	JHW3732	1

Features

- Wrench heads are offset at 15° and 60° to the handle
- Both ends are the same size to permit the wrench to be used in four different positions
- · 45° chamfer on wrench ends allow easy placement of wrench on the fastener
- Continuous arc design minimizes spreading and is stronger than "V" design
- Thin head is perfect for tight clearances
- · Satin chrome finish provides good grip and cleans easily









JHW3782













Chrome Satin Finish, 6 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Dia (Inches)	Open End Thickness (Inches)	Open End Dia (Inches)	Open End Thickness (Inches)
JHW10600	3/8 x 7/16	6	27/32	11/32	15/16	11/32
JHW10602	½ x %16	6 3/4	15/16	13/32	1	13/32
JHW10604	5/8 x 11/16	7 3/4	1 ³ / ₃₂	7/16	1 3/16	15/32
JHW10606	3⁄4 x ⁷ ∕8	8 5/8	1 9/32	1/2	1 13/32	17/32

Fed. Spec.: ANSI B107.6

JHW11690

JHW10600

4 Piece Double Head Flare Nut Wrench Set, 6 Point, SAE, in Pouch

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW10600	3/8 x 7/16	JHW10604	5/8 x 11/16
JHW10602	¹⁄2 x ⁹ ∕16	JHW10606	³ / ₄ x ⁷ / ₈

JHW11691 3 Piece Double Head Flare Nut Wrench Set, 6 Point, SAE, in Pouch

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW10600	3/8 x ⁷ / ₁₆	JHW10604	5∕8 x ¹¹∕₁6
JHW10602	¹∕2 X ⁹ ∕16		

Features

- Will not mar fittings on pipes and tubing
- · Satin chrome textured finish provides great feel and extra gripping power
- Recessed corners in ends provide extra turning power



JHW11690



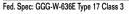
pplifast

30° SERVICE WRENCHES



Satin Chrome Finish, SAE

Product Code	Size (Inches)	Overall Length	Head Diameter (Inches)	Head Thickness (Inches)
		(Inches)		
JHW3524	3/4	6 1/4	1 11/16	1/4
JHW3526	13/16	6 1/4	1 11/16	1/4
JHW3528	7/8	6 1/4	1 11/16	1/4
JHW3530	15/16	6 1/8	1 1/8	1/4
JHW3532	1	6 %	1 %	1/4
JHW3534	1 1/16	6 1/8	1 1/8	1/4
JHW3536	1 1/8	7	2 ½16	1/4
JHW3538	1 3/16	7	2 1/16	1/4
JHW3540	1 1/4	7	2 1/16	1/4
JHW3542	1 5/16	7 %	2 ½	9/32
JHW3544	1 %	7 5/8	2 ½	9/32
JHW3546	1 7/16	7 %	2 ½	9/32
JHW3548	1 ½	7 %	2 ½	9/32
JHW3550	1 %16	7 %	2 %	9/32
JHW3552	1 %	7 %	2 %	9/32
JHW3554	1 11/16	7 5/8	2 %	9/32
JHW3556	1 3/4	8 ½	3 1/8	5/16
JHW3558	1 ¹³ / ₁₆	8 1/2	3 1/8	5/16
JHW3560	1 1/8	8 1/2	3 1/8	5/16
JHW3562	1 ¹⁵ / ₁₆	8 1/2	3 1/8	5/16
JHW3564	2	8 1/2	3 ½	5/16
JHW3568	2 1/8	8 1/2	3 ½	5/16
JHW3572	2 1/4	8 1/2	3 ½	5/16
JHW3576	2 %	9 ½	3 ½	5/16





JHW3542

JHW3537M



JHWWS-3510 10 Piece Service Wrench Set, SAE in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW3524	3/4	JHW3532	1	JHW3538	1 3/16
JHW3526	¹³ / ₁₆	JHW3534	1 1/16	JHW3540	1 1/4
JHW3528	7/8	JHW3536	1 1/8	JHW3544	1 3/8
JHW3530	15/16				

30° SERVICE WRENCHES



Satin Chrome Finish, Metric

Product Code	Size (MM)	Overall Length (Inches)	Head Diameter (Inches)	Head Thickness (Inches)
JHW3519M	19	6 1/4	1 11/16	1/4
JHW3521M	21	6 1/4	1 11/16	1/4
JHW3522M	22	6 1/4	1 11/16	1/4
JHW3524M	24	67/8	1 1/8	1/4
JHW3527M	27	67/8	1 1/8	1/4
JHW3530M	30	7	2 1/16	1/4
JHW3532M	32	7	2 1/16	1/4
JHW3536M	36	7 %	2 1/2	9/32
JHW3537M	37	7 %	2 1/2	9/32
JHW3538M	38	7 %	2 1/2	9/32
JHW3540M	40	7 %	2 5/8	9/32
JHW3541M	41	7 %	2 %	9/32
JHW3542M	42	7 %	2 %	9/32
JHW3544M	44	7 %	2 %	9/32
JHW3546M	46	8 1/2	3 1/8	5/16
JHW3548M	48	8 1/2	3 1/8	5/16
JHW3550M	50	8 1/2	3 1/8	5/16
JHW3552M	52	8 1/2	3 1/2	5/16
JHW3555M	55	8 1/2	3 1/2	5/16
JHW3560M	60	9 1/2	3 1/2	5/16
JHW3565M	65	9 1/2	3 1/2	5/16

Fed. Spec: GGG-W-636E Type 17 Class 3

3714114



JHWMWS-3510 10 Piece Service Wrench Set, Metric in Pouch

Contents Include:

•••••••••••					
Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW3519M	19	JHW3527M	27	JHW3536M	36
JHW3521M	21	JHW3530M	30	JHW3538M	38
JHW3522M	22	JHW3532M	32	JHW3540M	40
JHW3524M	24				

- Ultra thin pattern for use on jam nuts and access to confined areas
- 30° offset head
- · Satin chrome finish













D.







Chrome Satin Finish, 12 Point, SAE

		Α	В	С	D	Ε
Product Code	Size (Inches)	Overall Length (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW7723	3/8 x 7/16	7 %	19/32	5/16	21/32	11/32
JHW7725B	¹⁄2 x ⁹ ∕16	8 ¹¹ / ₁₆	3/4	3/8	²⁷ / ₃₂	3/8
JHW7727A	5⁄8 x ¹¹ ∕₁6	10 ⁵ / ₃₂	²⁹ / ₃₂	7/16	1	15/32
JHW7029B	¹¹ / ₁₆ x ³ / ₄	10 ¹⁵ ⁄16	1	15/32	1 3/32	1/2
JHW7731A	3/4 x 7/8	12 ¹ / ₃₂	1 3/32	1/2	1 1/4	9/16
JHW7731B	¹³ / ₁₆ x ⁷ / ₈	12 ¹³ / ₃₂	1 ³ /16	17/32	1 1/4	9/16
JHW7033C	¹⁵ / ₁₆ x 1	14 1/8	1 11/32	19/32	1 ½16	5/8
JHW7038	1 1/8 x 1 3/16	16 ³ / ₃₂	1 19/32	11/16	1 11/16	11/16
JHW7039B	1 1/4 x 1 5/16	17 %	1 ²⁵ / ₃₂	23/32	1 ²⁷ /32	3/4

Fed. Spec. ANSI B107.6

JHWWS-7707 7 Piece Double Head 10° Offset Box End Wrench Set, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW7723	3/8 x 7/16	JHW7029B	11/16 x 3/4	JHW7033C	¹⁵ / ₁₆ x 1
JHW7725B	¹∕2 x ⁹ ∕16	JHW7731A	3⁄4 x ⁷ ∕8		
JHW7727A	5/8 x 11/16	JHW7731B	¹³ / ₁₆ x ⁷ / ₈		

Features

- SUPERTORQUE™ box opening design allows application of higher torque without rounding or deforming hex fastener points
- . No contact is made at the corners
- . Instead, wrenching forces are placed on the flat surfaces behind the points
- 10° offset box end allows clearance in tight areas
- Sizes are clearly marked on handle ends





JHW7725B





pplifast

DOUBLE HEAD 10° OFFSET BOX END WRENCHES





Chrome Satin Finish, 12 Point, Metric

		Α	В	С	D	E
		Overall	Box End	Box End	Box End	Box End
		Length	Diameter	Thickness	Diameter	Thickness
Product Code	Size (MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWBWM-0810	8 x 10	7 5/16	1/2	9/32	19/32	5/16
JHWBWM-1011	10 x 11	7 ³¹ / ₃₂	19/32	5/16	21/32	11/32
JHWBWM-1012	10 x 12	8 3/16	19/32	5/16	23/32	11/32
JHWBWM-1113	11 x 13	8 %	21/32	11/32	25/32	3/8
JHWBWM-1213	12 x 13	8 ²⁷ / ₃₂	25/32	11/32	25/32	3/8
JHWBWM-1214	12 x 14	9 1/16	23/32	11/32	13/16	13/32
JHWBWM-1315	13 x 15	9 1/2	25/32	3/8	7/8	13/32
JHWBWM-1415	14 x 15	9 3/4	13/16	13/32	7/8	13/32
JHWBWM-1417	14 x 17	9 ²⁵ / ₃₂	13/16	13/32	31/32	15/32
JHWBWM-1618	16 x 18	10 ²⁷ / ₃₂	15/16	⁷ / ₁₆	1 1/32	15/32
JHWBWM-1719	17 x 19	11 %2	31/32	15/32	1 3/32	1/2
JHWBWM-1821	18 x 21	11 ¹⁵ / ₁₆	1 3/32	15/32	1 3/16	17/32
JHWBWM-1922	19 x 22	12 %	1 3/32	1/2	1 1/4	9/16
JHWBWM-2124	21 x 24	13 1/4	1 ³ ⁄16	17/32	1 11/32	19/32
JHWBWM-2224	22 x 24	13 ¹⁵ / ₃₂	1 1/4	9/16	1 11/32	19/32
JHWBWM-2427	24 x 27	14 ¹⁹ / ₃₂	1 11/32	19/32	1 ¹⁷ / ₃₂	21/32
JHWBWM-2730	27 x 30	15 ²⁹ / ₃₂	1 ¹⁷ /32	21/32	1 11/16	11/16
JHWBWM-3032	30 x 32	17 1/32	1 ¹¹ / ₁₆	11/16	1 ²⁵ / ₃₂	23/32



JHWMWS-BWM10 10 Piece Double Head 10° Offset Box End Wrench Set, Metric, in Pouch

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWBWM-0810	8 x 10	JHWBWM-1618	16 x 18	JHWBWM-2730	27 x 30
JHWBWM-1113	11 x 13	JHWBWM-1719	17 x 19	JHWBWM-3032	30 x 32
JHWBWM-1214	12 x 14	JHWBWM-1922	19 x 22		
JHWBWM-1415	14 x 15	JHWBWM-2124	21 x 24		

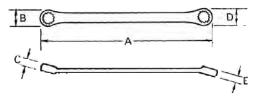
JHWMWS-BWM12 12 Piece Double Head 10° Offset Box End Wrench Set, Metric, in Pouch

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWBMW-1011	10 x 11	JHWBWM-1417	14 x17	JHWBWM-1922	19 x 22
JHWBWM-1214	12 x 14	JHWBWM-1618	16 x 18	JHWBWM-2224	22 x 24
JHWBWM-1315	13 x 15	JHWBWM-1719	17 x 19	JHWBWM-2730	27 x 30
JHWBWM-1415	14 x 15	JHWBWM-1821	18 x 21	JHWBWM-3032	30 x 32

- SUPERTORQUE™ box opening design allows application of higher torque without rounding or deforming hex fastener points
- . No contact is made at the corners
- Instead, wrenching forces are placed on the flat surfaces behind the points
- 10° offset box end allows clearance in tight areas
- · Sizes are clearly marked on handle ends











<u>∧</u>WARNING







JHW8725B











DOUBLE HEAD 60° OFFSET BOX END WRENCHES

Chrome Satin Finish, 12 Point, SAE

Toll Free 1 800 563 1293

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHW8720	¹⁄4 x ⁵∕16	6 7/16	13/32	1/4	15/32	9/32
JHW8723	3⁄8 x ⁷ ∕16	7 %	⁹ /16	5/16	21/32	⁵ /16
JHW8725	⁷ / ₁₆ x ¹ / ₂	8 3/16	21/32	11/32	3/4	11/32
JHW8725B	½ x %16	8 25/32	3/4	3/8	27/32	3/8
JHW8727	%16 x 5∕8	9 %	27/32	13/32	29/32	13/32
JHW8727A	5⁄8 x ¹¹ ∕ ₁₆	9 31/32	29/32	7/16	1	⁷ /16
JHW8729	5/8 x 3/4	10 ½	15/16	7/16	1 3/32	7/16
JHW8729A	11/16 x 13/16	10 ²⁷ / ₃₂	1	15/32	1 3/16	15/32
JHW8731A	3⁄4 x ⁷ ∕8	11 7/16	1 3/32	17/32	1 %32	17/32
JHW8033A	7⁄8 x 15∕16	13	1 %2	9/16	1 3/8	9/16
JHW8033C	¹⁵ / ₁₆ x 1	13 ³¹ / ₃₂	1 3/8	19/32	1 7/16	19/32

Fed. Spec. ANSI B107.6

JHWWS-8707

7 Piece Double Head 60° Offset Box End Wrench Set, SAE, in Pouch **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW8720	¹⁄4 x ⁵∕16	JHW8729	5⁄8 x 3∕4	JHW8033C	15/ ₁₆ x 1
JHW8723	3⁄8 x ⁷ ∕16	JHW8729A	¹¹ / ₁₆ x ¹³ / ₁₆		
JHW8725B	1/2 x 9/16	JHW8731A	3/4 x 7/8		

Features

- SUPERTORQUE™ box opening design allows application of higher torque without rounding or deforming hex fastener points
- · No contact is made at the corners
- . Instead, wrenching forces are placed on the flat surfaces behind the points
- 60° offset box end allows extra knuckle and bolt clearance in tight areas
- · Sizes are clearly marked on handle ends



SINGLE HEAD RATCHETING BOX WRENCHES





		Α			Α
		Overall Length			Overall Length
Product Code	Size (Inches)	(Inches)	Product Code	Size (Inches)	(Inches)
JHWRB-42	1 5/16	15 ½	JHWRB-54	1 11/16	19
JHWRB-44	1 3/8	15 ½	JHWRB-56	1 3/4	19
JHWRB-46	1 7/16	15 ½	JHWRB-58	1 ¹³ / ₁₆	19
JHWRB-48	1 1/2	15 ½	JHWRB-60	1 1/8	19
JHWRB-50	1 %16	15 ½	JHWRB-64	2	19
JHWRB-52	1 1/8	15 ½	JHWRB-68	2 1/8	19

- . Combines the quick ratcheting action with opening sizes large enough to handle most industrial applications
- Requires less effort than a conventional combination wrench
- All wrenches contain 12-point Torque Grip® wheels
- Ideal for long "bolt-through" applications
- · Turn wrench over to change direction





SINGLE HEAD RATCHETING BOX WRENCHES





High Polish Chrome Finish, 12 Point, Metric

A					A
		Overall Length			Overall Length
Product Code	Size (MM)	(Inches)	Product Code	Size (MM)	(Inches)
JHWRBM-22	22	12	JHWRBM-27	27	12
JHWRBM-23	23	12	JHWRBM-29	29	12
JHWRBM-24	24	12	JHWRBM-30	30	12
JHWRBM-25	25	12	JHWRBM-32	32	15 ½
JHWRBM-26	26	12	JHWRBM-36	36	15 ½

Features

- Combines the quick ratcheting action with opening sizes large enough to handle most industrial applications
- Requires less effort than a conventional combination wrench
- All wrenches contain 12-point Torque Grip® wheels
- Ideal for long "bolt-through" applications
- . Turn wrench over to change direction





DOUBLE HEAD RATCHETING BOX WRENCHES

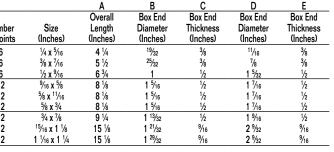






High Polish Chrome Finish, 6 & 12 Point, SAE

			Α	В	С	D	Ε
Product Code	Number of Points	Size (Inches)	Overall Length (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHWRB-810	6	¹⁄4 x ⁵∕16	4 1/4	19/32	3/8	11/16	3/8
JHWRB-1214	6	3/8 x 7/16	5 ½	25/32	3/8	7/8	3/8
JHWRB-1618	6	½ x %16	6 ¾	1	1/2	1 5/32	1/2
JHWRB-1820	12	%16 x 5/8	8 1/8	1 5/16	1/2	1 7/16	1/2
JHWRB-2022	12	5/8 x 11/16	8 1/8	1 5/16	1/2	1 ⁷ /16	1/2
JHWRB-2024	12	5⁄8 x 3∕4	8 1/8	1 5/16	1/2	1 7/16	1/2
JHWRB-2428	12	3/4 x 7/8	9 1/4	1 13/32	1/2	1 %16	1/2
JHWRB-3036	12	¹⁵ / ₁₆ x 1 ¹ / ₈	15 ½	1 ²¹ / ₃₂	9/16	2 %32	9/16
JHWRB-3440	12	1 ½6 x 1 ¼	15 ½	1 29/32	9/16	2 %32	9/16



JHWWS-12

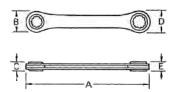
5 Piece Ratcheting Box Wrench Set, 6 & 12 Point, SAE, in Pouch Contents Include:

Outtoiles iii									
Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)				
JHWRB-810	1/4 x 5/16	JHWRB-1618	½ X %16	JHWRB-2428	3/4 x 7/8				
.IHWRR-1214	3/8 x 7/16	JHWRB-2022	5/8 x 11/16						

Features

- · Allows fast removal of fasteners with a ratcheting action at each end
- Ideal for long "bolt-through" applications
- · Flat handle allows access to tight clearance areas
- . Turn wrench over to change direction









JHWRB-1618

















High Polish Chrome Finish, 6 & 12 Point, Metric

			Α	В	С	D	E
Product Code	Number of Points	Size (MM)	Overall Length (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHWRBM-0708	6	7 x 8	4 1/2	11/16	3/8	11/32	3/8
JHWRBM-0910	6	9 x 10	5 ½	7/8	3/8	7/8	3/8
JHWRBM-1112	6	11 x 12	6 ⁷ /8	1 ³ /16	1/2	1 1/8	1/2
JHWRBM-1314	6	13 x 14	6 ⁷ /8	1 ³ /16	1/2	1 1/8	1/2
JHWRBM-1517	12	15 x 17	8 1/8	1 7/16	1/2	1 7/16	1/2
JHWRBM-1618	12	16 x 18	8 1/8	1 7/16	1/2	1 7/16	1/2
JHWRBM-1921	12	19 x 21	9 1/4	1 %16	1/2	1 %16	1/2

JHWMWS-30

5 Piece Ratcheting Box Wrench Set, 6 & 12 Point, Metric, in Pouch **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWRBM-0708	7 x 8	JHWRBM-1112	11 x 12	JHWRBM-1517	15 x 17
JHWRBM-0910	9 x 10	JHWRBM-1314	13 x 14		

Features

- · Allows fast removal of fasteners with a ratcheting action at each end
- Ideal for long "bolt-through" applications
- Flat handle allows access to tight clearance areas
- Turn wrench over to change direction

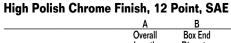




DOUBLE HEAD 25° REVERSIBLE OFFSET RATCHETING BOX WRENCHES







		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)	Box End Diameter (Inches)	Box End Thickness (Inches)
JHWRBO-810	¹⁄4 x ⁵∕16	41/4	19/32	3/8	21/32	3/8
JHWRBO-1214	3⁄8 x ⁷ ∕16	5 ⁷ / ₁₆	²⁵ / ₃₂	3/8	7/8	3/8
JHWRBO-1618	¹⁄2 x ⁹ ∕16	63/4	1	1/2	15/32	1/2
JHWRBO-2022	5⁄8 x 11∕16	8	15/16	1/2	17/16	1/2
JHWRBO-2024	5⁄8 x 3∕4	8	1 5⁄16	1/2	17/16	1/2
JHWRBO-2226	¹¹ / ₁₆ x ¹³ / ₁₆	91/8	1 13/32	1/2	1 %16	1/2
JHWRBO-2428	3⁄4 x ⁷ ∕8	91/8	1 13/32	1/2	1 %16	1/2
JHWRBO-2630	¹³ / ₁₆ x ¹⁵ / ₁₆	91/8	113/32	1/2	1 %16	1/2

JHWWS-5

5 Piece Reversible Offset Ratcheting Box Wrench Set, 12 Point, SAE, in Pouch

Contents Include:

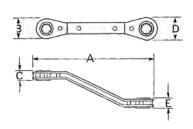
Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWRBO-810	1/4 x 5/16	JHWRBO-1618	½ x %16	JHWRBO-2428	3/4 x 7/8
JHWRBO-1214	3/8 x 7/16	JHWRBO-2022	5/8 x 11/16		

Features

- · 25° offset handle clears obstructions that flat handle wrenches cannot
- Allows fast removal of fasteners with a ratcheting action at each end
- · Ideal for long "bolt-through" applications



JHWWS-5





JHWRBM-1314



pplīfast

RATCHETING FLARE NUT WRENCHES





Black Industrial Finish, 12 Point, SAE

	Size	Overall Length	Head Diameter	Head Thickness
Product Code	(Inches)	(Inches)	(Inches)	(Inches)
JHWRFW-12	3/8	5 ¾	1	5/16
JHWRFW-14	⁷ / ₁₆	5 ¾	1	5/16
JHWRFW-16	1/2	5 ¾	1	5/16
JHWRFW-18	9/16	7 1/4	1 1/32	3/8
JHWRFW-20	5/8	7 1/4	1 1/32	3/8
JHWRFW-22	11/16	7 1/4	1 1/32	3/8
JHWRFW-24	3/4	7 1/4	1 1/32	3/8
JHWRFW-26	¹³ / ₁₆	9 5/16	1 ⁵ /8	1/2
JHWRFW-28	7/8	9 5/16	1 ⁵ /8	1/2
JHWRFW-30	¹⁵ / ₁₆	9 5/16	1 ⁵ /8	1/2
JHWRFW-32	1	9 5/16	1 5/8	1/2

Features

- Designed for use on 6 and 12 point tube fittings, fasteners, valves and compression fittings
- Unique design requires only 30° rotation for ratcheting action
- · High carbon steel jaws snap open, then close around fastener with 6 point contact
- · Prevents distortion of thin-walled fitting
- . Allow easy access to tight locations







DOUBLE HEAD FLARE NUT WRENCHES

Chrome Satin Finish, 6 Point, SAE

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Open End Dia (Inches)	Open End Thickness (Inches)	Open End Dia (Inches)	Open End Thickness (Inches)
JHWXFN-0810	1/4 x 5/16	4 27/32	19/32	1/4	5/8	9/32
JHWXFN-1214	3/8 x 7/16	5 ¹³ / ₁₆	25/32	5/16	²⁷ / ₃₂	11/32
JHWXFN-1618	½ x %16	6 13/16	15/16	3/8	1	13/32
JHWXFN-2022	5/8 x 11/ ₁₆	7 3/4	1 3/32	7/16	3/16	15/32
JHWXFN-2432	3⁄4 x 1	9 1/2	1 1/4	1/2	19/32	5/8
JHWXFN-2836	½ x 1 ⅓	10.5	1 7/16	9/16	1 ³ / ₄	11/16

Fed. Spec.: ANSI B107.6

JHWWS-14

5 Piece Double Head Flare Nut Wrench Set, 6 Point, SAE, in Pouch Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWXFN-1214	3/8 x 7/16	JHWXFN-2022	5/8 x ¹¹ / ₁₆	JHWXFN-2836	7/8 x 1 1/8
JHWXFN-1618	¹⁄2 x ⁴⁄16	JHWXFN-2432	3⁄4 x 1		

- Will not mar fittings on pipes and tubing
- Satin chrome textured finish provides great feel and extra gripping power
- · Recessed corners in ends provide extra turning power

















31 R US

91CUS



BAHCO® ADJUSTABLE WRENCH WITH VALVE PERSUADER

Product Code	Length (Inches)	Maximum Jaw Opening (Inches)	Valve Wheel Wrench Opening
33HRUS	10	1 ¾	3/4

Features

- . Two tools combined into one convenient operator's tool that can be used wherever valves are adjusted for flow and pressure
- 10" overall length supplies leverage while being compact enough to be easily carried.
- Big-mouth adjustable wrench has large, 1 3/4" capacity
- 34" valve wheel wrench opening.
- Precision hardened and anti-corrosion treated
- Easy to read size measurement scale: fractional on one side, metric on the other
- Rounded hook-end doesn't leave marks or scratches on the valve
- Head combines slimness for accessibility with strength for performance

BAHCO® ALLIGATOR ADJUSTABLE WRENCH

Industrial Grade Steel Handle, Black Phosphate Finish

Product Code	Length (Inches)	Maximum Jaw Opening (Inches)	Head Thickness (Inches)	Jaw Tip Thickness (Inches)
31 R US	8	1 1/4	1/2	3/16

Features

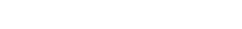
- V-jaw on wrench has aggressively angled teeth for sure grip on pipes and rounded fasteners
- Measurement scale on head conveniently shows fastener size
- Slim head with tapered jaws combine easy accessibility with extra turning strength
- · Precision hardened and anti-corrosion treated

BAHCO® SIDE NUT ADJUSTABLE WRENCHES

Comfortable Bigger and Rounded Handles, Chrome Finish

Product Code	Length (Inches)	Maximum Jaw Opening (Inches)	Head Thickness (Inches)	Jaw Tip Thickness (Inches)
91CUS	6	3/4	1/2	1/4
92CUS	8	1 1/4	1/2	5/16
93CUS	10	1 3/8	5/8	5/16
94CUS	12	1 1/2	3/4	3/8
95CUS	15	2	1	1/2
96CUS	21	2 1/2	1 1/6	5/8
97CUS	30	3	1 ½	1

- . Side nut adjustable wrenches for heavy duty applications
- Forged in one piece for better performance
- · Head angle 15° provides better accessibility
- · Measurement scale on head conveniently shows fastener size





pplifast

BAHCO® ERGO™ BIG-MOUTH ADJUSTABLE WRENCHES

Designed According to BAHCO®'s Scientific 11-Step **Ergonomic Design Program**

Product Code	Length (Inches)	Maximum Jaw Opening (Inches)	Head Thickness (Inches)	Jaw Tip Thickness (Inches)
		Opening unches/	THICKIESS (HICHES)	THICKHESS UNCHES!
Chrome Finish:				
9031 RC US	8	1 ½	1/2	1/4
Black Phosphat	te Finish:			
9029 R US	6	1 1/4	1/2	3/16
9031 R US	8	1 1/2	1/2	1/4
9033 R US	10	1 3/4	5/16	3/4
9035 R US	12	2 3/16	3/8	7/8
Thin Jaw Wide	Mouth:			
9029 RT US	6	1 1/4	11/64	1/4
9031 RT US	8	1 1/2	11/64	1/4

Features

- . Extra-wide opening jaws with shorter handle for maximum access in confined areas
- True ERGO™ design, with thermoplastic handle and larger grip width
- · Ideal for plumbers, electricians, and maintenance workers
- . Slim head with tapered jaws combine easy accessibility with extra turning strength
- · Perfect for working under the sink, within enclosures, or anywhere that a short
- Thin Jaw Wide Mouth 45% wider opening and 45% thinner jaw

BAHCO® ERGO™ COMBINATION **ADJUSTABLE/PIPE WRENCHES**

Designed According to BAHCO®'s Scientific 11-Step Ergonomic Design Program

Durahust Cada	Length	Maximum Jaw	Head	Max Pipe
Product Code	(Inches)	Opening (Inches)	Thickness (Inches)	Diameter (Inches)
Chrome Finish:				
9070 RPC US	6	¹³ / ₁₆	7/16	3/8
9071 RPC US	8	1 1/16	1/2	1/2
9072 RPC US	10	1 5/16	5/8	5/8
9073 RPC US	12	1 5/16	11/16	11/16
Black Phosphate	Finish:			
9070 RP US	6	13/16	7/16	3/8
9071 RP US	8	1 1/16	1/2	1/2
9072 RP US	10	1 5/16	5/8	5/8
9073 RP US	12	1 5/16	11/16	11/16
Wide Mouth:				
9031 RP US	8	1 1/2	1/2	1 1/2

- Unique reversible jaw combines the functions of an adjustable and pipe wrenches
- . Simply reverse the jaw to change the grip
- Teeth are aggressively angled to provide maximum gripping power
- True ERGO™ design, with thermoplastic handle and larger grip width
- · Ideal for plumbers, electricians, and maintenance workers
- . Slim head with tapered jaws combine easy accessibility with extra turning strength

















BAHCO® ERGO™ ADJUSTABLE WRENCHES

Designed According to BAHCO®'s Scientific 11-Step Ergonomic Design Program

Product Code	Length (Inches)	Maximum Jaw Opening (Inches)	Head Thickness (Inches)	Jaw Tip Thickness (Inches)
Chrome Finish	1:			
9070 RC US	6	3/4	7/16	3/16
9071 RC US	8	1 1/16	1/2	1/4
9072 RC US	10	1 3/16	5/8	5/16
9073 RC US	12	1 5/16	11/16	7/16
Black Phospha	ate Finish:			
9070 R US	6	3/4	7/16	3/16
9071 R US	8	1 1/16	1/2	1/4
9072 R US	10	1 3/16	5/8	5/16
9073 R US	12	1 5/16	11/16	7/16

Features

- True ERGO™ design, with thermoplastic handle and larger grip width
- Ideal for plumbers, electricians, and maintenance workers
- Slim head with tapered jaws combine easy accessibility with extra turning strength
- · Precision hardened and anti-corrosion treated
- . Measurement scale on head conveniently shows fastener size

BAHCO® ADJUSTABLE WRENCHES

Industrial Grade Steel Handles

Length Jaw Opening Thickness	Thickness
Product Code (Inches) (Inches) (Inches)	(Inches)
Chrome Finish:	
8069 RC US 4 ½ 3/8	1/8
8070 RC US 6 3/4 7/16	3/16
8071 RC US 8 1 ½	1/4
8072 RC US 10 1 1/8 5/8	5/16
8073 RC US 12 1 5/16 11/16	7/16
8074 RC US 15 1 11/16 13/16	9/16
8075 RC US 18 2 ½16 7/8	11/16
Black Phosphate Finish:	
8069 R US 4 ½ 3/8	1/8
8070 R US 6 ¾ 7/16	3/16
8071 R US 8 1 ½	1/4
8072 R US 10 1 1/8 5/8	5/16
8073 R US 12 1 5/16 11/16	7/16
8074 R US 15 1 11/16 13/16	9/16
8075 R US 18 2 ½16 7/8	11/16
86 24 2 7/16 1 1/16	1 1/16
87 30 3 5/16 1 3/16	1 3/16

80RCUS3

3 Piece Chrome Finish Adjustable Wrench Set, in Pouch

Contents Include:

Product Code	Size	Product Code	Size	Product Code	Size
8070 RC US	6	8071 RC US	8	8072 RC US	10

BORUS3

3 Piece Black Phosphate Finish Adjustable Wrench Set, in Pouch

Contents Include:

Product Code	Size	Product Code	Size	Product Code	Size
8070 R US	6	8071 R US	8	8072 R US	10

- Slim head with tapered jaws combine easy accessibility with extra turning strength
- Measurement scale on head conveniently shows fastener size (except for 24" and 30" wrenches)
- · Precision hardened and anti-corrosion treated



pplifast

ADJUSTABLE CONSTRUCTION WRENCH

Heavy-Duty With Polished Head and Measurement Scales

Product Code	Length	Maximum Jaw	Head Thickness
	(Inches)	Opening (Inches)	(Inches)
JHW13625A	15	1 ½	23/32

Features

- . Tapered spud handle locates and aligns bolts and rivets
- . Hole in handle permits tethering wrench for safety
- Measurement scale on head conveniently shows fastener size
- · Economical black phosphate finish resists rust

SINGLE HEAD OPEN END OFFSET STRUCTURAL WRENCHES

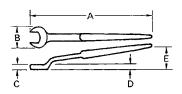


Industrial Black Finish, SAE

		Α	В	С	D
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Handle Offset (Inches)
JHW1904A	3/4	11 %16	1 19/32	15/32	7/8
JHW1905	7/8	14 5/16	2	9/16	1
JHW1906	¹⁵ / ₁₆	14 ¾16	1 31/32	19/32	1
JHW1906B	1	14 ½	2	19/32	1
JHW1907	1 1/16	16 ¹³ / ₁₆	2 5/32	5/8	1 1/8
JHW1907A	1 1/8	16 ¹³ / ₁₆	2 1/4	5/8	1 1/8
JHW1908	1 1/4	17 ¹¹ / ₁₆	2 ²³ / ₃₂	11/16	1 1/4
JHW1908A	1 5/16	18 ¾	2 ¹³ / ₁₆	23/32	1 1/4
JHW1909	1 1/16	19 ¾	3 5/32	²⁵ / ₃₂	1 1/4
JHW1909A	1 1/2	19 ¾	3 5/32	²⁵ / ₃₂	1 1/2
JHW1910	1 %	21 1/16	3 7/32	7/8	1 1/2
JHW1911	1 ¹³ / ₁₆	23	3 ¾	1 3/4	1 %
JHW1911A	1 1/8	22 ¹³ / ₁₆	3 ²⁵ / ₃₂	31/32	1 %
JHW1912	2	23 ¾	4 7/32	31/32	1 %

- · Long offset handle is designed for clearance of obstructions while providing greater leverage
- Tapered spud handle locates and aligns bolt and rivet holes



















Industrial Black Finish, SAE

		Α	В	С
Product Code	Size (Inches)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)
JHW204A	3/4	12	1 ²³ / ₃₂	15/32
JHW205	7/8	14 ¹ / ₄	2 1/16	19/32
JHW206	¹⁵ / ₁₆	14 ¾	2 ½	19/32
JHW206B	1	13 ¹ / ₈	2 3/32	1/2
JHW207	1 1/16	16 %16	2 7/16	21/32
JHW207A	1 1/8	17	2 %16	11/16
JHWQ-208	1 1/4	18 ¹⁵ / ₁₆	2 ²³ / ₃₂	23/32
JHW208A	1 5/16	19	2 ²⁷ / ₃₂	3/4
JHW209	1 7/16	21 ½	3 %	²⁷ / ₃₂
JHW209A	1 1/2	18 ¾	2 ¾	¹³ / ₁₆
JHWQ-210	1 %	22 ¹¹ / ₁₆	3 ²¹ / ₃₂	7/8
JHW211	1 ¹³ / ₁₆	25	4 1/2	1 1/32
JHW211A	1 7/8	25 1/8	4 %16	1 1/16

Features

- 15° open end provides two gripping angles when wrench is turned over
 Tapered spud handle locates and aligns bolt and rivet holes



JHW206B

JHW8907A



OFFSET STRUCTURAL BOX WRENCHES



Industrial Black Finish, SAE

		Α	В	С
	Size	Overall Length	Head Diameter	Offset
Product Code	(Inches)	(Inches)	(Inches)	at End
JHW8905A	13/16	12	1 15/32	1 25/32
JHW8905	7/8	12	1 ¹⁵ / ₃₂	1 ²⁵ / ₃₂
JHW8906	15/16	12	1 5/8	1 61/64
JHW8906B	1	12	1 5/8	1 ⁶¹ / ₆₄
JHW8907	1 1/16	15	1 53/64	2 %4
JHW8907A	1 1/8	15	1 53/64	2 %4
JHW8908	1 1/4	17	2 5/64	2 ²¹ / ₆₄
JHW8908A	1 5/16	17	2 5/64	2 21/64
JHW8909	1 7/16	21	2 %	2 ¾
JHW8909A	1 1/2	21	2 ¾	2 ¾
JHW8910	1 %	22	2 5/8	2 1/8
JHW8910A	1 11/16	22	2 5/8	2 1/8
JHW8911	1 ¹³ / ₁₆	23	2 ²⁹ / ₃₂	3
JHW8911A	1 1/8	23	2 ²⁹ / ₃₂	3
JHW8912	2	24 ½	3 5/32	3 5/32
JHW8913	2 13/16	26	3 15/32	3 1/2
JHW8914	2 %	28	3 ²³ / ₃₂	3 11/16
JHW8915	2 %16	30	3 ²⁹ / ₃₂	3 ¹³ / ₁₆
JHW8916	2 3/4	30	4 5/32	3 ²⁹ / ₃₂

Fed. Spec: GGG-W-636E Type 9 Class 2

- Offset from handle to permit clearance of obstructions
- Handles are tapered for insertion into bolt holes
- Industrial Black Finish







TUBULAR WRENCH HANDLES

Ind	lustria	I KIAA	b bir	nich.
IIIU	iusii ia	ı Diac	N I II	пэп

Product Code	Length (Inches)	Inside Handle Diameter (Inches)
JHW13TH	13 ½	7/8
JHW24TH	24	7/8
JHW36TH	36	1 1/8

Features

- For use with all Williams Tubular Handle Wrenches
- . A detent on the wrench shaft helps to align locking button with handle hole
- Tubular wrenches may be used without the handle to quickly run down nuts







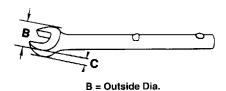
OPEN END TUBULAR HANDLE WRENCHES

Industrial Black Finish, SAE / Metric

			В	С			
Product Code	Size (Inches)	Size (MM)	Outside Head Diameter (Inches)	Head Depth (Inches)	Assembled Length From Bolt Center (Inches) 13TH	Assembled Length From Bolt Center (Inches) 24TH	Fits Handle No.
JHW1228TOE	7/8	-	1 ¹⁵ / ₁₆	1/2	19 ¾	29 1/8	JHW13TH - JHW24TH
JHW1230TOE	¹⁵ / ₁₆	-	1 ¹⁵ ⁄ ₁₆	1/2	19 ¾	29 1/8	JHW13TH - JHW24TH
JHW1232TOE	1	-	2 5/16	9/16	20 5/32	30 ²¹ / ₃₂	JHW13TH - JHW24TH
JHW1234TOE	1 1/16	-	2 5/16	9/16	20 5/32	30 21/32	JHW13TH - JHW24TH
JHW1236TOE	1 1/8	-	2 5/16	9/16	20 5/32	30 21/32	JHW13TH - JHW24TH
JHW1240TOE	1 1/4	32	2 11/16	5/8	21 5/32	31 ²¹ / ₃₂	JHW13TH - JHW24TH
JHW1242TOE	1 5/16	33	2 ¹ / ₁₆	5/8	21 5/32	31 ²¹ / ₃₂	JHW13TH - JHW24TH
JHW1244TOE	1 3/8	35	2 ¹ 1/ ₁₆	5/8	22	32 ½	JHW13TH - JHW24TH
JHW1246TOE	1 7/16	36	3 1/8	11/16	22 ½16	32 %16	JHW13TH - JHW24TH
JHW1248TOE	1 1/2	38	3 1/8	11/16	22 1/16	33 %16	JHW13TH - JHW24TH

- . Unique, versatile design allows wrench to be used with or without optional handles
- . Tubular wrenches may be used without the handle to quickly run down nuts
- The handle can then be attached to provide maximum turning power for final tightening or to reach otherwise inaccessible fasteners
- A detent on the wrench shaft helps to align locking button with handle hole
- . Open end wrench head provides access in tight areas
- Sizes of both SAE and corresponding metric fasteners are shown





C = Head Depth









JHW1234TOB











Industrial Black Finish, 12 Point, SAE / Metric

JHW1236TOB 1 ½ - 1 ½ 23½ 1 ½ 9 ½ 30 ½ JHW13TH - 24TH JHW1240TOB 1 ¼ 32 1 28½ 23½ 1 ¼ 9 ½ 30 ½ JHW13TH - 24TH JHW124TOB 1 ½ 33 2 2½ 1 ½ 11 ½ 32 ½ JHW13TH - 24TH JHW124TOB 1 ¾ 35 2 ½ ½ 1 ½ 32 ½ JHW13TH - 24TH JHW124TOB 1 ¾ 35 2 ½ ½ 1 ½ 32 ½ JHW13TH - 24TH JHW124TOB 1 ½ 36 2 ½ ½ 1 ¼ 11 ½ 32 ½ JHW13TH - 24TH JHW124TOB 1 ½ 38 2 ¼ 1 ½ 1 ½ 32 ½ JHW13TH - 24TH JHW125TOB 1 ½ 38 2 ¼ 1 ½ 1 ½ 32 ½ JHW13TH - 24TH JHW125TOB 1 ½ 40 2 ½ 1 ½ 1 ½ 32 ½ JHW13TH - 24TH JHW125TOB 1 ½ 41 2 ¾ 1 ½ <				Α	C	F			
Product Code Size Size Diameter Depth Offset Glnches Offset Glnches Offset Center Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Center (Inches Ce									
Product Code Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches Clnches				Head	Head				Fits
JHW1234TOB									
JHW1236TOB	Product Code	(Inches)	(MM)	(Inches)	(Inches)	(Inches)	(Inches) 13TH	24TH/36TH	No.
JHW1240TOB	JHW1234TOB	1 1/16	-	1 21/32	5/8	15/16	9 3/32	30 3/32	JHW13TH - JHW24TH
JHW1242TOB 1 \(\frac{5}{16} \) 33 2 \(\frac{27}{52} \) 1 \(\frac{1}{6} \) 11 \(\frac{1}{2} \) 2 \(27\) 32 \(\frac{1}{2} \) JHW13TH - 24TH JHW1244TOB 1 \(\frac{1}{6} \) 35 2 \(\frac{1}{6} \) \(\frac{7}{6} \) 1 \(\frac{1}{6} \) 1 \(\frac{1}{9}\) 2 32 \(\frac{1}{9}\) 2 JHW13TH - 24TH JHW1246TOB 1 \(\frac{1}{7}\) 6 36 2 \(\frac{5}{32} \) 7 \(\frac{1}{6} \) 1 \(\frac{1}{6} \) 1 \(\frac{1}{9}\) 6 2 32 \(\frac{1}{9}\) 2 JHW13TH - 24TH JHW1240TOB 1 \(\frac{1}{7}\) 6 40 2 \(\frac{5}{6} \) 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 11 \(\frac{1}{9}\) 2 32 \(\frac{1}{9}\) 2 JHW13TH - 24TH JHW1250TOB 1 \(\frac{1}{9}\) 6 41 2 \(\frac{9}{6} \) 3 \(\frac{1}{9}\) 2 1 \(\frac{1}{9}\) 6 11 \(\frac{1}{9}\) 2 32 \(\frac{1}{9}\) 2 JHW13TH - 24TH JHW1254TOB 1 \(\frac{1}{9}\) 6 41 2 \(\frac{9}{6} \) 3 \(\frac{1}{9}\) 2 1 \(\frac{1}{9}\) 6 11 \(\frac{1}{9}\) 6 2 32 \(\frac{2}{3}\) 2 JHW36TH JHW1256TOB 1 \(\frac{1}{9}\) 6 46 2 \(\frac{2}{9}\) 2 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 43 \(\frac{3}{9}\) 2 JHW36TH JHW1266TOB 1 \(\frac{1}{9}\) 6 46 2 \(\frac{2}{9}\) 2 2 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 43 \(\frac{1}{9}\) 2 JHW36TH JHW1266TOB 2 \(\frac{1}{9}\) 6 52 2 \(\frac{3}{9}\) 32 \(\frac{1}{9}\) 2 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 \(\frac{1}{9}\) 6 1 1 \(\frac{1}{9}\) 6 1 1 \(\frac{1}{9}\) 6 1 1 \(\frac{1}{9}\) 6 1 1 \(\frac{1}\) 6 1 1 \(\frac{1}{9}\) 6 1 1 \(\frac{1}{9}\) 6 1 1 \(JHW1236TOB	1 1/8	-	1 1/8	23/32	1 1/16	9 7/32	30 7/32	JHW13TH - 24TH
JHW1244TOB 1 \(\frac{3}{16} \) 35 \(2 \) 16 \(\frac{7}{6} \) 1 \(\frac{3}{16} \) 1 \(\frac{19}{22} \) 32 \(\frac{19}{32} \) JHW13TH - 24TH \\ JHW1246TOB 1 \(\frac{7}{16} \) 36 \(2 \frac{5}{32} \) \(\frac{7}{6} \) 1 \(\frac{1}{3} \) 1 \(\frac{1}{3} \) 1 \(\frac{1}{9} \) 2 \(\frac{32}{92} \) 32 \(\frac{9}{32} \) JHW13TH - 24TH \\ JHW1248TOB 1 \(\frac{1}{9} \) 6 \(0 \) 2 \(\frac{5}{16} \) 1 \(\frac{1}{9} \) 6 \(1 \) 1 \(\frac{9}{32} \) 32 \(\frac{9}{32} \) JHW13TH - 24TH \\ JHW1250TOB 1 \(\frac{9}{16} \) 40 \(2 \frac{5}{16} \) 1 \(\frac{1}{9} \) 6 \(1 \frac{5}{16} \) 1 \(\frac{1}{9} \) 6 \(1 \frac{1}{9} \) 2 \(1 \frac{1}{9} \) 6 \(1 \frac{1}{9} \) 2 \(1 \frac{1}{9} \) 6 \(1 \frac{1}{9} \) 6 \(1 \frac{1}{9} \) 6 \(1 \frac{1}{9} \) 32 \(\frac{29}{32} \) JHW13TH - 24TH \\ JHW1254TOB 1 \(\frac{1}{9} \) 6 \(43 \) 2 \(\frac{9}{22} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{12} \) 4 \(3 \frac{9}{32} \) JHW36TH \\ JHW1256TOB 1 \(\frac{1}{3} \) 4 \(44 \) 2 \(\frac{5}{6} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{12} \) 4 \(3 \frac{9}{32} \) JHW36TH \\ JHW1260TOB 1 \(\frac{1}{9} \) 6 \(46 \) 2 \(\frac{2^3}{32} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 43 \(\frac{1}{32} \) JHW36TH \\ JHW1260TOB 1 \(\frac{1}{6} \) 5 \(5 \) 2 \(\frac{3}{16} \) 2 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 4 \(3 \frac{1}{32} \) JHW36TH \\ JHW1260TOB 2 \(\frac{1}{16} \) 5 \(5 \) 2 \(\frac{3}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 4 \(3 \frac{1}{16} \) JHW36TH \\ JHW1270TOB 2 \(\frac{1}{16} \) 5 \(5 \) 3 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 4 \(3 \frac{1}{16} \) JHW36TH \\ JHW128TOB 2 \(\frac{1}{16} \) 6 \(6 \) 3 \(\frac{3}{12} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 4 \(3 \frac{1}{16} \) JHW36TH \\ JHW128TOB 2 \(\frac{1}{16} \) 6 \(6 \) 3 \(\frac{3}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}{16} \) 1 \(\frac{1}	JHW1240TOB	1 1/4	32	1 ²⁹ / ₃₂	23/32	1 1/16	9 7/32	30 7/32	JHW13TH - 24TH
JHW1246TOB	JHW1242TOB	1 5/16	33	2	27/32	1 1/8	11 ½	32 ½	JHW13TH - 24TH
JHW1248TOB	JHW1244TOB	1 3/8	35	2 1/16	7/8	1 ³ /16	11 ¹⁹ / ₃₂	32 19/32	JHW13TH - 24TH
JHW1250TOB 1 %16 40 2 %16 1 %16 1 5/16 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	JHW1246TOB	1 7/16	36	2 5/32	7/8	1 1/4	11 ¹⁹ / ₃₂	32 ¹⁹ / ₃₂	JHW13TH - 24TH
JHW1252TOB 1 \(\frac{5}{6} \) 41 2 \(\frac{3}{6} \) 3\(\frac{1}{6} \) 1 \(\frac{3}{6} \) 3\(\frac{1}{6} \) 1 \(\frac{1}{6} \) 32 \(\frac{23}{32} \) JHW13TH - 24TH JHW1254TOB 1 \(\frac{1}{1} \) 43 2 \(\frac{19}{6} \) 1 \(\frac{1}{16} \) 1 \(\frac{7}{16} \) 43 \(\frac{9}{32} \) JHW36TH JHW1258TOB 1 \(\frac{13}{6} \) 46 2 \(\frac{22}{32} \) 1 \(\frac{1}{6} \) 1 \(\frac{9}{6} \) 43 \(\frac{13}{32} \) JHW36TH JHW1260TOB 1 \(\frac{7}{6} \) 47 2 \(\frac{3}{4} \) 1 \(\frac{9}{6} \) 43 \(\frac{9}{32} \) JHW36TH JHW1266TOB 2 \(\frac{5}{16} \) 52 2 \(\frac{3}{16} \) 1 \(\frac{1}{4} \) 1 \(\frac{3}{4} \) 43 \(\frac{9}{32} \) JHW36TH JHW1266TOB 2 \(\frac{1}{16} \) 52 2 \(\frac{3}{16} \) 1 \(\frac{1}{4} \) 1 \(\frac{3}{4} \) 43 \(\frac{9}{32} \) JHW36TH JHW1266TOB 2 \(\frac{1}{16} \) 52 2 \(\frac{3}{342} \) 1 \(\frac{1}{4} \) 1 \(\frac{3}{4} \) 43 \(\frac{9}{32} \) JHW36TH JHW1266TOB <td>JHW1248TOB</td> <td>1 1/2</td> <td>38</td> <td>2 1/4</td> <td>15/16</td> <td>1 5/16</td> <td></td> <td>32 19/32</td> <td>JHW13TH - 24TH</td>	JHW1248TOB	1 1/2	38	2 1/4	15/16	1 5/16		32 19/32	JHW13TH - 24TH
JHW1254TOB 1 ½6 43 2 ½2 1 ½6 1 ¾6 43 ½2 JHW36TH JHW1256TOB 1 ¾4 44 2 ½6 1 ½6 1 ½2 43 ½2 JHW36TH JHW1258TOB 1 ¼6 46 2 ¾22 1 ½6 1 ¾6 43 ¾2 JHW36TH JHW1260TOB 1 ½6 47 2 ¾ 1 ½ 1 ¾6 43 ¾2 JHW36TH JHW1264TOB 2 51 2 ¾42 1 ¼ 1 ¾ 43 ½ JHW36TH JHW1264TOB 2 16 52 2 ½2 1 ¼ 1 ¾ 43 ½ JHW36TH JHW1270TOB 2 ½6 55 3 ¾6 1 ½6 1 ¾ 43 ½ JHW36TH JHW1272TOB 2 ½6 57 3 ¼ 1 ½6 43 ½2 JHW36TH JHW1276TOB 2 ½6 60 3 ½2 1 ½2 2 43 ½2 JHW36TH JHW128TOB 2 ½6 67 3 ½2 1 ½2 ½ 43 ½ JHW36TH JHW1828TOB	JHW1250TOB	1 %16	40	2 5/16	15/16		11 ¹⁹ / ₃₂		JHW13TH - 24TH
JHW1256TOB 1 ¾ 44 2 ½ 1 ½ 1 ½ 43 ½ JHW36TH JHW1258TOB 1 ¼6 46 2 ²¾ 1 ½ 1 ½6 43 ¹¾ JHW36TH JHW1260TOB 1 ½ 47 2 ¼ 1 ½ 1 ½ 43 ¹¾ JHW36TH JHW1264TOB 2 51 2 ³¼ 1 ¼ 1 ¾ 43 ½ JHW36TH JHW1266TOB 2 ½6 52 2 ³½ 1 ¼ 1 ¾ 43 ½ JHW36TH JHW1270TOB 2 ¾6 55 3 ¾6 1 ¾6 1 ¾ 43 ¹½ JHW36TH JHW1272TOB 2 ¼ 57 3 ¼ 1 ½6 1 ¾ 43 ¹½ JHW36TH JHW1276TOB 2 ½6 60 3 ¹½ 1 ³½ 2 43 ¹½ JHW36TH JHW128TOB 2 ¾6 67 3 ¹¼ 1 ½2 2 43 ¹¼6 JHW36TH JHW128TOB 2 ¾6 67 3 ¹¼6 1 ½2 ½4 43 ³½ JHW36TH JHW128BTOB	JHW1252TOB	1 %	41	2 ¾	31/32	1 3/8	11 ²³ / ₃₂	32 ²³ / ₃₂	JHW13TH - 24TH
JHW1258TOB 1 13/16 46 2 23/52 1 1/8 1 9/16 43 13/52 JHW36TH JHW1260TOB 1 1/8 47 2 3/4 1 1/8 1 5/6 43 13/52 JHW36TH JHW1264TOB 2 51 2 31/52 1 1/4 1 3/4 43 1/2 JHW36TH JHW1266TOB 2 1/16 52 2 31/52 1 1/4 1 3/4 43 1/2 JHW36TH JHW1270TOB 2 1/16 55 3 3/6 1 5/16 1 7/6 43 19/2 JHW36TH JHW1272TOB 2 1/4 57 3 1/4 1 5/16 1 7/6 43 19/32 JHW36TH JHW1287TOB 2 3/8 60 3 13/52 1 13/52 2 43 11/16 JHW36TH JHW1287TOB 2 9/6 65 3 24/52 1 1/2 2 1/4 43 19/6 JHW36TH JHW1284TOB 2 5/6 67 3 11/16 1 1/2 2 1/4 43 19/42 JHW36TH JHW1294TOB 2 3/4 70 3 15/16 1 1/2 2 1/4 4	JHW1254TOB		43						JHW36TH
JHW1260TOB 1 7/6 47 2 3/4 1 1/8 1 5/6 43 13/32 JHW36TH JHW1264TOB 2 51 2 31/32 1 1/4 1 3/4 43 1/2 JHW36TH JHW1266TOB 2 1/6 52 2 31/32 1 1/4 1 3/4 43 1/2 JHW36TH JHW1270TOB 2 3/6 55 3 3/6 1 5/16 1 7/6 43 1/92 JHW36TH JHW1272TOB 2 1/4 57 3 1/4 1 5/16 1 7/6 43 1/92 JHW36TH JHW1287TOB 2 3/6 60 3 13/32 1 1/3/2 2 43 11/16 JHW36TH JHW1284TOB 2 5/6 67 3 11/16 1 1/2 2 1/4 43 1/36 JHW36TH JHW1284TOB 2 3/4 70 3 15/16 1 1/92 2 1/2 44 JHW36TH JHW1294TOB 2 1/16 75 4 5/32 1 11/16 2 5/6 44 3/32 JHW36TH	JHW1256TOB		44	2 ⁵ / ₈	1 1/16	1 1/2		43 %2	JHW36TH
JHW1264TOB 2 51 2 ³1/32 1 ¹/4 1 ¾ 43 ½ JHW36TH JHW1266TOB 2 ¹/16 52 2 ³1/32 1 ¹/4 1 ³/4 43 ½ JHW36TH JHW1270TOB 2 ³/16 55 3 ³/6 1 ⁵/16 1 ³/6 43 ¹9/32 JHW36TH JHW1272TOB 2 ½ 57 3 ¼ 1 ⁵/16 1 ½ 43 ¹9/32 JHW36TH JHW1276TOB 2 ³/6 60 3 ¹3/32 1 ¹3/32 2 43 ¹1/16 JHW36TH JHW1282TOB 2 ³/16 65 3 ²1/32 1 ¹/2 2 ¼ 43 ³/36 JHW36TH JHW1284TOB 2 ³/8 67 3 ¹1/16 1 ½ 2 ¼ 44 ³/32 JHW36TH JHW1288TOB 2 ¾ 70 3 ¹5/16 1 ¹9/32 2 ½ 44 JHW36TH JHW1288TOB 2 ½ 70 3 ¹5/16 1 ¹9/32 2 ½ 44 JHW36TH JHW36TH 3 ¹5/16 1 ¹9/32 2 ½ 44 JHW36TH	JHW1258TOB	1 13/16		2 ²³ / ₃₂	1 1/8			43 ¹³ / ₃₂	JHW36TH
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$									
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	JHW1264TOB	2	51					43 1/2	JHW36TH
JHW1272TOB 2 ½ 57 3 ½ 1 ½ 1 ½ 43 ½ JHW36TH JHW1276TOB 2 ½ 60 3 ½ 1 ½ 2 43 ½ 1½ JHW36TH JHW1282TOB 2 ½ 65 3 ½ 1 ½ 2 ¼ 43 ¾ JHW36TH JHW1284TOB 2 ½ 67 3 ¼ 1 ½ 2 ¼ 44 ½ JHW36TH JHW1288TOB 2 ¾ 70 3 ½ 1 ½ 2 ½ 4 4 JHW36TH JHW1294TOB 2 ½ 75 4 ½ 1 ½ 2 ½ 44 JHW36TH	JHW1266TOB								JHW36TH
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	JHW1270TOB							43 ¹⁹ / ₃₂	JHW36TH
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	JHW1272TOB		57			1 1/8			JHW36TH
JHW1284TOB 2 % 67 3 ½ 1 ½ 2 ¼ 44 ½ JHW36TH JHW1288TOB 2 ¾ 70 3 ½ 1 ½ 2 ½ 44 JHW36TH JHW1294TOB 2 ½ 75 4 ½ 1 ½ 2 ½ 44 ¾ JHW36TH	JHW1276TOB		60						JHW36TH
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$								43 ¹³ / ₁₆	
JHW1294TOB 2 15/16 75 4 5/32 1 11/16 2 5/8 44 3/32 JHW36TH									
	JHW1288TOB		70						JHW36TH
JHW12100TOB 3 1/8 79 4 3/8 1 11/16 2 3/4 44 19/32 JHW36TH									
	JHW12100TOB	3 1/8	79	4 ¾	1 11/16	2 ¾		44 ¹⁹ / ₃₂	JHW36TH

Features

- Unique, versatile design allows wrench to be used with or without optional handles
- Tubular Wrenches may be used without the handle to guickly run down nuts
- . The handle can then be attached to provide maximum turning power for final tightening or to reach otherwise inaccessible fasteners
- · A detent on the wrench shaft helps to align locking button with handle hole
- · Offset box wrench head provides turning clearance
- Sizes of both SAE and corresponding metric fasteners are shown

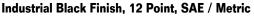


STRAIGHT BOX END TUBULAR HANDLE WRENCHES









			Α	С			
Product Code	Size (Inches)	Size (MM)	Outside Head Diameter (Inches)	Head Depth (Inches)	Assembled Length From Bolt Center (Inches) 13TH	Assembled Length From Bolt Center (Inches) 24TH/36TH	Fits Handle No.
JHW1224TSB	3/4	· ·	1 1/4	17/32	19 1/32	29 17/32	JHW13TH - JHW24TH
JHW1226TSB	13/16		1 1/4	17/32	19 1/32	29 17/32	JHW13TH - JHW24TH
JHW1228TSB	7/8		1 13/32	19/32	19 1/32	29 ¹⁷ / ₃₂	JHW13TH - JHW24TH
JHW1230TSB	¹⁵ / ₁₆		1 13/32	19/32	19 1/32	29 17/32	JHW13TH - JHW24TH
JHW1232TSB	1		1 %16	21/32	19 3/32	29 19/32	JHW13TH - JHW24TH
JHW1234TSB	1 1/16		1 %16	21/32	19 3/32	29 19/32	JHW13TH - JHW24TH
JHW1236TSB	1 1/8		1 5/16	11/16	19 3/32	29 19/32	JHW13TH - JHW24TH
JHW1240TSB	1 1/4	32	1 ²⁹ /32	27/32	21 ¹³ / ₃₂	31 ²⁹ / ₃₂	JHW13TH - JHW24TH
JHW1242TSB	1 5/16	33	1 ²⁹ /32	27/32	21 ¹³ / ₃₂	31 ²⁹ / ₃₂	JHW13TH - JHW24TH
JHW1246TSB	1 7/16	36	2 5/32	7/8	21 ¹³ / ₃₂	31 ²⁹ / ₃₂	JHW13TH - JHW24TH
JHW1248TSB	1 1/2	38	2 5/32	7/8	21 ¹³ / ₃₂	31 ²⁹ / ₃₂	JHW13TH - JHW24TH
JHW1252TSB	1 %	41	2 5/16	¹⁵ / ₁₆	22 7/32	32 ²³ / ₃₂	JHW13TH - JHW24TH
JHW12100TSB	3 1/8	79	4 %2	1 3/4		42 5/32	JHW36TH

Features

A = Outside Dia. C = Head Depth F = Height of Offset

JHW1224TSB

- Unique, versatile design allows wrench to be used with or without optional handles
- . Tubular wrenches may be used without the handle to quickly run down nuts
- The handle can then be attached to provide maximum turning power for final tightening or to reach otherwise inaccessible fasteners
- · A detent on the wrench shaft helps to align locking button with handle hole
- · Straight box wrench head provides access when clearance is limited
- Sizes of both SAE and corresponding metric fasteners are shown







pplifast

STRAIGHT PATTERN BOX END STRIKING WRENCHES







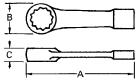
Industrial Black Finish, 12 Point, SAE / Metric

		Α	В	С
		Overall	Box End	Box End
Size	Size	Length	Diameter	Thickness
(Inches)	(MM)	(Inches)	(Inches)	(Inches)
1 3/16	30	7 %6	2 3/32	7/8
				7/8
1 5/16	33	7 %16	2 3/32	7/8
1 %	35	7 21/32	2 %2	31/32
1 7/16		7 21/32	2 %2	31/32
•	36	7 21/32	2 %2	31/32
1 1/2	38	7 21/32	2 %2	31/32
1 %	41	7 27/32	2 21/32	1 5/32
1 11/16	43	7 ¹³ / ₁₆	2 21/32	1 5/32
1 3/4	44	7 ¹⁵ / ₁₆	2 ¹³ / ₁₆	1 1/4
1 ¹³ / ₁₆	46	7 ¹⁵ / ₁₆	2 ¹³ / ₁₆	1 1/4
1 1/8	-	7 15/16	2 ¹³ / ₁₆	1 1/4
-	50	11 19/32	3 ¾6	1 13/32
2	51	11 ¹⁹ / ₃₂	3 ¾6	1 ¹³ / ₃₂
	52	11 19/32	3 3/16	1 ¹³ / ₃₂
	55	11 ¾		1 ¹⁷ / ₃₂
				1 ¹⁷ / ₃₂
2 %	60	11 %	3 ¾	1 11/16
	62			1 11/16
	64	11 ¾	3 ¾	1 ¹¹ / ₁₆
2 %16	65	13	4	1 ¹³ / ₁₆
2 %	67	13	4	1 ¹³ / ₁₆
2 3/4	70	14 1/32	4 %2	1 ¹⁵ / ₁₆
				1 ¹⁵ / ₁₆
	75			2 1/16
	76			2 1/16
	80			2 1/32
	85			2 1/32
3 ½	89	17 ¹³ / ₁₆	5 ½6	2 ¹⁵ / ₃₂
3 3/4	95	17 29/32	5 ¹⁷ / ₃₂	2 ²¹ / ₃₂
3 %	98	17 ²⁹ / ₃₂	5 ¹⁷ / ₃₂	2 21/32
4 1/8	105	18 5/32	6 1/32	2 ¹⁵ / ₁₆
4 1/4	108	18 5/32	6 1/32	2 ¹⁵ / ₁₆
4 1/2	114	20 1/32	6 ²⁵ / ₃₂	3 ¾16
4 %	117	20 1/32	6 ²⁵ / ₃₂	3 3/16
	(Inches) 1 3/16 1 1/4 1 5/16 1 3/6 1 7/16 1 3/6 1 1/16 1 3/4 1 13/16 1 3/4 1 13/16 1 7/6 2 2 1/16 2 3/16 2 1/4 2 3/8 2 1/16 2 1/4 2 3/8 2 1/16 2 1/2 2 9/16 2 1/2 2 9/16 2 1/3/16 3 3 3/8 3 3/8 3 3/8 3 1/2 3 3/4 4 1/4 4 1/2	Clinches CMMD 1 % 16	Size (Inches) Size (MM) Overall Length (Inches) 1 ½16 30 7 ½6 1 ½16 33 7 ½6 1 ½16 33 7 ½2 1 ½16 33 7 ½2 1 ½2 - 7 ½2 - 36 7 ½2 - 36 7 ½2 1 ½2 38 7 ½2 1 ½2 38 7 ½2 1 ½3 41 7 ½2 1 ½3 44 7 ½6 1 ¾3 44 7 ½6 1 ¾3 7 ½6 7 ½6 1 ¾4 44 7 ½6 1 ¾4 44 7 ½6 1 ½6 1 ½6 7 ½6 1 ½6 1 ½6 7 ½6 2 ½6 50 11 ½2 2 ½6 52 11 ½2 2 ½6 55 11 ¾ 2 ½6 60 11 ½6 2 ½7 60 11 ½6 2 ½6 61 11 ½6	Size (Inches) Size (MM) Overall Length (Inches) Box End Diameter (Inches) 1 ½16 30 7 ½16 2 ½2 1 ½16 33 7 ½16 2 ½2 1 ½16 33 7 ½16 2 ½2 1 ½16 35 7 ½2 2 ½2 1 ½2 2 ½2 2 ½2 2 ½2 - 36 7 ½2 2 ½2 2 ½2 - 36 7 ½2 2 ½2 2 ½2 1 ½2 38 7 ½2 2 ½2 2 ½2 1 ½2 38 7 ½2 2 ½2 2 1 ½4 41 7 ½2 2 ½2 2 1 ¼4 44 7 ½6 2 ¼6 1 ¼6 1 ¾4 44 7 ½6 2 ¼6 2 ¼6 1 ¼6 46 7 ½6 2 ¼6 2 ¼6 1 ½6 46 7 ½6 2 ¼6 2 ¼6 2 ½6 52 11 ½2 3 ¾6 2 ¼6 2 ½6 52 11 ½2 3 ¾6

- . Striking face wrenches are designed to be struck by a hammer on the anvil area in order to loosen frozen fasteners or to set and tighten fasteners
- Anvils are proportional to opening sizes
- Special heat treating provides maximum durability for long life
- Straight handle design resists springing while allowing the fastener to turn more easily
- Williams' expanded line of offset striking face wrenches, up to 4 1/8", provides the most extensive line on the market
- . Specifically engineered to hold up under the most rigorous industrial use

















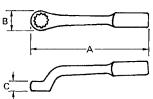


			Α	В	С
			Overall	Box End	Box End
			Length	Diameter	Thickness
Product Code	Size (Inches)	Size (MM)	(Inches)	(Inches)	(Inches)
JHW8807W	1 1/16	27	9 31/32	1 21/32	23/32
JHW8807AW	1 1/8		10 31/32	1 15/16	3/4
JHW8808BW	1 3/16	30	10 31/32	1 15/16	3/4
JHW8808W	1 1/4	32	10 31/32	1 15/16	3/4
JHW8808AW	1 5/16	33	10 31/32	1 15/16	3/4
JHW8808CW	1 %	35	11 ½	2 5/32	29/32
JHW8809W	1 7/16	•	11 1/2	2 5/32	29/32
JHW8809BW	-	36	11 ½	2 5/32	29/32
JHW8809AW	1 1/2	38	12	2 7/16	1
JHW8810W	1 %	41	12	2 7/16	1
JHW8810AW	1 11/16	43	12 ⁹ / ₁₆	2 11/16	1 1/8
JHW8811BW	1 3/4	44	12 %16	2 11/16	1 1/8
JHW8811W	1 13/16	46	12 %16	2 11/16	1 1/8
JHW8811AW	1 1/8		13	2 1/8	1 1/4
JHW8812AW	1 15/16	49	13	2 ⁷ /8	1 1/4
JHW8812BW	•	50	13	2 ⁷ /8	1 1/4
JHW8812W	2	51	13	2 ⁷ /8	1 1/4
JHW8813BW	2 1/8	54	13 %16	3 1/4	1 13/32
JHW8813W	2 3/16	55	13 %16	3 1/4	1 13/32
JHW8813AW	2 1/4	57	13 %	3 1/4	1 13/32
JHW8814AW	2 5/16	59	13 %	3 1/4	1 13/32
JHW8814W	2 %	60	14 1/8	3 11/16	1 1/2
JHW8815BW	2 1/2	64	14 1/8	3 11/16	1 1/2
JHW8815W	2 %16	65	14 1/8	3 11/16	1 1/2
JHW8815AW	2 %	67	15	3 15/16	1 %
JHW8816W	2 3/4	70	15	3 ¹⁵ / ₁₆	1 1/8
JHW8816CW	2 1/8	73	16	4 7/16	1 3/4
JHW8816BW	2 ¹⁵ / ₁₆	75	16	4 7/16	1 3/4
JHW8817AW	3	76	16	4 7/16	1 3/4
JHW8817W	3 1/8	80	16	4 7/16	1 3/4
JHW8818AW	3 %	85	18 %2	6	2
JHW8818W	3 ½	89	18 %2	6	2
JHW8819BW	3 3/4	95	18 %2	6	2
JHW8819W	3 %	98	18 %2	6	2
JHW8819CW	4 1/8	105	18 %2	6	2
JHW8819AW	4 1/4	108	18 %2	6	2

- Striking face wrenches are designed to be struck by a hammer on the anvil area in order to loosen frozen fasteners or to set and tighten fasteners
- Anvils are proportional to opening sizes
- Special heat treating provides maximum durability for long life
- Offset handle is close to head to provide clearance in confined areas
- Williams' expanded line of offset striking face wrenches, up to 4 1/4", provides the most extensive line on the market
- Specifically engineered to hold up under the most rigorous industrial use









pplifast

SLUGGING WRENCH RETAINERS

	Stud Size	Length		
Product Code	(Inches)	(Inches)	C (Inches)	D (Inches)
SWR-24	3/8	1 29/32	1 ¹⁵ / ₁₆	1 3/4
SWR-28	7/8	2	2 ¹³ / ₁₆	1 ²⁹ / ₃₂
SWR-32	1	2 1/8	2 ½	2 ½32
SWR-36	1 1/8	2 1/4	2 ½	2 5/32
SWR-40	1 1/4	2 ³ / ₈	2 ⁷ /8	2 1/32
SWR-44	1 ¾	2 15/32	3 1/8	2 %
SWR-48	1 1/2	2 %	3 1/8	2 1/2
SWR-52	1 ⁵ /8	2 ¾	3 %	2 ²¹ / ₃₂
SWR-56	1 ¾	2 1/8	3 ¾	2 3/4
SWR-60	1 ⁷ /8	3	4 1/2	2 7/8

SWR-SET 10 Piece Slugging Wrench Retainers Set **Contents Include:**

Product Code	Stud Size (Inches)	Product Code	Stud Size (Inches)
SWR-24	3/8	SWR-44	1 %
SWR-28	7/8	SWR-48	1 1/2
SWR-32	1	SWR-52	1 %
SWR-36	1 1/8	SWR-56	1 3/4
SWR-40	1 1/4	SWR-60	1 1/8

Features

- Slugging Wrench Retainers thread onto the end of the stud over the slugging wrench to ensure the wrench stays affixed to the
- A spring loaded plate allows for easy adjustment of the wrench without having to unscrew the retainer.
- · Increased productivity and safer operation by eliminating the need for a second worker to hold and slugging wrench in place
- Available in 10 sizes, marked with stud sizes (not hex sizes)
- Configured to work with offset and straight handle slugging



HAMMER WRENCHES





6 Point

	Wrench Opening	Head Dia.	Head Thickness	Overall Length
Product Code	(Nut Size)	(Inches)	(Inches)	(Inches)
JHWHW-6034	1 1/16	1 25/32	5/8	9 %
JHWHW-6040	1 1/4	2	23/32	10 1/4
JHWHW-6046	1 7/16	2 17/64	7/8	10 %16
JHWHW-6052	1 %	2 ³¹ / ₆₄	61/64	11
JHWHW-6058	1 ¹³ / ₁₆	2 ²¹ / ₃₂	63/64	11 ⁵ /16
JHWHW-6064	2	3 1/32	1 7/32	11 ¹¹ / ₁₆
JHWHW-6070	2 3/16	3 1/32	1 1/4	12
JHWHW-6076	2 ¾	3 ¹³ / ₃₂	1 1/16	12 ¾
JHWHW-6082	2 %16	3 3/4	1 ¹⁷ / ₃₂	12 ¹¹ / ₁₆
JHWHW-6088	2 ¾	4 11/64	1 17/32	13 ½16
JHWHW-6094	2 ¹⁵ / ₁₆	4 ²³ / ₆₄	1 ¹⁷ / ₃₂	13 ⁷ /16
JHWHW-6100	3 1/8	4 ³¹ / ₆₄	1 %	13 ¹³ / ₁₆
JHWHW-6112	3 1/2	4 31/32	1 23/32	14 1/8
JHWHW-6124	3 1/8	5 ³⁵ / ₆₄	1 23/32	14 1/2

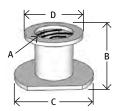
- . Designed for use in the petrochemical industries where clearance, particularly on flanges, and cored fasteners are often
- 6 Point Hex is offset 15 degree, and short handle length allows for use in tight spaces
- Straight Handle transfers maximum torque when struck
- Assortment fits Stud Sizes up to 2 1/2"











SWR-24









JHWWS-476







ADJUSTABLE PIN SPANNER WRENCHES

Industrial Black Finish, SAE

Product Code	Span Diameter (Inches)	Pin Diameter (Inches)	Pin Length (Inches)	Overall Length (Inches)
JHWO-471	3/4 to 2	1/8	1/8	5 %
JHWO-471A	3/4 to 2	3/16	5/32	5 ¾
JHWO-472	1 ¼ to 3	³ / ₁₆	³ /16	6 ⁷ / ₈
JHWO-472A	1 ¼ to 3	1/4	7/32	6 ⁷ / ₈
JHWO-474	2 to 4 ¾	1/4	1/4	9 1/2
JHWO-474A	4 ½ to 6 ¼	3/8	1/4	9 1/8

JHWWS-476

6-Piece Adjustable Pin Spanner Wrench Set, in Pouch

Contents Include:

Product Code	Overall Length (Inches)	Product Code	Overall Length (Inches)
JHWO-471	5 ¾	JHWO-472A	6 1/8
JHWO-471A	5 ¾	JHWO-474	9 1/2
JHWO-472	6 ⁷ / ₈	JHWO-474A	9 %

- · Ideal for adjusting collars, lock nut rings, and bearings
- Specifically engineered to hold up under the most rigorous industrial use



ADJUSTABLE HOOK SPANNER WRENCHES



Industrial Black Finish, SAE

Product Code	Span Diameter (Inches)	Hook Depth (Inches)	Hook Thickness (Inches)	Overall Length (Inches)
JHW471	3/4 to 2	1/8	11/32	5 %
JHW472	1 1/4 to 3	5/32	13/32	7 1/4
JHW474	2 to 4 3/4	3/16	15/32	11 ½
JHW474A	4 ½ to 6 ¼	1/4	15/32	17 ½
JHW474B	6 1/8 to 8 3/4	5/16	15/32	18 1/2

JHWWS-474

4-Piece Adjustable Hook Spanner Wrench Set, in Pouch Contents Include:

Product Code	Overall Length (Inches)	Product Code	Overall Length (Inches)
JHW471	5 ¾	JHW474	11 ½
.IHW472	7 1/4	.IHW474Δ	17 1/6

Features

- · Ideal for adjusting collars, lock nut rings, and bearings
- Specifically engineered to hold up under the most rigorous industrial use



ADJUSTABLE FACE SPANNER WRENCHES



Industrial Black Finish, SAE

Product Code	Span Diameter (Inches)	Pin Diameter (Inches)	Pin Length (Inches)	Overall Length (Inches)
JHW482	2	3/16	1/4	6 1/4
JHW483	3	1/4	1/4	8 1/8
JHW484	4	5/16	1/2	10 %

JHWWS-483

3-Piece Adjustable Face Spanner Wrench Set, in Pouch **Contents Include:**

Product Code	Overall Length (Inches)	Product Code	Overall Length (Inches)
JHW482	6 1/4	JHW484	10 %
JHW483	8 ½		

- · Ideal for adjusting collars, lock nut rings, and bearings
- Specifically engineered to hold up under the most rigorous industrial use





pplifast

T-HANDLE HEX DRIVERS





Cushion Grip Handle, SAE and Metric

Product Code	Size (Inches)	Product Code	Size (MM)
JHWHKT-3/32	3/32	JHWHKT-2MM	2
JHWHKT-7/64	7/64	JHWHKT-2.5MM	2.5
JHWHKT-1/8	1/8	JHWHKT-3MM	3
JHWHKT-9/64	9/64	JHWHKT-4MM	4
JHWHKT-5/32	5/32	JHWHKT-5MM	5
JHWHKT-3/16	³ / ₁₆	JHWHKT-6MM	6
JHWHKT-7/32	7/32	JHWHKT-8MM	8
JHWHKT-1/4	1/4	JHWHKT-10MM	10
JHWHKT-5/16	5/16		
JHWHKT-3/8	3/8		

Features

- Cushion grip provides extra comfort
- One-Piece handle construction for extra strength
- · 6 Inch shaft length

JHWWSHKT-10 10 Piece T-Handle Hex Driver Set, SAE in Pouch

Contents Include:

	Size		Size		Size
Product Code	(Inches)	Product Code	(Inches)	Product Code	(MM)
JHWHKT-3/32	3/32	JHWHKT-5/32	5/32	JHWHKT-1/4	1/4
JHWHKT-7/64	7/64	JHWHKT-3/16	3/16	JHWHKT-5/16	5/16
JHWHKT-1/8	1/8	JHWHKT-7/32	7/32	JHWHKT-3/8	3/8
JHWHKT-9/64	9/64				

JHWMWSHKT-8 8 Piece T-Handle Hex Driver Set, MM in Pouch

Contents Include:

Size (MM)	Product Code	Size (MM)
2	JHWHKT-5MM	5
2.5	JHWHKT-6MM	6
3	JHWHKT-8MM	8
4	JHWHKT-10MM	10
	2 2.5	2 JHWHKT-5MM 2.5 JHWHKT-6MM 3 JHWHKT-8MM

Features

· Set comes in pouch for tool box or can be hung

Universal Hex Key Stand

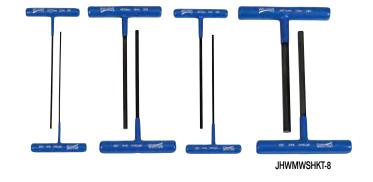
Product Code	Size
JHWHKTSTAND	Width 7 1/2 x Depth 5 1/2 x Height 6

- Universal T-handle stand, fits inch/metric sets
- Number of slots: 22
- Fits up to 3/8" hex
- For Inch, Metric and Torx hex keys
- Can be attached to wall, bench or each other
- T-handle hex drivers are sold separately and are not included with stand
- 6" overall length





















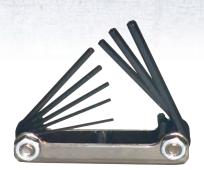


SAE and Metric

Product Code	JHWWS-45		JHWWS-46		JHWMWS-47	
Number of Pieces		8		9	/	
	Hex Size (Inches)	Key Length (Inches)	Hex Size (Inches)	Key Length (Inches)	Includes Hex Size (MM)	Key Length (Inches)
	.050	1 1/4	5/64	1 ½	1.5	1 3/8
	1/16	1 3/8	3/32	1 %16	2	1 1/2
	5/64	1 ⁷ / ₁₆	7/64	1 ¹¹ / ₁₆	2.5	1 1/8
	3/32	1 %16	1/8	1 ¹⁵ /16	3	1 3/4
	7/64	1 %	9/64	2	4	2
	1/8	1 11/16	5/32	2 1/4	5	2 1/4
	9/64	1 ¹³ / ₁₆	3/16	2 1/2	6	2 1/2
	5/32	2	7/32	2 ⁵ / ₈		
			1/4	2 1/8		

- Steel case is chrome plated to resist corrosion
- Keys are black oxide finish
- Convenient item for pocket or tool box









JHWWS-46



JHWMWS-47



pplīfast

BALL END AND STANDARD HEX KEY SETS





SAE and Metric, in Handy Compact Plastic Holder

Product Code	Number of Pieces	Type	Key Style	Key Length	Size Range
JHW10107	7	SAE	Standard	Short	5/64 - 1/4"
JHW10111	11	SAE	Standard	Short	.050 - 1/4"
JHW10113	13	SAE	Standard	Short	.050 - 3/8"
JHW10213	13	SAE	Standard	Long	.050 - 3/8"
JHW10507	7	Metric	Standard	Short	1.5 - 6.0 mm
JHW10509	9	Metric	Standard	Short	1.5 - 10.0 mm
JHW13213	13	SAE	Ball Hex	Long	.050 - 3/8"
JHW13609	9	Metric	Ball Hex	Long	1.5 - 10.0 mm

Features

- Plastic holders organize hex keys securely in place.
- Keys are black oxide finish.
- · Holders are color coded, red for fractional and blue for metric.
- Ball hex key ends are designed with ball on long arm to provide 360° of rotation at up to a 30° angle.







HEX KEY SETS IN POUCH

SAE and Me	tric			
Product Code	JHWWS-44		JHWMWS-27	
Number of Pieces	13		11	
	Hex Size (Inches)	Key Length (Inches)	Hex Size (MM)	Key Length (Inches
	.050	1 ¹¹ / ₁₆	2	2
	1/16	1 13/ ₁₆	2 1/2	2 5/16
	5/64	1 31/32	3	2 7/32
	3/32	2 ¹ /8	4	2 ¹³ / ₁₆
	7/64	2 1/4	5	3 ⁵ / ₁₆
	1/8	2 ³ / ₈	6	3 ²³ / ₃₂
	9/64	2 9/16	8	4 1/16
	5/32	2 19/32	10	4 5/8
	3/16	3	12	5 ⁷ / ₃₂
	7/32	3 3/16	14	5 ¹⁵ / ₁₆
	1/4	3 1/2	17	6 ⁷ /8
	5/16	4		
	3/8	4 17/32		

Features

- · Pouch keeps hex keys organized.
- Keys are black oxide finish.







Industrial	Black	Finish	, SAE	
Product	Size	Length	Width	Pkg.
Code	(Inches)	(Inches)	(Inches)	Qty.
JHWHK-050	.050	1 23/32	1/2	25
JHWHK-1/16	1/16	1 1/8	1/2	25
JHWHK-5/64	5/64	1 31/32	5/8	25
JHWHK-3/32	3/32	1 ¹³ / ₁₆	9/16	25
JHWHK-7/64	7/64	2 1/4	23/32	25
JHWHK-1/8	1/8	2 13/32	3/4	25
JHWHK-%4	9/64	2 %	25/32	25
JHWHK-5/32	5/32	2 21/32	27/32	25
JHWHK-3/16	3/16	2 31/32	1	25
JHWHK-7/32	7/32	3 ⁵ ⁄16	1	25
JHWHK-1/4	1/4	3 %	1 1/8	25
JHWHK-%	3/8	4 23/32	1 ¹³ / ₃₂	5

Features

· Keys are black oxide finish.





Industrial	Black	Finish,	Metri	C
Product	Size	Length	Width	Pkg.
Code	(MM)	(Inches)	(Inches)	Qty.
JHWHK-2mm	2	2	5/8	25
JHWHK-2.5mm	2 1/2	2 1/4	23/32	25
JHWHK-3mm	3	2 %16	¹³ / ₁₆	25
JHWHK-4mm	4	2 ¹³ / ₁₆	31/32	25
JHWHK-5mm	5	3 13/32	1 1/8	25
JHWHK-6mm	6	3 ¾	1 1/8	10
JHWHK-8mm	8	4 5/16	1 1/8	5
JHWHK-10mm	10	4 3/4	1 1/2	5
JHWHK-12mm	12	5 1/4	1 %	5
JHWHK-14mm	14	6	1 1/2	5

Features

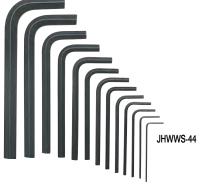
JHWHK-17mm

· Keys are black oxide finish.









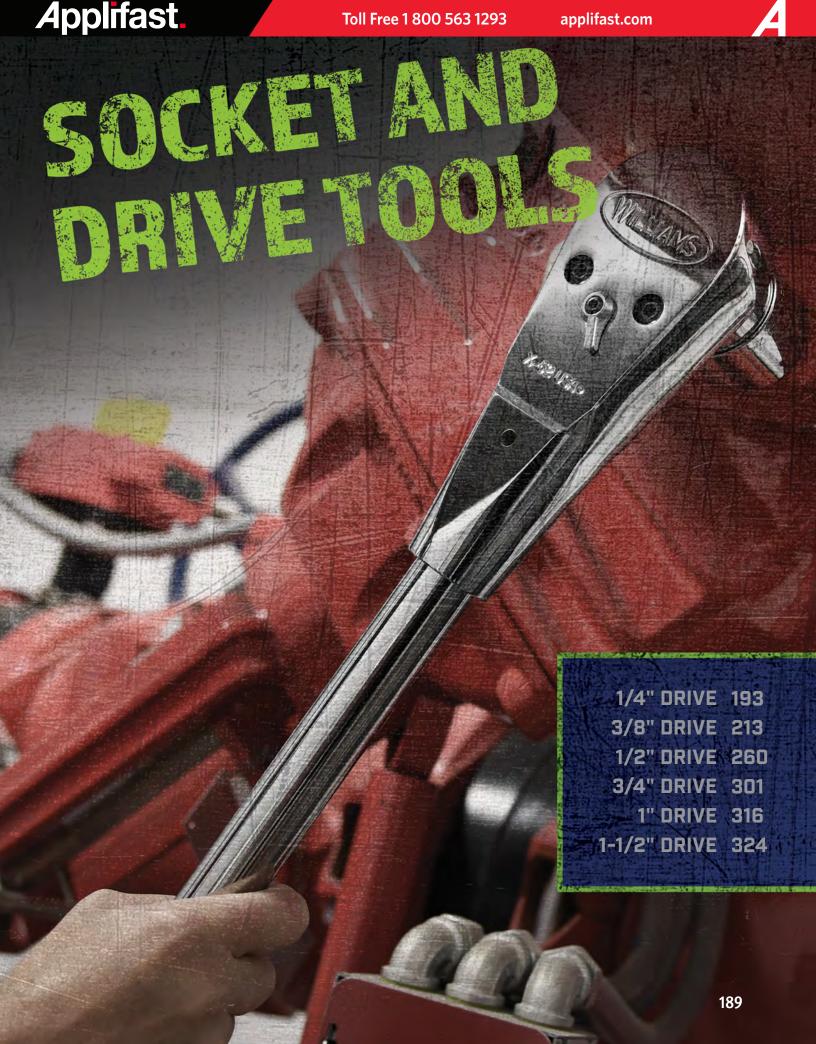












WILLIAMS

RATCHETS AND DRIVE TOOLS

Single pawl ratchet design is designed for tighter tolerances between pawl and gear which reduces metal fatigue and slippage under load and does not require as many working parts, reducing possible breakage and parts to repair

Enclosed head prevents dust, dirt, and liquids from entering head, preserving internal lubrication

36-tooth gear with 10° of engagement allowing easier ratcheting in tight conditions

Easy access reverse lever for changing working direction quickly and easily with only one

hand

Forged, one-piece ratchet -

provides strength and safety for industrial applications

Nickel/Chrome plating provides increased protection from rust and corrosion

Smooth, comfort-grip handle — permits all-day use without gloves

CHROME SOCKETS

SUPERTORQUE™ lobular

openings for greater turning power without deforming the fastener



Chrome finish

feature mirror-like exterior that can be easily cleaned after each use

Extruded or hot broached from alloy steel, precision machined and fully heat treated







EXTENSIONS AND ACCESSORIES

Ball and spring socket retention



HEAVY-DUTY

IMPACT SOCKETS

SUPERTORQUE™ lobular

openings for greater turning power without deforming the fastener



Designed for maximum engagement on 6 point fasteners

Heavy Duty - suitable for use with pneumatic and electric impact wrenches



Up to 30° angle offset

Specially heat treated for impact use to provide long life, safety, and durability

FASTENER MANAGEMENT

SOCKETAND

DRIVETOOLS

FLEXTENSIONS

Socket retention pin is TIG welded, providing full rotation power to the socket

SUPERTORQUE™

lobular openings for greater turning power without deforming the fastener



7/32" cross hole & bevel on drive end has a for ease of use



TURBOSOCKET® SALVAGE SOCKETS

- Quickly and easily remove damaged or rounded nuts and bolts
- For use with ratchet, breaker bar or T-handle
- Grip on fastener tightens as more torque is applied
- No hammering is required to install socket over fastener
- Use on all types of standard nuts and bolts as well as studs, pipe nipples, and corroded auto and marine fasteners
- May be used for "best fit" on metric and fractional fasteners
- May be used with air or electric impact wrench for extra speed and turning power





pplīfast

MULTI DRIVE SOCKET & DRIVE TOOL SETS

Product Code	Description			
JHW50614B	146 Piece ¼", ¾", ½" Drive Socket Set			
	6 Point Rugged Case System Tool Set, SAE & Metric			
	Complete details on page 197, 222, 267			
JHW50612B	138 Piece ¼", ¾8", ½" Drive Socket Set			
	6 Point Rugged Case System Tool Set, SAE & Metric			
	Complete details on page 198, 223, 268			
JHW50611B	95 Piece 1/4" & 3/8" Drive Master Socket, Wrench,			
	and Screwdriver Set			
	6 & 12 Point Rugged Case System Tool Set, SAE			
	Complete details on page 199, 224			
JHW50622B	89 Piece 1/4" & 3/8" Drive Master Socket and Tool Set			
	6 & 12 Point Rugged Case System Tool Set, Metric			
	Complete details on page 200, 255			
JHW50681	32 Piece 1/4" & 3/8" Drive Bit Socket Set			
	6 Point Compact Case Tool Set, SAE & Metric			
	Complete details on page 202			

- Sets include comprehensive assortment of sockets and drive tools in multiple drive sizes
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Rugged case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- Two component handles are easy to grip and comfortable to carry











JHW50611B



JHW50622B



JHW50681











6 & 8 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box **Product Code** Description JHWWSM38HFTB 38 Piece Tool Set with TB-103 Metal Tool Box JHWWSM-38HF 38 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWM-52EHA	5 1/2" Enclosed Head Ratchet	JHWM-106A	Spinner Handle
JHWM-42A	Flex Handle	JHWM-140A	Universal Joint
JHWM-102	2" Extension	JHW30008	Sliding T-Handle
JHWM-104	4" Extension	JHWMFE-6	6" Flexible Extension
ILI\A/N/ 115	6" Extension	1	

JUANIAI-105	2 Extension	JUANOUOO	Silding 1-Handle
JHWM-104	4" Extension	JHWMFE-6	6" Flexible Extension
JHWM-115	6" Extension		
		Deep 6-Point S	ockets
Shallow 6-Point	Sockets	Product Code	Size (Inches)
Product Code	Size (Inches)	JHWMD-606	3/16
JHWM-605	5/32	JHWMD-607	7/32
JHWM-606	3/16	JHWMD-608	1/4
JHWM-607	7/32	JHWMD-609	9/32
JHWM-608	1/4	JHWMD-610	5/16
JHWM-609	9/32	JHWMD-611	11/32
JHWM-610	5/16	JHWMD-612	3/8
JHWM-611	11/32	JHWMD-614	7/16
JHWM-612	3/8	JHWMD-616	1/2
JHWM-614	7/16	JHWMD-618	9/16
JHWM-616	1/2		
JHWM-618	9/16	Screwdriver B	it Sockets
		Product Code	Description
Shallow 8-Point Sockets		JHW35051	#1 Phillips® Tip
Product Code	Size (Inches)	JHW35052	#2 Phillips [®] Tip
JHWM-808	1/4	JHW35040	5/32" Slotted Tip

JHW35041

JHW35042



JHWM-810





Features

- · Keep-Safe-Foam system keeps tools organized and helps
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Metal tool box made for years of rugged use





JHWWSM26HFTB

Features

- · Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Metal tool box made for years of rugged use

26 PIECE 1/4" DRIVE **SOCKET AND DRIVE TOOL SET**

5/16



7/32" Slotted Tip

9/32" Slotted Tip



6 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box **Product Code** Description

JHWWSM26HFTB 26 Piece Tool Set with TB-102 Metal Tool Box JHWWSM-26HF 26 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive lools:		Drive lools:	
Product Code	Description	Product Code	Description
JHWM-52EHA	5 1/2" Enclosed Head Ratchet	JHWM-106A	Spinner Handle
JHWM-102	2" Extension	JHWM-140A	Universal Joint
JHWM-115	6" Extension		
Shallow 6-Poir	nt Sockets	Deep 6-Point So	ckets
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWM-605	5/32	JHWMD-606	3/16
JHWM-606	3/16	JHWMD-607	7/32
JHWM-607	7/32	JHWMD-608	1/4
JHWM-608	1/4	JHWMD-609	9/32
JHWM-609	9/32	JHWMD-610	5/16
JHWM-610	5/16	JHWMD-611	11/32
JHWM-611	11/32	JHWMD-612	3/8
JHWM-612	3/8	JHWMD-614	⁷ / ₁₆
JHWM-614	7/16	JHWMD-616	1/2
JHWM-616	1/2	JHWMD-618	9/16
JHWM-618	9/16		





pplīfast

22 PIECE 1/4" DRIVE **SOCKET AND DRIVE TOOL SET**







6 & 12 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWWSM-22FTB JHWWSM-22F	22 Piece Tool Set with TB-102 Metal Tool Box 22 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools:		Deep 6-Point Soc	kets
Product Code	Description	Product Code	Size (Inches)
JHWM-52EHA	5 1/2" Enclosed Head Ratchet	JHWMD-605	5/32
JHWM-102	2" Extension	JHWMD-606	3/16
JHWM-106A	Spinner Handle	JHWMD-608	1/4
JHWM-140A	Universal Joint		
Shallow 6-Poir	nt Sockets	Deep 12-Point So	ockets
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWM-605	5/32	JHWMD-1210	5/16
JHWM-606	3/16	JHWMD-1211	11/32
JHWM-608	1/4	JHWMD-1212	3/8
		JHWMD-1214	7/16
Shallow 12-Point Sockets		JHWMD-1216	1/2
Product Code	Size (Inches)	JHWMD-1218	9/16
JHWM-1210	5/16		
JHWM-1211	11/32		
JHWM-1212	3/8		
JHWM-1214	7/16		
JHWM-1216	1/2		
JHWM-1218	9/16		



- Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use



19 PIECE 1/4" DRIVE **SOCKET AND DRIVE TOOL SET**







6 & 8 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWWSM19HFTB	19 Piece Tool Set with TB-101 Metal Tool Box
JHWWSM-19HF	19 Piece Tool Set Only - Packed in Keep Safe Foam System
Contents Include:	

Drive Tools:		Shallow 6-Point	Sockets
Product Code	Description	Product Code	Size (Inches)
JHWM-52EHA	5 1/2" Enclosed Head Ratchet	JHWM-606	3/16
JHWM-102	2" Extension	JHWM-607	7/32
JHWM-115	6" Extension	JHWM-608	1/4
JHWM-106A	Spinner Handle	JHWM-609	9/32
JHWM-140A	Universal Joint	JHWM-610	5/16
JHWM-42A	Flex Handle	JHWM-611	11/32
		JHWM-612	3/8
Shallow 8-Point Sockets		JHWM-614	7/16
Product Code	Size (Inches)	JHWM-616	1/2
JHWM-808	1/4	JHWM-618	9/16
JHWM-810	5/16		
JHWM-812	3/8		

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use











JHWWSM-22FTB





15 PIECE 1/4" DRIVE SOCKET AND DRIVE TOOL SET

6 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWWSM15HFTB JHWWSM-15HF	15 Piece Tool Set with TB-101 Metal Tool Box 15 Piece Tool Set Only - Packed in Keep Safe Foam System
***************************************	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s

Contents Include:

Drive	Tools:
Dilec	i oois.

Product Code	Description	Product Code	Description
JHWM-52EHA JHWM-102 JHWM-115	5 1/2" Enclosed Head Ratchet 2" Extension 6" Extension	JHWM-106A JHWM-140A	Spinner Handle Universal Joint
Shallow 6-Poir	t Sockets	Shallow 6-Point	Sockets
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWM-606	3/16	JHWM-611	11/32
JHWM-607	7/32	JHWM-612	3/8
JHWM-608	1/4	JHWM-614	7/16
JHWM-609	9/32	JHWM-616	1/2
JHWM-610	5/16	JHWM-618	9/16

Features

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Metal tool box made for years of rugged use





13 PIECE 1/4" DRIVE SOCKET AND DRIVE TOOL SET







6 & 12 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWWSM-13FTB JHWWSM-13F	13 Piece Tool Set with TB-101 Metal Tool Box 13 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools:		Shallow 12-Poir	nt Sockets
Product Code	Description	Product Code	Size (Inches)
JHWM-52EHA	5 1/2" Enclosed Head Ratchet	JHWM-1208	1/4
JHWM-102	2" Extension	JHWM-1210	5/16
JHWM-106A	Spinner Handle	JHWM-1211	11/32
JHWM-140A	Universal Joint	JHWM-1212	3/8
		JHWM-1214	7/16
Shallow 6-Point	t Sockets	JHWM-1216	1/2
Product Code	Size (Inches)	JHWM-1218	9/16
JHWM-605	5/32		
JHWM-606	3/16		

- Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use





pplīfast

30 PIECE 1/4" DRIVE **SOCKET AND DRIVE TOOL SET**





6 Point Metric, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWMSM30HFTB JHWMSM-30HF	30 Piece Metric Tool Set with TB-103 Metal Tool Box 30 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive	

Product Code	Description	Product Code	Description
JHWM-52EHA	5 1/2" Enclosed Head Ratchet	JHWM-106A	Spinner Handle
JHWM-102	2" Extension	JHWM-140A	Universal Joint
JHWM-115	6" Extension	JHWM-42A	Flex Handle

Deep 6-Point Sockets **Shallow 6-Point Sockets** Size (MM) Size (MM) Product Code Product Code JHWMM-604 JHWMMD-604 JHWMM-605 JHWMMD-605 5 JHWMM-605.5 JHWMMD-605.5 $5^{1/2}$ 5 1/2 JHWMM-606 JHWMMD-606 JHWMMD-607 6 6 JHWMM-607 JHWMMD-608 JHWMM-608 8 8 JHWMM-609 9 JHWMMD-609 9 JHWMM-610 10 JHWMMD-610 10 JHWMM-611 JHWMMD-611 11 11 JHWMMD-612 JHWMM-612 12 12 JHWMMD-613 13 JHWMM-613 13 JHWMM-614 14 JHWMMD-614



Features

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use



17 PIECE 1/4" DRIVE **SOCKET AND DRIVE TOOL SET**





6 Point Metric, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWMSM17HFTB	17 Piece Metric Tool Set with TB-101 Metal Tool Box
JHWMSM-17HF	17 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

D	riv	•	T۸	n	le:

Dille lools			
Product Code	Description	Product Code	Description
JHWM-52EHA	5-1/2" Enclosed Head Ratchet	JHWM-106A	Spinner Handle
JHWM-102	2" Extension	JHWM-140A	Universal Joint
JHWM-115	6" Extension		
Shallow 6-Point	Sockets		
Product Code	Size (MM)	Product Code	Size (MM)
JHWMM-604	4	JHWMM-609	9
JHWMM-605	5	JHWMM-610	10
JHWMM-605.5	5.5	JHWMM-611	11
JHWMM-606	6	JHWMM-612	12
JHWMM-607	7	JHWMM-613	13
.IHWMM-608	8	.IHWMM-614	14

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use











1/4", 3/8", 1/2" DRIVE





6 & 12 Point Rugged-Case-System Tool Set, SAE and Metric

Product Code

SOCKET AND DRIVE TOOL SET

JHW50614B

146 PIECE

Description 146 Piece 1/4", 3/8", 1/2" Drive Socket Set

1/4" Drive **Contents Include:**

1/4" Drive Tools

Ratchet 3" Extension Handle Universal Joint

1/4" Drive Deep 6 Point Sockets

Metric Size	SAE Size
(MM)	(Inches)
4	3/16
5	7/32
6	1/4
7	9/32
8	5/16
9	11/32
10	3/8
11	7/16
12	1/2
13	

1/4" Drive Shallow 6 Point Sockets

O FUIIL SUCKELS		
Metric Size	SAE Size	
(MM)	(Inches)	
4	5/32	
5	3/16	
5.5	7/32	
6	1/4	
7	9/32	
8	5/16	
9	11/32	
10	3/8	
11	7/16	
12	1/2	
13	9/16	
14		

1/4" Drive **Hex Bit Sockets**

Metric Size	SAE Size
(MM)	(Inches)
3	1/8
4	5/32
5	3/16
6	7/32
7	1/4
8	5/16

1/4" Drive Screw-

driver Bit Sockets		
Size	Size	
5/32" Slotted Tip	#0 Phillips Tip	
7/32" Slotted Tip	#1 Phillips Tip	
32" Slotted Tip	#2 Phillips Tip	

1/4" Drive

Torx Bit Sockets	
Size	Size
T10	T25
T15	T27
T20	T30

3/8" Drive **Contents Include:**

3/8" Drive Tools

Ratchet 3" Extension 6" Extension Adaptor - 3/8" F x 1/4" M

3/8" Drive Deep 12 Point Sockets

Metric Size	SAE Size
(MM)	(Inches)
6	1/4
7	5/16
8	3/8
9	⁷ /16
10	1/2
11	⁹ /16
12	5/8
13	11/16
14	3/4
15	13/16
16	7/8
17	15/16
18	1
19	

3/8" Drive Shallow

6 Point Sockets	
Metric Size	SAE Size
(MM)	(Inches)
6	1/4
7	5/16
8	3/8
9	7/16
10	1/2
11	9/16
12	5/8
13	11/16
14	3/4
15	13/16
16	7/8
17	15/16
18	1
10	

3/8" Drive **Spark Plug Socket**

•		
	SAE Size (Inches)	
	5/8	
	13/16	

1/2" Drive **Contents Include:**

1/2" Drive Tools

Ratchet 6" Extension 10" Extension Universal Joint Adaptor - ½" F x ¾" M

1/2" Drive Shallow 12 Point Sockets

SAE Size (Inches)	
3/8	
7/16	
1/2	
9/16	
5/8	
11/16	
3/4	
13/16	
7/8	
15/16	
1	
-	

197





- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- . Two-component handles are easy to grip and comfortable to carry



138 PIECE 1/4", 3/8", 1/2" DRIVE SOCKET AND DRIVE TOOL SET







6 Point Rugged-Case-System Tool Set, SAE and Metric

Product Code	Description	
JHW50612B	138 Piece 1/4", 3/8", 1/2" Drive Socket Set	

1/4" Drive Contents Include:

1/4" Drive Tools

Ratchet
1 ½" Extension
3" Extension
Spinner Handle
Universal Joint
Hex Bit Holder
13 Piece Insert Bit Set

1/4" Drive Deep 6 Point Sockets

6 Point Sockets	
Metric Size	SAE Size
(MM)	(Inches)
4	5/32
5	3/16
6	7/32
7	1/4
8	9/32
9	5/16
10	11/32
11	3/8
12	7/16
13	1/2

1/4" Drive Shallow 6 Point Sockets

Metric Size	SAE Size
(MM)	(Inches)
4	5/32
5	³ /16
5.5	7/32
6 7	1/4
7	9/32
8	5/16
9	11/32
10	3/8
11	⁷ /16
12	1/2
13	

3/8" Drive Contents Include:

3/8" Drive Tools

Ratchet 3" Extension 6" Extension Universal Joint Adaptor Hex Bit Holder

3/8" Drive Deep

12 Point Sockets		
Metric Size	SAE Size	
(MM)	(Inches)	
10	3/8	
11	7/16	
12	1/2	
13	9/16	
14	5/8	
15	11/16	
16	3/4	
17	13/16	
18	7/8	
19		

3/8" Drive Shallow 6 Point Sockets

Metric Size (MM)	SAE Size (Inches)
10	3/8
11	7/16
12	1/2
13	9/16
14	5/8
15	11/16
16	3/4
17	
18	
19	

1/2" Drive Contents Include:

1/2" Drive Tools

Ratchet 6" Extension 10" Extension Universal Joint Adaptor

1/2" Drive 12 Point Sockets

Sockets		
Metric Size	SAE Size	
(MM)	(Inches)	
10	3/8	
11	7/16	
12	1/2	
13	9/16	
14	5/8	
15	11/16	
16	3/4	
17	13/16	
18	7/8	
19	15/16	
21	1	
22	1 1/16	
24	1 1/8	
27	1 3/16	
30	1 1/4	
32		





- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges.
- Two-component handles are easy to grip and comfortable to carry





95 PIECE 1/4" & 3/8" DRIVE MASTER **SOCKET AND TOOL SET**

6 & 12 Point Rugged-Case-System Tool Set, SAE

Product Code	Description
JHW50611B	95 Piece Master Socket, Wrench, and Screwdriver Set

3/8" Drive

1/4" Drive **Contents Include:**

1/4" Drive Tools

36 Tooth Quick-Release Ratchet 1 ½" Extension 3" Extension Flex Handle Spinner Handle **Universal Joint** 1/4" F x 3/8" M Adapter

1/4" Drive Shallow

6-Point Sockets	
SAE Size (Inches)	
3/16	
7/32	
1/4	
9/32	
⁵ / ₁₆	
11/32	
3/8	
7/16	
1/2	
9/	

1/4" Drive Deep

O FUIIL SUCKELS	
SAE Size (Inches)	
3/16	
7/32	
1/4	
9/32	
5/16	
11/32	
3/8	
⁷ /16	
1/2	
Q/	

1/4" Drive

Hex Bit Sockets	
Metric Size	SAE Size
(MM)	(Inches)
3	1/8
4	5/32
5	3/16
6	7/32
7	1/4
8	5/16

1/4" Drive Screwdriver

Bit Sockets	
Size	Size
5/32" Slotted Tip	#0 Phillips Tip
7/32" Slotted Tip	#1 Phillips Tip
9/32" Slotted Tip	#2 Phillips Tip

1/4" Drive

Torx Bit Sockets		
	Size	Size
	T10	T25
	T15	T27
	T20	T30

Contents Include: 3/8" Drive Tools

38 Tooth Quick-Release Ratchet 3" Extension 6" Extension 10" Extension 10" Flex Handle **Universal Joint** Sliding T-Handle 3/8" F x 1/4" M Adapter 3/8" F x 1/2" M Adapter

3/8" Drive Shallow

3/8" Drive Deep 12 Point Sockets

Other Contents Include:

Comfort Grip Screwdrivers 3/16" x 4" Slotted

1/4" x 4" Slotted #1 x 3" Phillips® #2 x 4" Phillips®

12 Point Combination Wrenches

SAE Size (Inches)
1/4
5/16
3/8
7/16
1/2
9/16
5/8
11/16
3/4



Features

· All tools are professional quality, made of high-grade chrome vanadium steel

JHW50611B

- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- · Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- Two-component handles are easy to grip and comfortable to carry



pplīfast

89 PIECE

1/4" & 3/8" DRIVE MASTER **SOCKET AND TOOL SET**







6 & 12 Point Rugged-Case-System Tool Set, Metric

Proc	duct	Cod	е
			_

Description

JHW50622B

89 Piece Master Socket, Wrench and Screwdriver Set

1/4" Drive **Contents Include:**

1/4" Drive Tools

36 Tooth Quick-Release Ratchet 1 ½" Extension 3" Extension Flex Handle Spinner Handle **Universal Joint** 1/4" F x 3/8" M Adapter

1/4" Drive Shallow 6-Point Sockets Metr

ric Size	(MM)
4	
5	
5.5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

1/4" Drive **Hex Bit Sockets**

Metric Size	SAE Size
(MM)	(Inches)
3	1/8
4	5/32
5	3/16
6	7/32
7	1/4
8	5/16

1/4" Drive Screwdriver Bit Sockets

Size	Size
5/32" Slotted Tip	#0 Phillips Tip
32" Slotted Tip	#1 Phillips Tip
%2" Slotted Tip	

1/4" Drive

iorx bit Sockets		
Size	Size	
T10	T25	
T15	T27	
T20	T30	

3/8" Drive **Contents Include:**

3/8" Drive Tools

38 Tooth Quick-Release Ratchet 3" Extension 6" Extension 10" Extension 10" Flex Handle **Universal Joint** Sliding T-Handle 3/8" F x 1/4" M Adapter 3/8" F x 1/2" M Adapter

3/8" Drive Shallow 6-Po Met

oint Sockets
tric Size (MM)
8
9
10
11
12
13
14
15
16
17
18
19

3/8" Drive Deep 12-Point Sockets Me

etric Size	(MM)
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	

Other Contents Include:

Comfort Grip Screwdrivers

3/16" x 4" Slotted 1/4" x 4" Slotted #1 x 3" Phillips® #2 x 4" Phillips®

12 Point Combination





- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- · Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- · Two-component handles are easy to grip and comfortable to carry









67 PIECE 1/4" DRIVE SOCKET AND DRIVE TOOL SET







6 Point Rugged-Case-System Tool Set, SAE and Metric

Product Code	Description
JHW50602B	67 Piece 1/4" Drive Socket Set
•	

Contents Include:

1/4" Drive Tools

Ratchet		
Flex H	Flex Handle	
4" Exte	ension	
8" Exte	ension	
18" Slidin	g T-handle	
	al Joint	
Spinne	er Disc	
. /	o	
1/4" Drive Shallow		
6-Point Sockets		
Metric Size SAE Size		
(MM)	(Inches)	
4	3/16	
5	7/32	
5.5 1/4		
6 9/32 7 5/16		
8 11/32		
9 3/8		
10 7/16		
11 1/2		
12 9/16		
13		

1/4" Drive Deep 6 Point Sockets		
Metric Size	SAE Size	
(MM)	(Inches)	
4	3/16	
5	7/32	
6	1/4	
7	9/32	
8	5/16	
9	11/32	
10	3/8	
11	7/16	
12	1/2	
13	9/16	
1/4" Drive Hex Bit Sockets		
Metric Size	SAE Size	

12 13	1/ ₂ 9/ ₁₆	
1/4" Drive Hex Bit Sockets		
Metric Size	SAE Size	
(MM)	(Inches)	
3	1/8	
4	5/32	
5	3/16	
6	7/32	
7	1/4	
8	5/16	

1/4" Drive Slotted Bit Sockets, SAE
Size
5/32
7/32
9/32
1/4" Drive Phillips Bit

1/4" Drive Phillips Bit Sockets, SAE	
Size	
#0	
#1	
#2	



Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- Two-component handles are easy to grip and comfortable to carry

47 PIECE 1/4" DRIVE SOCKET AND DRIVE TOOL SET







6 Point Rugged-Case-System Tool Set, SAE and Metric

- · · · · · · · · · · · · · · · · · · ·		
Product Code Description		
JHW50601B	47 Piece Deluxe 6-Point 1/4" Drive Socket Set	

1/4" Drive

Contents Include:

1/4" Drive Tools
36 Tooth Quick-Release Ratchet
Flex Handle
1 ½" Extension
3" Extension
Spinner Handle
Universal Joint
Ratchet Spinner

1/4" Drive Shallow		
6-Point Sockets		
Metric Size	SAE Size	
(MM)	(Inches)	
4	3/16	
5	7/32	
5.5	1/4	
6	9/32	
7	5/16	
8	11/32	
9	3/8	
10	7/16	
11	1/2	
12	9/16	
13		
14		

Hex Bit Sockets		
Metric Size SAE Size (MM) (Inches)		
3	1/8	
4	5/32	
5	3/16	
6	7/32	
7	1/4	
8	5/16	

Screwdriver Bit		
	Sockets	
	Size	
5/32	" Slotted Tip	
7/32	" Slotted Tip	
9/32	" Slotted Tip	
#0	Phillips® Tip	
#1	Phillips® Tip	
#2	Phillips® Tip	
" -	i iiiiipo iip	



36 PIECE 1/4" DRIVE **SOCKET AND DRIVE TOOL SET**





6 Point Rugged-Case-System Tool Set, Metric

Product Code	Description
JHW50604B	36 Piece Socket Set

Contents Include:

1/4" Drive Tools	1/4" Drive Phillips [®] Sockets	1/4" Drive TORX® Bit Sockets
Ratchet	#1	T8
1 1/2" Extension	#2	T10
6" Extension	#3	T15
Universal Joint		T20
Sliding T-Handle	1/4" Drive Slotted	T25
Spinner Handle	Sockets	T27
	Metric Size (MM)	T30
1/4" Drive Shallow	4	
6 Point Sockets	5.5	
Metric Size (MM)	7	
4		
4.5	1/4" Drive Hex Bit	
5	Sockets	
6	3	
7	4	
8	6	
9	8	
10		
11		
12		
13		



32 PIECE 1/4" & 3/8" DRIVE **BIT SOCKET SET**







6 Point Compact Case Tool Set, SAE and Metric

Product Code	Description
JHW50681	32 Piece 1/4" & 3/8" Drive Bit Socket Set

Contents Include:

3/8" Driv Soc	e Hex Bit kets	3/8" Drive Phillips [®] Sockets	1/4" Drive TORX® Bit Sockets
Metric Size (MM)	SAE Size (Inches)	#1 #2	T10 T15
4 5	1/8 9/64	#3	T20 T25
6 7 8	5/ ₃₂ 3/ ₁₆ 7/ ₃₂	3/8" Drive Slotted Sockets	T27 T30
9	1/4	SAE Size (Inches)	3/8" Drive TORX® Bit
10	⁵ /16 3/8	5/ ₁₆	Sockets
		3/8	T40
		3/16	T45 T47
			T50



- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged compact high-density polyethylene (HDPE) cases that are strong and durable yet light in weight









JHW50661B





JHW50672A

Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged compact high-density polyethylene (HDPE) cases that are strong and durable yet light in weight



27 PIECE 1/4" DRIVE **SOCKET AND DRIVE TOOL SET**







6 Point Compact Case Tool Set, SAE and Metric

Product Code Description 27 Piece 1/4" Drive Socket and Drive Tool Set JHW50661B

Contents Include:

Toll Free 1 800 563 1293

1/4" Drive Tools: 5 1/4" Pear Head Ratchet 1 1/2" Extension

6" Extension Spinner Handle **Universal Joint**

1/4" Drive Shallow		
6 Point	Sockets:	
Metric Size	SAE Size	
(MM)	(Inches)	
4	3/16	
5	7/32	
5.5	1/4	
6	9/32	
7	5/16	
8	11/32	
9	3/8	
10	7/16	
11	1/2	
12	9/16	
13		
14		

21 PIECE 1/4" DRIVE **SOCKET AND DRIVE TOOL SET**





6 Point Compact Case Tool Set, SAE

Product Code Description JHW50662B 21 Piece 1/4" Drive Socket and Drive Tool Set

Contents Include:

1/4" Drive Shallow 6 Point Sockets	1/4" Drive Deep 6 Point Sockets
SAE Size (Inches)	SAE Size (Inches)
3/16	1/4
7/32	9/32
1/4	5/16
9/32	11/32
	3/8 7/
/	⁷ /16 1/6
	6 Point Sockets SAE Size (Inches) 3/16 7/32 1/4

27 PIECE 1/4" DRIVE **SOCKET AND DRIVE TOOL SET**







12 Point Compact Case Tool Set, SAE and Metric

Product Code Description JHW50672A 27 Piece 1/4" Drive Socket and Drive Tool Set

Contents Include:

	1/4" Drive Shallow 12 Point Sockets	1/4" Drive Shallow 12 Point Sockets
1/4" Drive Tools:	SAE Size (Inches)	Metric Size (MM)
5 1/4" Pear Head Ratchet	3/16	4
1 ½" Extension	7/32	5
6" Extension	1/4	6
Spinner Handle	9/32	7
Universal Joint	5/16	8
	11/32	9
	3/8	10
	7/16	11
	1/2	12
	9/16	13
		14



pplifast

1/4" DRIVE ENCLOSED HEAD RATCHETS

Sealed Narrow Head Design, Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Number of Teeth
JHWM-52EHA	Chrome Finish Enclosed Head Ratchet	5 ¹ / ₄	36
JHWM-52EHFA	Chrome Finish Flex Head Ratchet	7	36
JHWMB-52EHA	Black Industrial Finish Enclosed Head Ratchet	5 ¹ / ₄	36
JHWM-52EHRKA	Repair Kit for Enclosed Head Ratchets		

Fed. Spec: ANSI B107.10M

Features

- Enclosed head is sealed to prevent dust, dirt, and liquids from entering head, preserving internal lubrication
- · Forged one-piece ratchet provide strength and safety for industrial applications
- 36 tooth gear with 10 degree of engagement allows engagement in tight working areas
- · Nickel/Chrome plating provides increase protection from rust and corrosion
- Chrome finish models feature mirror-like exterior that can be easily cleaned after each use
- Single Pawl ratchet design:
 - Designed for tighter tolerances between pawl and gear which reduces metal fatigue and slippage under load
 - Does not require as many working parts, reducing possible breakage and parts to repair
- Easy access reverse lever allows user to change working direction quickly and easily with only one hand



1/4" DRIVE ROUND HEAD RATCHET

High-Polished Chrome Finish

9			
Product Code	Description	Length (Inches)	Number of Teeth
JHWM-52A	Chrome Finish Round Head Ratchet	5	40
JHWM-52ARK	Repair Kit for Round Head Ratchet		

Fed. Spec: ANSI B107.10M

Features

- Double pawl design with 40 teeth action provides a 5° ratcheting angle
- Shift lever reverses action instantly
- Knurled handle provides a non-slip grip
- Chrome plating provides increased protection from rust and corrosion



1/4" DRIVE HANDLES

High-Polished Chrome Finish

iligii-rulisile	TOULDING LINISH		
Product Code	Description	Length (Inches)	
JHWM-106A	Spinner Handle	6	
JHWM-15A	Speeder Handle	15 ¹ / ₂	
JHWM-42A	Flex Handle Breaker Bar	5 ³ / ₄	
JHWM-42RK	Repair Kit for Flex Handle		

Fed. Spec: ANSI B107.10M

- Chrome plating provides increased protection from rust and corrosion
- Drive handles provide extra leverage with greater strength than ratchets
- Spinner handle features 1/4" drive female handle end















1/4" DRIVE EXTENSIONS

High-Polished Chrome Finish		
Product Code	Description	Length (Inches)
JHWM-102	Extension	2
JHWM-104	Extension	4
JHWM-115	Extension	6
JHWM-110	Extension	10
JHWM-124	Extension	24
JHWMFE-6	Flexible Extension	6
JHWM-140A	Universal Joint	1 ⁷ / ₁₆

Fed. Spec: ANSI B107.10M

Features

• Chrome plating provides increased protection from rust and corrosion

- · Flexible extension is designed for low torque applications in limited access areas
- · Ball and spring socket retention



1/4" DRIVE ADAPTORS

High-Polished Chrome and Black Industrial Finish

Product Code	Length (Inches)	Male End (Inches)	Female End (Inches)
Chrome Finish			
JHWMB-130	1	3/8	1/4
Black Finish			
JHWMB-130B	1	3/8	1/4
JHWMB-131BA	1 1/8	1/4	3/8

Fed. Spec: ANSI B107.10M

Features

· Ball and spring socket retention





1/4" DRIVE SLIDING T-HANDLE **AND SPINNER HANDLE**

High-Polished Chrome Finish

JHW30008 Sliding T-Handle 4 1/2	
JHW30006A Spinner Handle 6 3/8	

Fed. Spec: ANSI B107.10M

- Ball and spring socket retention
- High-polished chrome finish for easy cleaning
- . Spinner handle features three component comfort grip handle



6 PIECE 1/4" DRIVE RATCHET AND DRIVE TOOL SET

Furnished in a Pouch

plifast

Product Code	Description
JHWDTM-6	6 Piece 1/4" Drive Ratchet and Accessory Set

Contents Include:

Product Code	Description	Product Code	Description
JHWM-52EHA	36 Tooth Quick-Release Ratchet	JHWM-42A	Flex Handle
JHWM-102	1 1/2" Extension	JHWM-106A	Spinner Handle
JHWM-115	6" Extension	JHWM-140A	Universal Joint

Features

All tools are professional quality, made of high-grade chrome vanadium steel



1/4" WOBBLE EXTENSIONS

High-Polished Chrome Finish

Product Code	Length (Inches)
JHWM-202	2
JHWM-203	3
JHWM-206	6
JHWM-211	11

Fed. Spec: ANSI B107.10M

Features

- Chrome plating provides increased protection from rust and corrosion
- · Provides 16 degrees of additional accessibility

1/4" DRIVE EXTENSIONS AND ACCESSORIES

High-Polished Chrome Finish

Product Code	Description	Length (Inches)
JHW30013	Holder for 1/4" Hex Screwdriver Bits	3/4
JHW30023	Locking Extension	4
JHW30024	Locking Extension	6
JHW30025	Locking Extension	10
JHW30026	Locking Extension	12
JHW30027	Locking Extension	18
JHW30028	Locking Extension	24

Fed. Spec: ANSI B107.10M

Features

- · Chrome plating provides increased protection from rust and corrosion
- Ball and spring socket retention







1/4" DRIVE SHALLOW 12 POINT SOCKETS, SAE

High-Polished Chrome Finish

		Α	В	С	D	Ε		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWM-1208	1/4	7/8	15/32	3/8	7/32	17/32	7/32	7/16
JHWM-1210	5/16	7/8	15/32	15/32	9/32	17/32	7/32	
JHWM-1211	11/32	7/8	1/2	1/2	9/32	17/32	11/32	
JHWM-1212	3/8	7/8	17/32	17/32	9/32	17/32	3/8	-
JHWM-1214	7/16	7/8	19/32	19/32	3/8	17/32	7/16	-
JHWM-1216	1/2	7/8	11/16	11/16	3/8	17/32	1/2	-
JHWM-1218	9/16	29/32	3/4	3/4	3/8	17/32	7/32	

Fed. Spec: ANSI B107.110

JHWWSM-7RC 7 Piece 1/4" Drive Shallow 12-Point Socket Set on Clip Rail

Contents Include:

Ountents in	Ciuuc.						
Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWM-1208	1/4	JHWM-1211	11/32	JHWM-1214	7/16	JHWM-1218	9/16
JHWM-1210	5/16	JHWM-1212	3/8	JHWM-1216	1/2		

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners









JHWM-1208

JHWWSM-7RC

JHWM-1212





JHWWSM-11HRC

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners





JHWMD-1216 JHWMD-1210



JHWWSMD-6RC



JHWWSM-20RC

1/4" DRIVE SHALLOW SOCKETS, 6 POINT, SAE

High-Polished Chrome Finish

		Α	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Dia. (Inches)	Working End Dia. (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Dia. (Inches)	Nose Length (Inches)
JHWM-604	1/8	7/8	15/32	7/32	1/8	17/32	1/8	7/16
JHWM-605	5/32	7/8	15/32	7/32	1/8	17/32	5/32	7/16
JHWM-606	3/16	7/8	15/32	7/32	1/8	17/32	3/16	7/16
JHWM-607	7/32	7/8	15/32	7/32	1/8	17/32	7/32	7/16
JHWM-608	1/4	7/8	15/32	7/32	1/8	17/32	7/32	7/16
JHWM-609	9/32	7/8	15/32	7/32	1/8	17/32	1/4	7/16
JHWM-610	⁵ /16	7/8	15/32	7/32	1/8	17/32	1/4	7/16
JHWM-611	11/32	7/8	1/2	1/2	11/32	17/32	11/32	-
JHWM-612	3/8	7/8	9/16	9/16	15/32	17/32	3/8	-
JHWM-614	⁷ /16	7/8	5/8	5/8	15/32	17/32	7/16	-
JHWM-616	1/2	7/8	11/16	11/16	15/32	17/32	1/2	-
JHWM-618	9/16	29/32	3/4	3/4	1/2	17/32	17/32	
JHWM-620	5/8	31/32	27/32	27/32	9/16	5/8	9/16	-

Fed. Spec: ANSI B107.110

JHWWSM-11HRC 11 Piece 1/4" Drive Shallow 6 Point Socket Set on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWM-605	5/32	JHWM-608	1/4	JHWM-611	11/32	JHWM-616	1/2
JHWM-606	³ / ₁₆	JHWM-609	9/32	JHWM-612	3/8	JHWM-618	9/16
JHWM-607	7/32	JHWM-610	5/16	JHWM-614	7/16		



1/4" DRIVE SHALLOW SOCKETS, 8 POINT, SAE

High-Polished Chrome Finish

•		Α	В	С	D	Ε		F
	Size	OAL	Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose
Product Code	(Inches)	(Inches)	Dia. (Inches)	Dia. (Inches)	Depth (Inches	Depth (Inches)	Dia. (Inches)	Length (Inches)
JHWM-808	1/4	7/8	15/32	7/16	1/4	17/32	1/4	7/16
JHWM-810	5/16	7/8	9/16	9/16	9/32	17/32	1/4	
JHWM-812	3/8	7/8	21/32	²¹ / ₃₂	5/16	17/32	3/8	-



1/4" DRIVE DEEP SOCKETS, 12 POINT, SAE

High-Polished Chrome Finish

		Α	В	С	D	Ε		F
	Size	OAL	Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose
Product Code	(Inches)	(Inches)	Diameter(Inches)	Diameter (Inches)	Depth (Inches)	Depth (Inches)	Diameter (Inches)	Length (Inches)
JHWMD-1210	5/16	2	15/32	7/16	9/32	1 ¹¹ / ₁₆	9/32	1%16
JHWMD-1211	11/32	2	1/2	1/2	9/32	1 ²¹ / ₃₂	11/32	
JHWMD-1212	3/8	2	17/32	17/32	9/32	1 21/32	3/8	
JHWMD-1214	7/16	2	19/32	19/32	3/8	1 ²¹ / ₃₂	13/32	
JHWMD-1216	1/2	2	11/16	11/16	3/8	1 ²¹ / ₃₂	15/32	
JHWMD-1218	9/16	2	3/4	3/4	3/8	1 21/32	17/32	-

Fed. Spec: ANSI B107.110

JHWWSMD-6RC 6 Piece 1/4" Drive Deep 12 Point Socket Set on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWMD-1210	5/16	JHWMD-1212	3/8	JHWMD-1216	1/2
JHWMD-1211	11/32	JHWMD-1214	7/16	JHWMD-1218	9/16

JHWWSM-20RC 25 Piece 1/4" Drive Shallow & Deep Sockets on Clip Rails Contents Include:

12-Point Deep Sockets		12-Point Shallow Sockets	
Product Code	Size (Inches)	Product Code	Size (Inches)
JHW30406	³ /16	JHW30206	³ / ₁₆
JHW30407	7/32	JHW30207	7/32
JHW30408	1/4	JHWM-1208	1/4
JHW30409	9/32	JHW30209	9/32
JHWMD-1210	5/16	JHWM-1210	5/16
JHWMD-1211	11/32	JHWM-1211	11/32
JHWMD-1212	3/8	JHWM-1212	3/8
JHWMD-1214	7/16	JHWM-1214	7/16
JHWMD-1216	1/2	JHWM-1216	1/2
.IHWMD-1218	9/16	.IHWM-1218	9/16



JHWMD-605

JHWMD-618







High-Polished Chrome Finish

		Α	В	С	D		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWMD-605	5/32	2	15/32	9/32	5/32	5/32	1 %16
JHWMD-606	3/16	2	15/32	5/16	3/16	3/16	1 %16
JHWMD-607	7/32	2	15/32	11/32	7/32	7/32	1 %16
JHWMD-608	1/4	2	15/32	3/8	7/32	7/32	1 %16
JHWMD-609	9/32	2	15/32	13/32	1/4	9/32	1 %16
JHWMD-610	5/16	2	15/32	7/16	9/32	9/32	1 %16
JHWMD-611	11/32	2	1/2	1/2	9/32	11/32	•
JHWMD-612	3/8	2	17/32	17/32	9/32	3/8	-
JHWMD-614	7/16	2	19/32	19/32	3/8	13/32	-
JHWMD-616	1/2	2	11/16	11/16	3/8	15/32	-
JHWMD-618	9/16	2	3/4	3/4	3/8	17/32	-



JHWWSMD10HRC 10 Piece 1/4" Drive Deep 6 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWMD-606	3/16	JHWMD-609	9/32	JHWMD-612	3/8	JHWMD-618	9/16
JHWMD-607	7/32	JHWMD-610	5/16	JHWMD-614	7/16		
JHWMD-608	1/4	JHWMD-611	11/32	JHWMD-616	1/2		

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 point fasteners









JHWWSMD10HRC

1/4" DRIVE SHALLOW SOCKETS, 6 POINT, METRIC

High-Polished Chrome Finish

		Α	В	С	D	E		F
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWMM-604	4	7/8	15/32	9/32	3/16	17/32	5/32	7/16
JHWMM-605	5	7/8	15/32	5/16	3/16	17/32	5/32	7/16
JHWMM-605.5	5.5	7/8	15/32	11/32	3/16	17/32	7/32	⁷ / ₁₆
JHWMM-606	6	7/8	15/32	3/8	7/32	17/32	7/32	⁷ / ₁₆
JHWMM-607	7	7/8	15/32	13/32	1/4	17/32	1/4	⁷ / ₁₆
JHWMM-608	8	7/8	15/32	15/32	9/32	17/32	1/4	7/16
JHWMM-609	9	7/8	1/2	1/2	1/2	17/32	5/16	-
JHWMM-610	10	7/8	9/16	9/16	1/2	17/32	3/8	-
JHWMM-611	11	7/8	19/32	19/32	1/2	17/32	13/32	-
JHWMM-612	12	7/8	21/32	²¹ / ₃₂	1/2	17/32	7/16	-
JHWMM-613	13	7/8	23/32	23/32	15/32	17/32	15/32	-
JHWMM-614	14	29/32	3/4	3/4	1/2	17/32	17/32	

Fed. Spec: ANSI B107.110

JHWMSM-12HRC 12 Piece 1/4" Drive Shallow 6 Point Socket Set on Clip Rail Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWMM-604	4	JHWMM-606	6	JHWMM-609	9	JHWMM-612	12
JHWMM-605	5	JHWMM-607	7	JHWMM-610	10	JHWMM-613	13
JHWMM-605.5	5 ½	JHWMM-608	8	JHWMM-611	11	JHWMM-614	14

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners



208











JHWMM-608

JHWMM-604



JHWMSM-12HRC









High-Polished Chrome Finish

Toll Free 1 800 563 1293

		Α	В	С	D	E		F
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW30604A	4	1	15/32	1/4	1/4	19/32		1/2
JHW30605A	5	1	15/32	5/16	5/16	19/32		1/2
JHW30699A	5.5	1	15/32	11/32	15/32	19/32		1/2
JHW30606A	6	1	15/32	11/32	5/16	19/32		1/2
JHW30607A	7	1	15/32	7/16	5/16	15/32		1/2
JHW30608A	8	1	15/32	15/32	3/8	1/2		-
JHW30609A	9	1	17/32	17/32	3/8	21/32		-
JHW30610A	10	1	19/32	19/32	1/2	7/8		-
JHW30611A	11	1	5/8	5/8	17/32	7/8		-
JHW30612A	12	1	11/16	11/16	1/2	7/8		
JHW30613A	13	1	23/32	23/32	1/2	7/8		-
JHW30614A	14	1	3/4	3/4	1/2	7/8		-

Fed. Spec: ANSI B107.110



JHW30604

JHW30608

JHW30925 12 Piece 1/4" Drive Shallow 12 Point Socket Set on Clip Rail Contents Include:

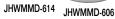
	Size		Size		Size		Size
Product Code	(MM)	Product Code	(MM)	Product Code	(MM)	Product Code	(MM)
JHW30604	4	JHW30606	6	JHW30609	9	JHW30612	12
JHW30605	5	JHW30607	7	JHW30610	10	JHW30613	13
JHW30699	5.5	JHW30608	8	JHW30611	11	JHW30614	14

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 12 point fasteners

High-Polished Chrome Finish







1/4" DRIVE DEEP SOCKETS, 6 POINT, METRIC





•		Α	В	С	D	E		F
	0.	041	Drive End	Working End	DI. Dil.		Bolt Clearance	Mara Land
Product Code	Size (MM)	OAL (Inches)	Diameter (Inches)	Diameter (Inches)	Broach Depth (Inches)	Depth (Inches)	Diameter (Inches)	Nose Length (Inches)
JHWMMD-604	4	2	15/32	9/32	3/16	1 21/32	1/8	1 %
JHWMMD-605	5	2	15/32	5/16	3/16	1 ²¹ / ₃₂	5/32	1 %16
JHWMMD-605.5	5.5	2	15/32	5/16	7/32	1 ²¹ / ₃₂	7/32	1 %16
JHWMMD-606	6	2	15/32	3/8	7/32	1 ²¹ / ₃₂	7/32	1 %16
JHWMMD-607	7	2	15/32	13/32	1/4	1 ²¹ / ₃₂	1/4	1 %16
JHWMMD-608	8	2	15/32	15/32	9/32	1 ²¹ / ₃₂	1/4	1 %16
JHWMMD-609	9	2	1/2	1/2	9/32	1 21/32	5/16	
JHWMMD-610	10	2	9/16	9/16	9/32	1 ²¹ / ₃₂	3/8	-
JHWMMD-611	11	2	19/32	19/32	3/8	1 ²¹ / ₃₂	13/32	-
JHWMMD-612	12	2	21/32	21/32	3/8	1 ²¹ / ₃₂	7/16	-
JHWMMD-613	13	2	23/32	23/32	3/8	1 ²¹ / ₃₂	15/32	-
JHWMMD-614	14	2	3/4	3/4	7/16	1 21/32	17/32	-

Fed. Spec: ANSI B107.110

JHWMSMD12HRC 12 Piece 1/4" Drive Deep 6 Point Socket Set on Clip Rail **Contents Include:**

	Size	L	Size		Size		Size
Product Code	(MM)	Product Code	(MM)	Product Code	(MM)	Product Code	(MM)
JHWMMD-604	4	JHWMMD-606	6	JHWMMD-609	9	JHWMMD-612	12
JHWMMD-605	5	JHWMMD-607	7	JHWMMD-610	10	JHWMMD-613	13
JHWMMD-605.5	5.5	JHWMMD-608	8	JHWMMD-611	11	JHWMMD-614	14

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 point fasteners









1/4" DRIVE DEEP SOCKETS, 12 POINT, METRIC

High-Polis	High-Polished Chrome Finish										
•		Α	В	С	D	E		F			
			Drive End	Working End		Bolt Clearance	Bolt Clearance				
	Size	OAL	Diameter	Diameter	Broach Depth	Depth	Diameter	Nose Length			
Product Code	(MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)			
JHW30804	4	2	15/32	9/32	3/16	1 21/32	1/8	15/16			
JHW30805	5	2	15/32	5/16	3/16	1 21/32	5/32	¹⁵ / ₁₆			
JHW30855	5.5	2	15/32	5/16	7/32	1 21/32	7/32	¹⁵ / ₁₆			
JHW30806	6	2	15/32	3/8	7/32	1 21/32	7/32	¹⁵ / ₁₆			
JHW30807	7	2	15/32	13/32	1/4	1 21/32	1/4	¹⁵ / ₁₆			
JHW30808	8	2	15/32	15/32	9/32	1 21/32	1/4	15/16			
JHW30809	9	2	1/2	1/2	9/32	1 21/32	5/16	-			
JHW30810	10	2	9/16	9/16	9/32	1 21/32	3/8	-			
JHW30811	11	2	19/32	19/32	3/8	1 21/32	13/32	-			
JHW30812	12	2	21/32	21/32	3/8	1 21/32	7/16	-			
JHW30813	13	2	23/32	23/32	3/8	1 ²¹ / ₃₂	15/32	-			
JHW30814	14	2	3/4	3/4	7/16	1 21/32	17/32	-			

Fed. Spec: ANSI B107.110

JHW30941 12 Piece 1/4" Drive Deep 12 Point Socket Set on Clip Rail **Contents Include:**

	Size		Size		Size		Size
Product Code	(MM)	Product Code	(MM)	Product Code	(MM)	Product Code	(MM)
JHW30804	4	JHW30806	6	JHW30809	9	JHW30812	12
JHW30805	5	JHW30807	7	JHW30810	10	JHW30813	13
JHW30855	5.5	JHW30808	8	JHW30811	11	JHW30814	14

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on both 6 and 12 point fasteners





1/4" DRIVE STANDARD LENGTH **HEX BIT SOCKETS, SAE**





High-Polished Chrome Finish

			Socket Outside		
	Size	Socket Length	Diameter	Overall Length	Replacement Bit
Product Code	(Inches)	(Inches)	(Inches)	(Inches)	Product Code
JHWMA-050A	.050	7/8	15/32	1 1/2	JHWBITH05001
JHWMA-2A	1/16	7/8	15/32	1 ½	JHWBITH0201
JHWMA-2 1/2A	5/64	7/8	15/32	1 ½	JHWBITH2.501
JHWMA-3A	3/32	7/8	15/32	1 ½	JHWBITH0301
JHWMA-3 1/2A	7/64	7/8	15/32	1 ½	JHWBITH3.501
JHWMA-4A	1/8	7/8	15/32	1 ½	JHWBITH0401
JHWMA- 4 1/2A	9/64	7/8	15/32	1 ½	JHWBITH4.501
JHWMA-5A	5/32	7/8	15/32	1 1/2	JHWBITH0501
JHWMA-6A	3/16	7/8	15/32	1 ½	JHWBITH0601
JHWMA-7A	7/32	7/8	15/32	1 1/2	JHWBITH0701
JHWMA-8A	1/4	7/8	15/32	1 1/2	JHWBITH0801
JHWMA-10A	5/16	7/8	15/32	1 ½	JHWBITH1001



Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWMA-2A	1/16	JHWMA-4A	1/8	JHWMA-7A	7/32
JHWMA-2 1/2A	5/64	JHWMA-4 1/2A	9/64	JHWMA-8A	1/4
JHWMA-3A	3/32	JHWMA-5A	5/32	JHWMA-10A	5/16
JHWMA-3 1/2A	7/64	JHWMA-6A	3/16		

- . High-polished chrome finish socket cleans easily
- Two piece design allows bits to be replaced easily

















JHWMA-5LA



JHWWSMS-9LRC



JHW35070



JHW30904



JHWMA-3HBA



JHWWSM-7HBA







1/4" DRIVE LONG HEX BIT SOCKETS, SAE

Toll Free 1 800 563 1293

High-Polished Chrome Finish

	Size	Socket Length	Socket Outside Diameter	Overall Length	Replacement Bit
Product Code	(Inches)	(Inches)	(Inches)	(Inches)	Product Code
JHWMA-3LA	3/32	7/8	15/32	3	JHWBITH0302
JHWMA-31/2LA	7/64	7/8	15/32	3	JHWBITH3.502
JHWMA-4LA	1/8	7/8	15/32	3	JHWBITH0402
JHWMA-41/2LA	9/64	7/8	15/32	3	JHWBITH4.502
JHWMA-5LA	5/32	7/8	15/32	3	JHWBITH0502
JHWMA-6LA	3/16	7/8	15/32	3	JHWBITH0602
JHWMA-7LA	7/32	7/8	15/32	3	JHWBITH0702
JHWMA-8LA	1/4	7/8	15/32	3	JHWBITH0802
JHWMA-10LA	5/16	7/8	15/32	3	JHWBITH1002

JHWWSMS-9LRC 9 Piece Long Hex Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	_
JHWMA-3LA	3/32	JHWMA-4½LA	9/64	JHWMA-7LA	7/32	
JHWMA-31/2LA	7/64	JHWMA-5LA	5/32	JHWMA-8LA	1/4	
JHWMA-4LA	1/8	JHWMA-6LA	3/16	JHWMA-10LA	5/16	

- High-polished chrome finish socket cleans easily
- Two piece design allows bits to be replaced easily



1/4" DRIVE STANDARD LENGTH **HEX BIT SOCKETS, METRIC**





High-Polished Chrome Finish									
Product Code	Size (MM)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)				
JHW35070	3	13/16	15/32	1 13/32	5/8				
JHW35071	4	13/16	15/32	1 13/32	5/8				
JHW35072	5	13/16	15/32	1 13/32	5/8				
JHW35073	6	¹³ / ₁₆	15/32	1 ¹³ / ₃₂	5/8				
JHW35074	7	¹³ / ₁₆	15/32	1 ¹³ / ₃₂	5/8				
JHW35075	8	¹³ / ₁₆	15/32	1 13/32	5/8				

JHW30904 6 Piece Hex Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW35070	3	JHW35072	5	JHW35074	7
JHW35071	4	JHW35073	6	JHW35075	8

Features

. High-polished chrome finish socket cleans easily

1/4" DRIVE BALL TIP HEX BIT SOCKETS, SAE





High-Polished Chrome Finish

Product Code	Size (Inches)	Socket Length (Inches)	Diameter (Inches)	Overall Length (Inches)	Product Code (Inches)
JHWMA-3HBA	3/32	7/8	15/32	1 1/2	JHWBITHB0301
JHWMA-4HBA	1/8	7/8	15/32	1 1/2	JHWBITHB0401
JHWMA4½HBA	9/64	7/8	15/32	1 1/2	JHWBITHB4.501
JHWMA-5HBA	5/32	7/8	15/32	1 1/2	JHWBITHB0501
JHWMA-6HBA	3/16	7/8	15/32	1 1/2	JHWBITHB0601
JHWMA-7HBA	7/32	7/8	15/32	1 1/2	JHWBITHB0701
JHWMA-8HBA	1/4	7/8	15/32	1 1/2	JHWBITHB0801

JHWWSM-7HBA 7 Piece Ball Tip Hex Bit Socket Set on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWMA-3HBA	3/32	JHWMA-5HBA	5/32	JHWMA-8HBA	1/4
JHWMA-4HBA	1/8	JHWMA-6HBA	³ / ₁₆		
JHWMA41/2HBA	9/64	JHWMA-7HBA	7/32		

- · High-polished chrome finish socket cleans easily
- · Two piece design allows bits to be replaced easily





1/4" DRIVE STUBBY HEX BIT SOCKETS. SAE





High-Polished Chrome Finish							
Product Code	Size (Inches)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Replacement Bit Product Code		
JHWMA-4SA	1/8	7/8	15/32	1 1/16	JHWTMAXS4E2		
JHWMA-4.5SA	9/64	7/8	15/32	1 1/16	JHWTMAXS45E2		
JHWMA-5SA	5/32	7/8	15/32	1 1/16	JHWTMAXS5E2		
JHWMA-6SA	³ / ₁₆	7/8	15/32	1 1/16	JHWTMAXS6E2		

JHWWSM-4TRC 4 Piece Stubby Hex Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)
JHWMA-4SA	1/8	JHWMA-5SA	5/32
JHWMA-4.5SA	9/64	JHWMA-6SA	3/16

Features

- . High-polished chrome finish socket cleans easily
- Two piece design allows bits to be replaced easily
- · Extra-short bits provide access in confined areas





1/4" DRIVE TORX® BIT SOCKETS

High-Polished Chrome Finish Socket Outside									
Product Code	Torx® Size	Socket Length (Inches)	Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)				
JHW35079	T8	13/16	1/2	1 13/32	5/8				
JHW35080	T10	¹³ / ₁₆	1/2	1 ¹³ / ₃₂	5/8				
JHW35081	T15	¹³ / ₁₆	1/2	1 ¹³ / ₃₂	5/8				
JHW35082	T20	13/16	1/2	1 ¹³ / ₃₂	5/8				
JHW35083	T25	13/16	1/2	1 ¹³ / ₃₂	5/8				
JHW35084	T27	13/16	1/2	1 13/32	5/8				
JHW35085	T30	¹³ / ₁₆	1/2	1 ¹³ / ₃₂	5/8				

JHW30908 6 Piece Torx® Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Torx® Size	Product Code	Torx® Size	Product Code	Torx® Size
JHW35080	T10	JHW35082	T20	JHW35084	T27
JHW35081	T15	JHW35083	T25	JHW35085	T30

Features

· High-polished chrome finish socket cleans easily





1/4" DRIVE SCREWDRIVER BIT SOCKETS

High-Polished Chrome Finish, Phillips® and Slotted Socket Outside							
Product Code	Tip Size (Inches)	Socket Length (Inches)	Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)		
Slotted Bits:							
JHW35040	5/32	13/16	15/32	1 13/32	5/8		
JHW35041	7/32	13/16	15/32	1 13/32	5/8		
JHW35042	9/32	13/16	15/32	1 13/32	5/8		
Phillips® Bits:							
JHW35050	#0	¹³ / ₁₆	15/32	1 13/32	5/8		
JHW35051	#1	13/16	15/32	1 13/32	5/8		
JHW35052	#2	13/16	15/32	1 13/32	5/8		
IHW/35053	#3	13/46	15/22	1 13/2	5/6		

JHW30906 6 Piece Screwdriver Bit Socket Set on Clip Rail **Contents Include:**

	Tip Size	1	Tip Size		
Product Code	(Inches)	Product Code	(Inches)	Product Code	Tip Size
JHW35040	5/32	JHW35042	9/32	JHW35051	#1
JHW35041	7/32	JHW35050	#0	JHW35052	#2

Features

• High-polished chrome finish socket cleans easily



JHWMA-4SA



JHWWSM-4TRC



JHW35080



JHW30908



JHW30906















56 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**

8 & 12 Point SAE, with Metal Box

Product Code	Description
JHWWSB-56FTB	56 Piece Tool Set with TB-104 Metal Tool Box (Keep-Safe-Foam is not included)
JHWWSB-56F	56 Piece Tool Set Only Packed in Keep-Safe-Foam System

Contents Include:

Toll Free 1 800 563 1293

Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWB-52EHA	8" Enclosed Head Ratchet	JHWB-40B	8 9/16" Flex Handle
JHWB-108	3" Extension	JHWB-140A	Universal Joint
JHWB-110	6" Extension	JHWB-20A	Sliding T-Handle
JHWB-115	11" Extension		•

Shallow 12-Point Sockets		Deep 12-Point Sockets	
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWB-1208	1/4	JHWBD-1212	3/8
JHWB-1210	5/16	JHWBD-1214	⁷ / ₁₆
JHWB-1212	3/8	JHWBD-1216	1/2
JHWB-1214	7/16	JHWBD-1218	9/16
JHWB-1216	1/2	JHWBD-1220	5/8
JHWB-1218	9/16	JHWBD-1222	11/16
JHWB-1220	5/8	JHWBD-1224	3/4
JHWB-1222	11/16	JHWBD-1226	13/16
JHWB-1224	3/4	JHWBD-1228	7/8
JHWB-1226	¹³ / ₁₆	JHWBD-1230	¹⁵ / ₁₆
JHWB-1228	7/8	JHWBD-1232	1
JHWB-1230	15/16		
JHWB-1232	1	Shallow 12-Point	Universal Sockets

		Product Code	Size (Inches)
Shallow 8-Point Sockets		JHWBU-1212	3/8
Product Code	Size (Inches)	JHWBU-1214	7/16
JHWBD-808	1/4	JHWBU-1216	1/2
JHWBD-810	5/16	JHWBU-1218	9/16
JHWBD-812	3/8	JHWBU-1220	5/8
JHWBD-814	7/16	JHWBU-1222	11/16
JHWBD-816	1/2	JHWBU-1224	3/4

Standard Hex Bit Sockets		Screwdriver Bit Sockets		
Product Code	Size (Inches)	Product Code	Size	
JHWBA-4A	1/8	JHWBA-7A-2S	7/32" x .040"	
JHWBA-5A	5/32	JHWBA-10A-3S	9/32" x .045"	
JHWBA-6A	3/16	JHWBA-10A-4S	5/16" x .055"	
JHWBA-7A	7/32	JHWBA-7A-2P	#2	
JHWBA-8A	1/4	JHWBA-10A-3P	#3	
JHWBA-10A	5/16	JHWBA-12A-4P	#4	
JHWBA-12A	3/8	[

- All tools are professional quality, made of high-grade chrome vanadium steel
 Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener

 • Metal tool box made for years of rugged use









pplifast

32 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**







8 & 12 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWWSB-32FTB	32 Piece Tool Set with TB-104 Metal Tool Box
JHWWSB-32F	32 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Confents in	ciuue.		
Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWB-52EHA	8" Enclosed Head Ratchet	JHWB-115	11" Extension
JHWB-108	3" Extension	JHWB-40B	8 9/16" Flex Handle
JHWB-110	6" Extension	JHWB-140A	Universal Joint
Shallow 12-Po	int Sockets	Deep 12-Point So	ockets
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWB-1212	3/8	JHWBD-1212	3/8
JHWB-1214	7/16	JHWBD-1214	7/16
JHWB-1216	1/2	JHWBD-1216	1/2
JHWB-1218	9/16	JHWBD-1218	9/16
JHWB-1220	5/8	JHWBD-1220	5/8
JHWB-1222	11/16	JHWBD-1222	11/16
JHWB-1224	3/4	JHWBD-1224	3/4
JHWB-1226	13/16	JHWBD-1226	13/16
JHWB-1228	7/8	JHWBD-1228	7/8
Shallow 8-Poir	nt Sockets	Shallow 12-Point	Universal Sockets
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBD-808	1/4	JHWBU-1212	3/8
JHWBD-810	5/16	JHWBU-1214	7/16
JHWBD-812	3/8	JHWBU-1216	1/2
		JHWBU-1218	9/16
		JHWBU-1220	5/8

- Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Metal tool box made for years of rugged use





















Product Code	Description
JHWWSB-28FTB JHWWSB-28F	28 Piece Tool Set with TB-104 Metal Tool Box 28 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Inclu	ide:		
Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWB-52EHA	8" Enclosed Head Ratchet	JHWB-40B	8 9/16" Flex Handle
JHWB-108	3" Extension	JHWB-140A	Universal Joint
JHWB-110	6" Extension		
Shallow 12-Point	Sockets	Deep 12-Point Sockets	
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWB-1208	1/4	JHWBD-1212	3/8
JHWB-1210	5/16	JHWBD-1214	7/16
JHWB-1211	11/32	JHWBD-1216	1/2
JHWB-1212	3/8	JHWBD-1218	9/16
JHWB-1214	⁷ / ₁₆	JHWBD-1220	5/8
JHWB-1216	1/2	JHWBD-1222	11/16
JHWB-1218	⁹ / ₁₆	JHWBD-1224	3/4
JHWB-1220	5/8	JHWBD-1226	13/16
JHWB-1222	11/16	JHWBD-1228	7/8
JHWB-1224	3/4		
JHWB-1226	¹³ / ₁₆		
JHWB-1228	7/8		
JHWB-1230	¹⁵ / ₁₆		
JHWB-1232	1		

Features

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener

Description

· Metal tool box made for years of rugged use



23 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**



Description



6 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Drive Tools:

Product Code

JHWWSB23HFTB 23 Piece Tool Set with TB-102 Metal Tool Box JHWWSB-23HF 23 Piece Tool Set Only - Packed in Keep Safe Foam System	Product Code	Description
20 1 1000 1001 Off T dollar Broad of College Tolling T dollar Broad in Theop Calle Tollin Cyclem	JHWWSB23HFTB JHWWSB-23HF	23 Piece Tool Set with TB-102 Metal Tool Box 23 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools:

Product Code

JHWB-52EHA JHWB-108	8" Enclosed Head Ratchet 3" Extension	JHWB-40B JHWB-140A	8 ⁹ / ₁₆ " Flex Handle Universal Joint
JHWB-110	6" Extension		_
Shallow 6-Point Soc	kets	Deep 6-Point Soc	ckets
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWB-612	3/8	JHWBD-612	3/8
JHWB-614	7/16	JHWBD-614	⁷ / ₁₆
JHWB-616	1/2	JHWBD-616	1/2
JHWB-618	9/16	JHWBD-618	9/16
JHWB-620	5/8	JHWBD-620	5/8
JHWB-622	11/16	JHWBD-622	11/16
JHWB-624	3/4	JHWBD-624	3/4
JHWB-626	13/16	JHWBD-626	13/16
JHWB-628	7/8	JHWBD-628	7/8

Features

- Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Metal tool box made for years of rugged use





JHWWSB-28FTB



23 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**





12 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description		
JHWWSB-23FTB	23 Piece Tool Set with TB-102 Metal Tool Box		
JHWWSB-23F	23 Piece Tool Set Only - Packed in Keep Safe Foam System		

Contents Include:

Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWB-52EHA	8" Enclosed Head Ratchet	JHWB-40B	8 9/16" Flex Handle
JHWB-108	3" Extension	JHWB-140A	Universal Joint
JHWB-110	6" Extension		
Shallow 12-Point Sockets		Deep 12-Point Sockets	
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWB-1212	3/8	JHWBD-1212	3/8
JHWB-1214	7/16	JHWBD-1214	7/16
JHWB-1216	1/2	JHWBD-1216	1/2
JHWB-1218	9/16	JHWBD-1218	9/16
JHWB-1220	5/8	JHWBD-1220	5/8
JHWB-1222	11/16	JHWBD-1222	11/16
JHWB-1224	3/4	JHWBD-1224	3/4
JHWB-1226	13/16	JHWBD-1226	13/16
JHWB-1228	7/8	JHWBD-1228	7/8

Features

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Metal tool box made for years of rugged use









12 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description		
JHWWSB-15FTB	15 Piece Tool Set with TB-102 Metal Tool Box		
JHWWSB-15F	15 Piece Tool Set Only - Packed in Keep Safe Foam System		

Contents Include:

Drive Tools:		Shallow 12-Point Sockets	
Product Code	Description	Product Code	Size (Inches)
JHWB-52EHA	8" Enclosed Head Ratchet	JHWB-1212	3/8
JHWB-108	3" Extension	JHWB-1214	7/16
JHWB-110	6" Extension	JHWB-1216	1/2
JHWB-115	11" Extension	JHWB-1218	9/16
JHWB-40B	8 9/16" Flex Handle	JHWB-1220	5/8
JHWB-140A	Universal Joint	JHWB-1222	11/16
		JHWB-1224	3/4
		JHWB-1226	13/16
		JHWB-1228	7/8

- Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Metal tool box made for years of rugged use



















12 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**







Product Code	Description
JHWWSB12HFTB	12 Piece Tool Set with TB-101 Metal Tool Box
JHWWSB-12HF	12 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Toll Free 1 800 563 1293

Drive Tools:		Shallow 12-Point	Sockets
Product Code	Description	Product Code	Size (Inches)
JHWB-52EHA	8" Enclosed Head Ratchet	JHWB-612	3/8
JHWB-108	3" Extension	JHWB-614	7/16
JHWB-110	6" Extension	JHWB-616	1/2
		JHWB-618	9/16
		JHWB-620	5/8
		JHWB-622	11/16
		JHWB-624	3/4
		JHWB-626	13/16
		JHWB-628	7/8

Features

- Reep-Safe-Foam system keeps tools organized and helps prevent loss
 All tools are professional quality, made of high-grade chrome vanadium steel
 Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use



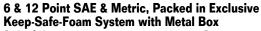
29 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**











JHWWSMB29FTB 29 Piece Tool Set with TB-103 Metal Tool Box	ict Code	luct Code Description
IHM/MSMR 20E 20 Diogo Tool Set Only Dooked in Keen Sets From Synt	VWSMB29FTB	WWSMB29FTB 29 Piece Tool Set with TB-103 Metal Tool Box
29 Fiede 1001 Set Only - Facked in Neep Sale Foalil Syst	VWSMB-29F	WWSMB-29F 29 Piece Tool Set Only - Packed in Keep Safe Foam System

Drive Tools:

Contents Include:

Drive Tools:

Product Code	Description	Product Code	Description		
JHWB-52EHA	8" Enclosed Head Ratchet	JHWB-110	6" Extension		
JHWB-108	3" Extension	JHWB-140A	Universal Joint		
Shallow 6-Point	Sockets, SAE	Shallow 6-Point	Shallow 6-Point Sockets, mm		
Product Code	Size (Inches)	Product Code	Metric Size (mm)		
JHWB-608	1/4	JHWBM-606	6		
JHWB-610	5/16	JHWBM-607	7		
JHWB-612	3/8	JHWBM-608	8		
JHWB-614	⁷ / ₁₆	JHWBM-609	9		
JHWB-616	1/2	JHWBM-610	10		
JHWB-618	9/16	JHWBM-611	11		
		JHWBM-612	12		
Shallow 12-point	t Sockets, SAE	JHWBM-613	13		
Product Code	Size (Inches)	JHWBM-614	14		
JHWB-1220	5/8	JHWBM-615	15		
JHWB-1222	11/16	JHWBM-616	16		
JHWB-1224	3/4	JHWBM-617	17		
JHWB-1226	13/16	JHWBM-618	18		
JHWB-1228	7/8	JHWBM-619	19		

- Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Metal tool box made for years of rugged use





JHWWSB12HFTB





pplifast

39 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**







6 & 12 Point Metric, Packed in Exclusive Keep-Safe-Foam **System with Metal Box**

Product Code	Description
JHWMSB-39FTB	39 Piece Tool Set with TB-104 Metal Tool Box
JHWMSB-39F	39 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools: Product Code	Description	Drive Tools: Product Code	Dogovintion
JHWB-52EHA	Description 8" Enclosed Head Ratchet	JHWB-20A	Description
JHWB-108	3" Extension	JHWB-70	Sliding T-Handle
JHWB-110	6" Extension	JUAND-10	Ratchet Spinner
		Ch. II 40 D. '	
JHWB-115	11" Extension	Shallow 12-Poir	
JHWBFE-8	8" Flexible Extension	Product Code	Size (MM)
JHWB-40B	8 9/16" Flex Handle	JHWBM-1206	6
JHWB-140A	Universal Joint	JHWBM-1207	1
		JHWBM-1208	8
		JHWBM-1209	9
Deep 6-Point Sockets		JHWBM-1210	10
Product Code	Size (MM)	_JHWBM-1211	11
JHWBMD-608	8	JHWBM-1212	12
JHWBMD-609	9	JHWBM-1213	13
JHWBMD-610	10	JHWBM-1214	14
JHWBMD-611	11	JHWBM-1215	15
JHWBMD-612	12	JHWBM-1216	16
JHWBMD-613	13	JHWBM-1217	17
JHWBMD-614	14	JHWBM-1218	18
JHWBMD-615	15	JHWBM-1219	19
JHWBMD-616	16	JHWBM-1220	20
JHWBMD-617	17	JHWBM-1221	21
JHWBMD-618	18	JHWBM-1222	22
JHWBMD-619	19	JHWBM-1224	24

- Features

 Keep-Safe-Foam system keeps tools organized and helps prevent loss

 All tools are professional quality, made of high-grade chrome vanadium steel

 Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use







JHWMSB-39FTB

















29 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**





6 Point Metric, Packed in Exclusive Keep-Safe-Foam System with **Metal Box**

Product Code	Description
JHWMSB29HFTB	29 Piece Tool Set with TB-103 Metal Tool Box
JHWMSB-29HF	29 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents In	clude:		
Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWB-52EHA	8" Enclosed Head Ratchet	JHWB-40B	8 9/16" Flex Handle
JHWB-108	3" Extension	JHWB-140A	Universal Joint
JHWB-110	6" Extension		
Shallow 6-Poir	nt Sockets	Deep 6-Point So	ckets
Product Code	Size (MM)	Product Code	Size (MM)
JHWBM-608	8	JHWBMD-608	8
JHWBM-609	9	JHWBMD-609	9
JHWBM-610	10	JHWBMD-610	10
JHWBM-611	11	JHWBMD-611	11
JHWBM-612	12	JHWBMD-612	12
JHWBM-613	13	JHWBMD-613	13
JHWBM-614	14	JHWBMD-614	14
JHWBM-615	15	JHWBMD-615	15
JHWBM-616	16	JHWBMD-616	16
JHWBM-617	17	JHWBMD-617	17
JHWBM-618	18	JHWBMD-618	18
JHWBM-619	19	JHWBMD-619	19

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
 Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener

 Metal tool box made for years of rugged use



29 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**







6 & 12 Point Metric, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code Description JHWMSB-29FTB 29 Piece Tool Set with TB-103 Metal Tool Box JHWMSB-29F 29 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools:		Drive Tools:		
Product Code	Description	Product Code	Description	
		JHWB-40B 8 9/16" Flex Handle JHWB-140A Universal Joint		
Shallow 12-Point Sockets		Deep 6-Point Sockets		

Shallow 12-Point Sockets		Deep 6-Point Sockets	
Product Code	Size (MM)	Product Code	Size (MM)
JHWBM-1208	8	JHWBMD-608	8
JHWBM-1209	9	JHWBMD-609	9
JHWBM-1210	10	JHWBMD-610	10
JHWBM-1211	11	JHWBMD-611	11
JHWBM-1212	12	JHWBMD-612	12
JHWBM-1213	13	JHWBMD-613	13
JHWBM-1214	14	JHWBMD-614	14
JHWBM-1215	15	JHWBMD-615	15
JHWBM-1216	16	JHWBMD-616	16
JHWBM-1217	17	JHWBMD-617	17
JHWBM-1218	18	JHWBMD-618	18
JHWBM-1219	19	JHWBMD-619	19

- Reep-Safe-Foam system keeps tools organized and helps prevent loss
 All tools are professional quality, made of high-grade chrome vanadium steel
 Sockets feature SUPERTORQUE™ lobular openings for greater turning power without
 deforming the fastener
- Metal tool box made for years of rugged use





pplrfast

18 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**





6 Point Metric, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWMSB18HFTB	18 Piece Tool Set with TB-102 Metal Tool Box
JHWMSB-18HF	18 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools:	Develope	Drive Tools:	December
Product Code	Description	Product Code	Description
JHWB-52EHA	8" Enclosed Head Ratchet	JHWB-110	6" Extension
JHWB-108	3" Extension	JHWB-140A	Universal Joint
Shallow 6-Point	Sockets	Shallow 6-Point	Sockets
Product Code	Size (MM)	Product Code	Size (MM)
JHWBM-606	6	JHWBM-613	13
JHWBM-607	7	JHWBM-614	14
JHWBM-608	8	JHWBM-615	15
JHWBM-609	9	JHWBM-616	16
JHWBM-610	10	JHWBM-617	17
JHWBM-611	11	JHWBM-618	18
JHWBM-612	12	JHWBM-619	19



Features

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use



17 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**





12 Point Metric, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWMSB-17FTB	17 Piece Tool Set with TB-102 Metal Tool Box
JHWMSB-17F	17 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools:	5	Drive Tools:	5
Product Code	Description	Product Code	Description
JHWB-52EHA	8" Enclosed Head Ratchet	JHWB-40B	8 %16" Flex Handle
JHWB-108	3" Extension	JHWB-140A	Universal Joint
JHWB-110	6" Extension		
Shallow 12-Point Sockets		Shallow 12-Point Sockets	
Product Code	Size (MM)	Product Code	Size (MM)
JHWBM-1208	8	JHWBM-1214	14
JHWBM-1209	9	JHWBM-1215	15
JHWBM-1210	10	JHWBM-1216	16
JHWBM-1211	11	JHWBM-1217	17
JHWBM-1212	12	JHWBM-1218	18
JHWBM-1213	13	JHWBM-1219	19

- Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use











JHWMSB-17FTB





16 PIECE 3/8" DRIVE SOCKET AND DRIVE TOOL SET





12 Point Metric, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWMSB-16FTB	16 Piece Tool Set with TB-102 Metal Tool Box
JHWMSB-16F	16 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools:		Shallow 12-Poin	t Sockets
Product Code	Description	Product Code	Size (MM)
JHWB-52EHA	8" Enclosed Head Ratchet	JHWBM-1213	13
JHWB-108	3" Extension	JHWBM-1214	14
		JHWBM-1216	16
Shallow 12-Poi	nt Sockets	JHWBM-1217	17
Product Code	Size (MM)	JHWBM-1218	18
JHWBM-1208	8	JHWBM-1220	20
JHWBM-1209	9	JHWBM-1221	21
JHWBM-1210	10	JHWBM-1222	22
JHWBM-1211	11	JHWBM-1224	24
JHWBM-1212	12		

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use





146 PIECE 1/4", 3/8", 1/2" DRIVE **SOCKET AND DRIVE TOOL SET**







6 & 12 Point Rugged-Case-System Tool Set, SAE and Metric

Product Code	Description
JHW50614B	146 Piece 1/4", 3/8", 1/2" Drive Socket Set

1/4" Drive **Contents Include:**

1/4" Drive Tools

Ratchet 3" Extension Handle Universal Joint

1/4" Drive Deep 6 Point Sockets

o Point Sockets		
Metric Size	SAE Size	
(MM)	(Inches)	
4	3/16	
5	7/32	
6	1/4	
7	9/32	
8	5/16	
9	11/32	
10	3/8	
11	7/16	
12	1/2	
13		

1/4" Drive Shallow **6 Point Sockets**

Metric Size	SAE Size
(MM)	(Inches)
4	5/32
5	3/16
5.5	7/32
6	1/4
7	9/32
8	5/16
9	11/32
10	3/8
11	7/16
12	1/2
13	9/16
4.4	

1/4" Drive Hay Rit Sackata

nex bit Suckets		
Metric Size	SAE Size	
(MM)	(Inches)	
3	1/8	
4	5/32	
5	3/16	
6	7/32	
7	1/4	
Q	5/40	

1/4" Drive Screw-

driver Bit Sockets		
Size	Size	
5/32" Slotted Tip	#0 Phillips Tip	
7/32" Slotted Tip	#1 Phillips Tip	
5/32" Slotted Tip 7/32" Slotted Tip 9/32" Slotted Tip	#2 Phillips Tip	

1/4" Drive

Torx Bit Sockets		
Size	Size	
T10	T25	
T15	T27	
T20	T30	

3/8" Drive **Contents Include:**

3/8" Drive Tools

Ratchet 3" Extension 6" Extension Adaptor - 3/8" F x 1/4" M

3/8" Drive Deep 12 Point Sockets

Metric Size	SAE Size
(MM)	(Inches)
6	1/4
7	5/16
8	3/8
9	7/16
10	1/2
11	⁹ /16
12	5/8
13	11/16
14	3/4
15	¹³ /16
16	7/8
17	15/16
18	1
19	

3/8" Drive Shallow

6 Point Sockets		
Metric Size	SAE Size	
(MM)	(Inches)	
6	1/4	
7	5/16	
8	3/8	
9	7∕16	
10	1/2	
11	⁹ /16	
12	5/8	
13	11/16	
14	3/4	
15	13/16	
16	7/8	
17	15/16	
18	1	
10		

3/8" Drive **Spark Plug Socket**

SAE Size (Inches)	
5/8	
13/16	

1/2" Drive **Contents Include:**

1/2" Drive Tools

Ratchet 6" Extension 10" Extension Universal Joint Adaptor - 1/2" F x 3/8" M

1/2" Drive Shallow 12 P

AE Size (Inches)
3/8	
7/16	
1/2	
9/16	
5/8	
11/16	
3/4	
13/16	
7/8	
15/16	
1	





- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- . Two-component handles are easy to grip and comfortable to carry













138 PIECE 1/4", 3/8", 1/2" DRIVE **SOCKET AND DRIVE TOOL SET**









6 Point Rugged-Case-System Tool Set, SAE and Metric

Product Code	Description
JHW50612B	138 Piece 1/4", 3/8", 1/2" Drive Socket Set

1/4" Drive **Contents Include:**

Toll Free 1 800 563 1293

1/4" Drive Tools

Ratchet 1 1/2" Extension 3" Extension Spinner Handle Universal Joint Hex Bit Holder 13 Piece Insert Bit Set

1/4" Drive Deep **6 Point Sockets**

Metric Size	SAE Size	
(MM)	(Inches)	
4	5/32	
5	3/16	
6 7	7/32	
	1/4	
8	9/32	
9	5/16	
10	11/32	
11	3/8	
12	⁷ / ₁₆	
13	1/2	

1/4" Drive Shallow 6 Point Sockets

O FUIIL SUCKELS		
Metric Size	SAE Size	
(MM)	(Inches)	
4	5/32	
5	³ /16	
5.5	7/32	
6	1/4	
7	9/32	
8	⁵ /16	
9	11/32	
10	3/8	
11	7/16	
12	1/2	
13		

3/8" Drive **Contents Include:**

3/8" Drive Tools

Ratchet 3" Extension 6" Extension Universal Joint Adaptor Hex Bit Holder

3/8" Drive Deep 12 Point Sockets

12 Pullit Suckets	
Metric Size	SAE Size
(MM)	(Inches)
10	3/8
11	7/16
12	1/2
13	⁹ /16
14	5/8
15	11/16
16	3/4
17	13/16
18	7/8
19	

3/8" Drive Shallow

6 Point Sockets		
Metric Size	SAE Size	
(MM)	(Inches)	
10	3/8	
11	7/16	
12	1/2	
13	9/16	
14	5/8	
15	11/16	
16	3/4	
17		
18		
19		

1/2" Drive **Contents Include:**

1/2" Drive Tools

Ratchet 6" Extension 10" Extension Universal Joint Adaptor

1/2" Drive 12 Point Sockets

Metric Size	SAE Size
(MM)	(Inches)
10	3/8
11	7/16
12	1/2
13	9/16
14	5/8
15	11/16
16	3/4
17	13/16
18	7/8
19	15/16
21	1
22	1 1/16
24	1 1/8
27	1 3/16
30	1 1/4
32	

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- · Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- Two-component handles are easy to grip and comfortable to carry



pplīfast

95 PIECE 1/4" & 3/8" DRIVE MASTER SOCKET AND TOOL SET







6 & 12 Point Rugged-Case-System Tool Set, SAE

Product Code	Description	
JHW50611B	95 Piece Master Socket, Wrench, and Screwdriver Set	

1/4" Drive Contents Include:

1/4" Drive Tools

36 Tooth Quick-Release Ratchet
1 1/2" Extension
3" Extension
Flex Handle
Spinner Handle
Universal Joint
1/4" F x 3/8" M Adapter

1/4" Drive Shallow 6-Point Sockets SAE Size (Inches)

3/16 7/32 1/4 9/32 5/16 11/32 3/8 7/16 1/2 9/16

1/4" Drive Deep 6 Point Sockets

SAE Size (Inches)

3/16
7/32
1/4
9/32
5/16
11/32
3/8
7/16
1/2
9/16

1/4" Drive Hex Bit Sockets

nex bit Sockets	
Metric Size	SAE Size
(MM)	(Inches)
3	1/8
4	5/32
5	3/16
6	7/32
7	1/4 5/16
ρ	5/46

1/4" Drive Screwdriver Bit Sockets

DIL GUCKELS	
Size	Size
5/32" Slotted Tip	
32" Slotted Tip	#1 Phillips Tip
960" Clotted Tin	#2 Dhilling Tin

1/4" Drive

Torx Bit Sockets		
Size	Size	
T10	T25	
T15	T27	
TOO	Ton	

3/8" Drive Contents Include:

3/8" Drive Tools

38 Tooth Quick-Release Ratchet
3" Extension
6" Extension
10" Extension
10" Flex Handle
Universal Joint
Sliding T-Handle
3%" F x 1/4" M Adapter
3/6" F x 1/2" M Adapter

3/8" Drive Shallow 6-Point Sockets

5-Point Sockets

SAE Size (Inches)

3/16
7/16
1/2
9/16
5/8
11/16
3/4
13/16
7/8
15/16

3/8" Drive Deep 12 Point Sockets SAE Size (Inches)

3/16 7/16 1/2 9/16 5/8 11/16 3/4 13/16 7/8

Other Contents Include:

Comfort Grip

Screwdrivers

3/16" x 4" Slotted

1/4" x 4" Slotted

#1 x 3" Phillips®

#2 x 4" Phillips®

12 Point Combination Wrenches

SAE Size (Inches)
1/4
E/
5/16
3/8
7/16
1/2
9/16
5/8
11/16
3/4





JHW50611B

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater
 - turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- Two-component handles are easy to grip and comfortable to carry











89 PIECE 1/4" & 3/8" DRIVE **MASTER SOCKET AND TOOL SET**









6 & 12 Point Rugged-Case-System Tool Set, Metric

Product Code	Description
JHW50622B	89 Piece Master Socket, Wrench and Screwdriver Set

1/4" Drive **Contents Include:**

1/4" Drive Tools 36 Tooth Quick-Release Ratchet 1 1/2" Extension 3" Extension Flex Handle Spinner Handle **Universal Joint** 1/4" F x 3/8" M Adapter

> 1/4" Drive Hex Bit Sockets

= • • • • •	
Metric Size	SAE Size
(MM)	(Inches)
3	1/8
4	5/32
5	3/16
6	7/32
7	1/4
8	5/16

1/4" Drive Screwdriver

DIL JUCKELS	
Size	Size
5/32" Slotted Tip	
32" Slotted Tip	#1 Phillips Tip
32" Slotted Tip	#2 Phillips Tip

1/4" Drive

IOIX DIL GUCKELS	
Size	Size
T10	T25
T15	T27
T20	T30

3/8" Drive Contents Include:

3/8" Drive Tools 38 Tooth Quick-Release Ratchet 3" Extension 6" Extension 10" Extension 10" Flex Handle **Universal Joint** Sliding T-Handle $\frac{3}{8}$ " F x $\frac{1}{4}$ " M Adapter

3/8" F x 1/2" M Adapter
3/8" Drive Shallow 6-Point Sockets
Metric Size (MM)
8
9
10
11
12
13
14
15
16
17
18

3/8" Drive Deep 12-Point Sockets	
Metric Size (MM)	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	

19

Other Contents Include:

Comfort Grip Screwdrivers 3/16" x 4" Slotted 1/4" x 4" Slotted #1 x 3" Phillips® #2 x 4" Phillips®

12 Point Combination

wrenches	
Metric Size (MM)	
6	
8	
10	
12	
13	
14	
15	
17	
19	

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- · Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- . Two-component handles are easy to grip and comfortable to carry



79 PIECE 3/8" DRIVE **DELUXE SOCKET AND DRIVE TOOL SET**









6 & 12 Point Rugged-Case-System Tool Set, SAE and Metric, with 1/4" Hex Screwdriver Bits

Product Code

Description

JHW50607B

79 Piece 3/8" Drive Deluxe Tool Set

1/4" Drive **Contents Include:**

1/4" Drive Tools

Spinner Handle Universal Joint 1/4" Hex Bit Holder Universal Joint

1/4" Hex **Screwdriver Bits**

5/32" Slotted Tip 3/16" Slotted Tip 1/4" Slotted Tip #0 Phillips® Tip #1 Phillips® Tip #2 Phillips® Tip #3 Phillips® Tip #1 Square Tip #2 Square Tip 5/32" Hex Tip ⁷/₃₂" Hex Tip 1/4" Hex Tip

3/8" Drive **Contents Include:**

3/8" Drive Tools

3/0 Dilve louis
38 Tooth Quick-Release Ratchet
3" Extension
6" Extension
10" Extension
10" Flex Handle
Universal Joint
Sliding T-Handle
%" F x ¼" M Adapter
3/8" F x 1/2" M Adapter

3/8" Drive Deep

12 Point Sockets	
Metric Size	SAE Size
(MM)	(Inches)
6	1/4
7	5/16
8	3/8
9	7/16
10	1/2
11	9/16
12	5/8
13	11/16
14	3/4
15	13/16
16	7/8
17	15/16
18	1
19	

3/8" Drive Shallow 6 Point Sockets

o i onit occio	
Metric Size	SAE Size
(MM)	(Inches)
6	1/4
7	5/16
8	3/8
9	7/16
10	1/2
11	9/16
12	5/8
13	11/16
14	3/4
15	13/16
16	7/8
17	15/16
18	1
19	





JHW50607B

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- · Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- . Two-component handles are easy to grip and comfortable to carry









63 PIECE 3/8" DRIVE SOCKET, SCREWDRIVER, AND WRENCH SET









6 & 12 Point Rugged-Case-System Tool Set, SAE and Metric

Product Code

Description

JHW50605B

63 Piece 3/8" Drive Socket, Screwdriver, and Wrench Set

1/4" Drive Contents Include:

1/4" Drive Tools

Spinner Handle Universal Joint 1/4" Hex Bit Holder

1/4" Hex Screwdriver Bits

%2" Slotted Tip %16" Slotted Tip 1/4" Slotted Tip #0 Phillips® Tip #1 Phillips® Tip #2 Phillips® Tip #3 Phillips® Tip #1 Square Tip #2 Square Tip 1/2" Hex Tip 1/2" Hex Tip 1/4" Hex Tip

3/8" Drive Contents Include:

3/8" Drive Tools

38 Tooth Quick-Release Ratchet
3" Extension
6" Extension
10" Extension
10" Flex Handle
Universal Joint
Sliding T-Handle
% "F x ¼" M Adapter
% "F x ½" M Adapter

3/8" Drive Shallow 6 Point Sockets

O FUIIL GUCKELS	
Metric Size	SAE Size
(MM)	(Inches)
6	1/4
7	5/16
8	3/8
9	7/16
10	1/2
11	9/16
12	5/8
13	11/16
14	3/4
15	13/16
16	7/8
17	¹⁵ / ₁₆
18	1
10	

Additional Contents Include:

Comfort Grip Screwdrivers

3/16" x 4" Slotted 1/4" x 4" Slotted #1 x 3" Phillips® #2 x 4" Phillips®

12 Point Combination Wrenches

SAE Size (Inches)	
1/4	
5/16	
3/8	
7/16	
1/2	
6/16	
5/8	



· All tools are professional quality, made of high-grade chrome vanadium steel

JHW50605B

- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- Two-component handles are easy to grip and comfortable to carry



oplifast

58 PIECE 3/8" DRIVE SOCKET, SCREWDRIVER, AND PLIERS SET





6 Point Rugged-Case-System Tool Set, SAE and Metric

Product Code

JHW50615B 58 Piece ³/₈"

58 Piece 3/8" Drive Socket, Screwdriver and Pliers Set

1/4" Drive Contents Include:

1/4" Drive Tools

Spinner Handle Universal Joint 1/4" Hex Bit Holder

1/4" Hex Screwdriver Bits

%2" Slotted Tip
%6" Slotted Tip
%6" Slotted Tip
1/4" Slotted Tip
#0 Phillips® Tip
#1 Phillips® Tip
#2 Phillips® Tip
#3 Phillips® Tip
#3 Phillips® Tip
#4 Square Tip
1/8" Hex Tip
1/82" Hex Tip
1/4" Hex Tip
1/4" Hex Tip

3/8" Drive Contents Include:

3/8" Drive Tools

38 Tooth Quick-Release Ratchet
3" Extension
6" Extension
10" Extension
10" Fxtension
Universal Joint
Sliding T-Handle
%" F x 1/4" M Adapter
%" F x 1/2" M Adapter

3/8" Drive Shallow 6 Point Sockets

M O:	OAF O'
Metric Size	SAE Size
(MM)	(Inches)
6	1/4
7	5/16
8	3/8
9	7/16
10	1/2
11	9/16
12	5/8
13	11/16
14	3/4
15	¹³ / ₁₆
16	7/8
17	15/16
18	1
19	

Additional Contents Include:

Pliers

8" Slip Joint Pliers 9 ¾" Groove Joint Pliers 7" Diagonal Cutting Pliers 6¼" Long Nose Pliers W / Cutter

Adjustable Wrench





JHW50615B

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- Two-component handles are easy to grip and comfortable to carry









Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- Two-component handles are easy to grip and comfortable to carry



35 PIECE 3/8" DRIVE BASIC TOOL SET





6 Point Rugged-Case-System Tool Set, Metric, with 1/4" Hex Screwdriver Bits

wetric, with	1/4	nex Screwariver	DIT
Product Code		Description	

1/4" Drive Contents Include:

JHW50613B

1/4" Drive lools		
Spinner Handle		
Universal Joint		
1/4" Hex Bit Holder		
1/4" Hex		

1/4" Hex Screwdriver Bits

%2" Slotted Tip
%6" Slotted Tip
¼" Slotted Tip
#0 Phillips® Tip
#1 Phillips® Tip
#2 Phillips® Tip
#3 Phillips® Tip
#3 Phillips® Tip
#4 Square Tip
#2 Square Tip
%2" Hex Tip
%2" Hex Tip
1/4" Hex Tip
1/4" Hex Tip

3/8" Drive Contents Include:

35 Piece Basic Tool Set, Metric

Contents Include:
3/8" Drive Tools
7 3/4" Ratchet
3" Extension
6" Extension
Universal Joint
1/4" Hex Bit Holder
3/8" Drive Shallow 6-Point Sockets
Metric Size (MM)
6
7
8
9
10
11
12
13
14
15
16
17
18



pplīfast

34 PIECE 3/8" DRIVE **BASIC TOOL SET**





6 Point Rugged-Case-System Tool Set, SAE, with 1/4" Hex Screwdriver Bits

Product Code	Description
JHW50603B	34 Piece Basic Tool Set, SAE

1/4" Drive **Contents Include:**

1/4" Drive Tools	
Spinner Handle	
Universal Joint	
1/4" Hex Bit Holder	
1/4" Hex Screwdriver Bits	
5/32" Slotted Tip	
3/s" Clotted Tin	

ociewanivei bits
5/32" Slotted Tip
3/16" Slotted Tip
1/4" Slotted Tip
#0 Phillips® Tip
#1 Phillips® Tip
#2 Phillips® Tip
#3 Phillips® Tip
#1 Square Tip
#2 Square Tip
1/8" Hex Tip
5∕32" Hex Tip
⅓₂" Hex Tip
1/4" Hex Tip

3/8" Drive Contents Include:	
3/8" Drive Tools	
73/4" Ratchet 3" Extension	
6" Extension Universal Joint 1/4" Hex Bit Holder	
3/8" Drive Shallow 6 Point Sockets	•
SAE Size (Inches)	
1/4	
5/16	
³ / ₈ ⁷ / ₁₆	
1/2 9/16	
⁵ /8 ¹¹ / ₁₆	
3/4	
¹³ / ₁₆ ⁷ / ₈	
15/16	





Features

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- . Two-component handles are easy to grip and comfortable to carry

22 PIECE 3/8" DRIVE **BOLT THRU SOCKET SET**







6 Point Compact Case Tool Set, SAE & Metric

Product Code	Description
JHW50671	22 Piece 3/8" Drive Bolt Thru Socket Set

3/8" Drive Contents Include:

3/8" Drive Tools
Locking Flexible Ratchet
3" Extension
Adaptor

3/8" Drive Shallow 6 Point Sockets	
Metric Size (MM)	SAE Size (Inches)
8	3/8 7.4
9 10	⁷ /16 1/2
11	9/16
12	5/8
13	11/ ₁₆
14 15	3/4
16	
17	
18	



JHW50671

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- · Ratchet with 7 locking positions and flex head design









JHW50664

Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Packed in rugged compact high-density polyethylene (HDPE) cases that are strong and durable yet light in weight



18 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**







6 & 12 Point Compact Case Tool Set, SAE

Product Code	Description
JHW50664	18 Piece 3/8" Drive Socket and Drive Tool Set

2/0" Drive Challess

3/8" Drive Contents Include:

Toll Free 1 800 563 1293

3/8" Drive Tools	6 Point Sockets
7 3/4" Pear Head Ratchet	SAE Size (Inches)
3" Extension	3/8
6" Extension	7/16
	1/2
3/8" Drive	9/16
Spark Plug Socket	5/8
5/.	11/16

3/8" Drive Deep 12 Point Sockets
SAE Size (Inches)
3/8
⁷ / ₁₆
1/2
9/16
5/8
11/16
3/4



JHW50666

Features

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged compact high-density polyethylene (HDPE) cases that are strong and durable yet light in weight

47 PIECE 3/8" DRIVE **SOCKET AND DRIVE TOOL SET**









6 & 12 Point Compact Case Tool Set, SAE & Metric

Product Code	Description
JHW50666	47 Piece 3/8" Drive Socket and Drive Tool Set

3/8" Drive Contents Include:

3/8" Drive Tools		
5 1/4" Pear Head Ratchet		
3" Extension		
1 1/2" Extension		
Universal Joint		

3/8" Drive Shallow		3/8" Drive Deep		
6 Point Sockets		12 Point Sockets		
Metric Size (MM)	SAE Size (Inches)	Metric Size (MM)	SAE Size (Inches)	
6	5/16	7	5/16	
7	3/8	8	3/8	
8	7/16	9	7/16	
9	1/2	10	1/2	
10	9/16	11	9/16	
11	5/8	12	5/8	
12	11/16	13	11/16	
13	3/4	14	3/4	
14		15		
15		16		
16		17		
17		18		
18		19		
19				
		•		



oplifast

15 PIECE 3/8" DRIVE SOCKET AND DRIVE TOOL SET





12 Point Compact Case Tool Set, SAE Product Code Description

i ioddol oodo		Dooonpaon		
JHW50673	15 Piece 3/8" Drive Socket and Drive Tool Set			
Contents Include):			
3/8" Drive Tools:	3/8" Dri	ve Shallow 12 Point	Sockets:	
Description	Size (Inches)	Size (Inches)	Size (Inches)	
7 3/4" Pear Head Ratchet	1/4	1/2	3/4	
3" Extension	5/16	9/16	13/16	
6" Extension	3/8	5/8	7/8	
Universal Joint	7/16	11/16		

Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged compact high-density polyethylene (HDPE) cases that are strong and durable yet light in weight



JHW50673

15 PIECE 3/8" DRIVE SOCKET AND DRIVE TOOL SET





^		
JHW50663	15 Piece 3/8" Drive Socket and Drive Tool Set	
Product Code	Description	
o Fullit Cullipact Gast	F 1001 Jel, JAL	

Contents Include	e:		
3/8" Drive Tools: 3/8" Drive Shallow 6 Point Sockets:			
Description	Size (Inches)	Size (Inches)	Size (Inches)
7 3/4" Pear Head Ratchet	1/4	1/2	3/4
3" Extension	5/16	9/16	13/16
6" Extension	3/8	5/8	7/8
Universal Joint	7/16	11/16	

Features

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged compact high-density polyethylene (HDPE) cases that are strong and durable yet light in weight



JHW50663

15 PIECE 3/8" DRIVE SOCKET AND DRIVE TOOL SET





6 Point Compact Case Tool Set, Metric

Product Code	Description		
JHW50665	16 Piece 3/8" Drive Socket and Drive Tool Set		
Contents Include:			
3/8" Drive Tools:	3/8" Drive Shallow 6 Point Sockets:		
Description	Size (mm)	Size (mm)	Size (mm)
7 3/4" Pear Head Ratchet	8	12	16
3" Extension	9	13	17
6" Extension	10	14	18
	4.4	l 4=	۱

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged compact high-density polyethylene (HDPE) cases that are strong and durable yet light in weight



JHW50665









JHWBB-52EHA



3/8" DRIVE ENCLOSED HEAD RATCHETS

Williams® Sealed Narrow Head Design, Chrome and Black Industrial Finish

		Lengtn	Number
Product Code	Description	(Inches)	of Teeth
JHWB-52EHA	Chrome Finish Enclosed Head Ratchet	8	36
JHWB-52EHLA	Chrome Finish Enclosed Head Ratchet, Long	10 ¹ / ₄	36
JHWB-52EHFB	Chrome Finish Flex Head Ratchet	9 11/16	36
JHWBB-52EHA	Black Industrial Finish Enclosed Head Ratchet	8	36
JHWB-52EHRKA	Repair Kit for Enclosed Head Ratchets		

Fed. Spec: ANSI B107.10M

Features

- Enclosed head is sealed to prevent dust, dirt, and liquids from entering head, preserving internal lubrication
- · Forged one-piece ratchet provide strength and safety for industrial applications
- Smooth comfort-grip handle permits all-day use without gloves
- 36 tooth gear with 10 degree of engagement allows engagement in tight working areas
- . Nickel/Chrome plating provides increase protection from rust and corrosion
- Chrome finish models feature mirror-like exterior that can be easily cleaned after each use
- Single Pawl ratchet design:
- 1) Designed for tighter tolerances between pawl and gear which reduces metal fatigue and slippage under load
- 2) Does not require as many working parts, reducing possible breakage and parts to repair
- Easy access reverse lever allows user to change working direction quickly and easily with only one hand





Knurled Handle, Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Number of Teeth
JHWB-52A	Chrome Finish Round Head Ratchet	7 5/8	72
JHWB-53A	Chrome Finish Round Head Ratchet, Long	10 ¹ / ₂	72
JHWBB-52A	Black Industrial Finish Round Head Ratchet	7 ⁵ /8	72
JHWB-52ARK	Repair Kit for Round Head Ratchets		

Fed. Spec: ANSI B107.10M

- Double pawl design with 72 teeth action provides a 5° ratcheting angle
- Shift lever reverses action instantly
- Knurled handle provides a non-slip grip
- Chrome finish models provides increased protection from rust and corrosion







3/8" DRIVE HANDLES

Knurled Handle, High-Polished Chrome Finish

Product Code	Description	Length (Inches)
JHWB-40B	Flex Handle	8 ⁹ / ₁₆
JHWB-20A	Sliding T-Handle	7 15/16
JHWB-15	Speeder Handle	18

Fed. Spec: ANSI B107.10M

Features

- Chrome plating provides increased protection from rust and corrosion
- Drive handles provide extra leverage with greater strength than ratchets
- · Speeder handle is ideal for fast turn down of fasteners



3/8" DRIVE EXTENSIONS AND ACCESSORIES

High-Polished Chrome Finish

Product Code	Description	Length (Inches)
JHWB-101	Extension	1 1/2
JHWB-108	Extension	3
JHWB-110	Extension	6
JHWB-115	Extension	11
JHWB-118	Extension	18
JHWBFE-8	Flexible Extension	8
JHWB-140A	Universal Joint	2
JHWB-70	Ratchet Spinner Disk	1 1/4

Fed. Spec: ANSI B107.10M

JHWWSB-5XT 5 Piece Extension Set in Pouch - 049605 Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHWB-101	1 1/2	B-115	11
JHWB-108	3	B-118	18
.IHWR-110	6		

Features

- Chrome plating provides increased protection from rust and corrosion
- Flexible extension is designed for low torque applications in limited access areas
- Ball and spring socket retention
- . Spinner disk is ideal for fast turn down of fasteners



JHWB-20A JHWB-15



3/8" DRIVE ADAPTORS

High-Polished Chrome and Black Industrial Finish

riigii-i olisilea olii olile alia black iliaasti lai i illisii							
Product Code	Length (Inches)	Male End (Inches)	Female End (Inches)				
Chrome Fini	sh						
JHWBS-130	1 5/16	1/2	3/8				
Black Indust	trial Finish						
JHWBS-130B	1 5/16	1/2	3/8				
JHWBS-131BF	1 5/16	3/8	1/2				
Fed. Spec: ANSI B107	.10M						

Features

Ball and spring socket retention





JHWBS-130





JHWWSB-5XT

JHWBS-130B

JHWBS-131BF















3/8" DRIVE RATCHETS AND HANDLES

High-Polished Chrome Finish

Product Code Description Length (Inches	
JHW11920 Flex Handle, Comb. 3/8" x 1/2" Drive 10	
JHW31016A 3/8" Drive Spinner Handle 9	

Fed. Spec: ANSI B107.10M

Features

Toll Free 1 800 563 1293

- · High-polished chrome finish for easy cleaning
- . Spinner handles features three component comfort grip handle
- Unique combination 3/8" x 1/2" drive flex handle offers convenience of both drive sizes on one handle

3/8" DRIVE EXTENSIONS AND ACCESSORIES

High-Polished Chrome Finish

Product Code	Description	Length (Inches)
JHW31013	Holder for 1/4" Hex Screwdriver Bits	3/4
JHW31023	Locking Extension	3
JHW31024	Locking Extension	6
JHW31025	Locking Extension	10
JHW31026	Locking Extension	12
JHW31027	Locking Extension	18
JHW31028	Locking Extension	24

Fed. Spec: ANSI B107.10M

Features

- Chrome plating provides increased protection from rust and corrosion
- Ball and spring socket retention

3/8" WOBBLE EXTENSIONS

High-Polished Chrome Finish

Product Code	Length (Inches)	
JHWB-201	1	
JHWB-203	3	
JHWB-206	6	
JHWB-208	8	
JHWB-211	11	
JHWB-218	18	

Fed. Spec: ANSI B107.10M

Features

- Chrome plating provides increased protection from rust and corrosion
- · Provides 16 degrees of additional accessibility

6 PIECE 3/8" DRIVE RATCHET AND DRIVE TOOL SET

Furnished in a Pouch

Product Code Description	
HWDTB-6 6 Piece 3/8" Drive Ratchet and Accessory Set	

Contents Include:

Product Code	Description	
JHWB-52EHA	Chrome Finish Enclosed Head Ratchet	
JHWB-108	3" Extension	
JHWB-115	10" Extension	
JHWB-40B	Flex Handle	
JHWB-140A	Universal Joint	
JHWB-20A	Sliding T-Handle	

Features

· All tools are professional quality, made of high-grade chrome vanadium steel





3/8" DRIVE SHALLOW, 12 POINT SOCKETS, SAE





High-Polished Chrome Finish

		Α	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clear- ance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWB-1208	1/4	1 1/32	11/16	13/32	7/32	9/16	7/32	17/32
JHWB-1210	5/16	1 1/32	11/16	7/16	1/4	9/16	17/64	17/32
JHWB-1211	11/32	1 1/32	11/16	1/2	9/32	⁹ /16	21/64	17/32
JHWB-1212	3/8	1 1/32	11/16	9/16	9/32	⁹ /16	11/32	17/32
JHWB-1214	7/16	1 1/32	11/16	5/8	5/16	⁹ /16	11/32	17/32
JHWB-1216	1/2	1 1/32	23/32	23/32	11/32	3/8	3/8	-
JHWB-1217	17/32	1 1/32	25/32	25/32	13/32	3/4	1/2	-
JHWB-1218	9/16	1 3/32	25/32	25/32	9/16	19/32	17/32	-
JHWB-1219	19/32	1 3/32	25/32	25/32	9/16	9/16	9/16	-
JHWB-1220	5/8	1 1/8	²⁷ / ₃₂	²⁷ / ₃₂	19/32	5/8	19/32	-
JHWB-1222	11/16	1 5/32	15/16	¹⁵ /16	5/8	5/8	11/16	-
JHWB-1224	3/4	1 ³ /16	1	1	11/16	11/16	23/32	-
JHWB-1226	13/16	1 1/4	1 1/16	1 1/16	11/16	11/16	25/32	-
JHWB-1228	7/8	1 %2	1 5/32	1 5/32	25/32	25/32	7/8	-
JHWB-1230	15/16	1 3/8	1 1/4	1 1/4	13/16	27/32	29/32	-
JHWB-1232	1	1 13/32	1 5/16	1 5/16	27/32	7/8	1	-



JHWWSB-10RC 10 Piece 3/8" Drive Shallow 12-Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWB-1210	5/16	JHWB-1218	9/16	JHWB-1226	13/16
JHWB-1212	3/8	JHWB-1220	5/8	JHWB-1228	7/8
JHWB-1214	⁷ / ₁₆	JHWB-1222	11/16		
JHWB-1216	1/2	JHWB-1224	3/4		

JHWWSB-13RC 13 Piece 3/8" Drive Shallow 12-Point Socket Set on Clip Rail Contents Include:

Outcille iii	Ciuuci					
Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	
JHWB-1208	1/4	JHWB-1218	9/16	JHWB-1228	7/8	
JHWB-1210	5/16	JHWB-1220	5/8	JHWB-1230	¹⁵ / ₁₆	
JHWB-1212	3/8	JHWB-1222	11/16	JHWB-1232	1	
JHWB-1214	⁷ / ₁₆	JHWB-1224	3/4			
JHWB-1216	1/2	JHWB-1226	13/16			

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners





JHWWSB-10RC



JHWWSB-13RC





236

















JHWB-616

JHWB-608



3/8" DRIVE SHALLOW SOCKETS, 6 POINT, SAE

High-Polished Chrome Finish

Toll Free 1 800 563 1293

		Α	В	С	D	E	F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Nose Length (Inches)
JHWB-608	1/4	1 1/32	11/16	13/32	7/32	9/16	1/2
JHWB-610	5/16	1 1/32	11/16	7/16	1/4	9/16	1/2
JHWB-611	11/32	1 1/32	11/16	1/2	9/32	9/16	1/2
JHWB-612	3/8	1 1/32	11/16	⁹ /16	9/32	9/16	1/2
JHWB-614	7/16	1 1/32	11/16	5/8	5/16	9/16	1/2
JHWB-616	1/2	1 1/32	23/32	23/32	11/32	9/16	
JHWB-618	9/16	1 3/32	25/32	²⁵ / ₃₂	9/16	19/32	-
JHWB-620	5/8	1 1/8	27/32	27/32	19/32	5/8	
JHWB-622	11/16	1 5/32	¹⁵ / ₁₆	15/16	5/8	5/8	-
JHWB-624	3/4	1 3/16	1	1	21/32	11/16	
JHWB-626	¹³ /16	1 1/4	1 1/16	1 1/16	11/16	23/32	-
JHWB-628	7/8	1 %2	1 5/32	1 5/32	3/4	25/32	
JHWB-630	¹⁵ /16	1 3/8	1 1/4	1 1/4	¹³ / ₁₆	27/32	
JHWB-632	1	1 ¹³ / ₃₂	1 5/16	1 5/16	27/32	7/8	

Fed. Spec: ANSI B107.110

JHWWSS-8HRC 8 Piece 3/8" Drive Shallow 6 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWB-608	1/4	JHWB-614	7/16	JHWB-620	5/8
JHWB-610	5/16	JHWB-616	1/2	JHWB-624	3/4
JHWB-612	3/8	JHWB-618	9/16		

JHWWSB-10HRC 10 Piece 3/8" Drive Shallow 6 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWB-610	⁵ / ₁₆	JHWB-618	9/16	JHWB-626	13/16
JHWB-612	3/8	JHWB-620	5/8	JHWB-628	7/8
JHWB-614	⁷ /16	JHWB-622	11/16		
JHWB-616	1/2	JHWB-624	3/4		

JHWWSB-13HRC 13 Piece 3/8" Drive Shallow 6 Point Socket Set on Clip Rail

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWB-608	1/4	JHWB-618	9/16	JHWB-628	7/8
JHWB-610	5/16	JHWB-620	5/8	JHWB-630	¹⁵ / ₁₆
JHWB-612	3/8	JHWB-622	11/16	JHWB-632	1
JHWB-614	7/16	JHWB-624	3/4		
JHWB-616	1/2	JHWB-626	¹³ / ₁₆		

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners





JHWWSS-8HRC



JHWWSB-10HRC





3/8" DRIVE SHALLOW SOCKETS, 4 & 8 POINT, SAE







		Α	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWBD-808	1/4	29/32	21/32	15/32	7/32	13/32	5/32	7/16
JHWB-409 **	9/32	1 1/32	11/16	9/16	5/16	17/32	3/16	1/2
JHWBD-810	5/16	29/32	21/32	9/16	1/4	13/32	1/4	7/16
JHWBD-812	3/8	15/16	11/16	41/64	9/32	7/16	5/16	15/32
JHWBD-814	7/16	1	23/32	23/32	9/32	1/2	5/16	•
JHWBD-816	1/2	1	29/32	29/32	5/16	1/2	13/32	-
JHWBD-818	9/16	1 1/8	1	1	13/32	5/8	17/32	-
JHWBD-820	5/8	1 1/8	1 1/16	1 1/16	7/16	5/8	19/32	•

^{** 4} Point Socket Fed. Spec: ANSI B107.110

JHWWSBD-7RC 7 Piece 8 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBD-808	1/4	JHWBD-814	7/16	JHWBD-820	5/8
JHWBD-810	5/16	JHWBD-816	1/2		
JHWBD-812	3/8	JHWBD-818	9/16		

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- 8 point sockets are designed for quick engagement on 4 point fasteners



3/8" DRIVE 5 POINT PENTA-SOCKET



Black Industrial Finish

		Α	В	С	D	E		F
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose
Product	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length
Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWBB-526	51/64	1 1/16	1 1/8	1 1/8	7/16	1/2	23/32	

• 5 point Penta-Socket services 5 point nuts found on tamper-resistant Buffalo covers used by gas, electric, and some water companies to protect shutoff gates





3/8" DRIVE UNIVERSAL SOCKETS, 12 POINT, SAE **High-Polished Chrome Finish**

_		Α	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Open End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWBU-1212	3/8	1 ²⁵ /32	3/4	1/2	1/4	1/2	5/16	15/64
JHWBU-1214	7/16	1 ²⁵ / ₃₂	3/4	5/8	1/4	1/2	11/32	15/64
JHWBU-1216	1/2	1 ²⁵ / ₃₂	3/4	11/16	5/16	9/16	11/32	9/32
JHWBU-1218	9/16	1 ²⁵ / ₃₂	3/4	3/4	11/32	5/8	11/32	17/32
JHWBU-1220	5/8	1 ²⁵ / ₃₂	3/4	7/8	13/32	11/16	11/32	17/32
JHWBU-1222	11/16	2	3/4	¹⁵ / ₁₆	7/16	23/32	11/32	17/32
JHWBU-1224	3/4	21/8	3/4	1	17/32	13/16	11/32	5/8

Fed. Spec: ANSI B107.110

JHWWSB-7U 7 Piece 12 Point Universal Socket Set on Clip Rail Contonto Includo

Contents in	ciuae:				
Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBU-1212	3/8	JHWBU-1218	9/16	JHWBU-1224	3/4
JHWBU-1214	7/16	JHWBU-1220	5/8		
JHWBU-1216	1/2	JHWBU-1222	11/16		

Features

· Ideal for work in confined areas where fastener is inaccessible to standard sockets











JHWBD-814



JHWWSBD-7RC





JHWBB-526



JHWBU-1220 JHWBU-1212



JHWWSB-7U

*A*pplifast



JHW31154 JHW31142



JHW31938





JHW31539 JHW31528

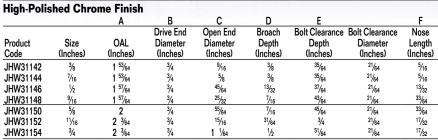


JHW31939





3/8" DRIVE UNIVERSAL SOCKETS, 6 POINT, SAE



Fed. Spec: ANSI B107.110

JHW31938 7 Piece 6 Point Universal Socket Set on Clip Rail

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW31142	3/8	JHW31148	9/16	JHW31154	3/4
JHW31144	7/16	JHW31150	5/8		
.IHW31146	1/6	JHW31152	11/16		

Features

· Ideal for work in confined areas where fastener is inaccessible to standard sockets

3/8" DRIVE UNIVERSAL SOCKETS, 6 POINT, METRIC





High-Polis	hed Chr	ome Finish						
_		Α	В	С	D	Ε		F
Product Code	Size (mm)	OAL (Inches)	Drive End Diameter (Inches)	Open End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW31528	8	1 27/32	3/4	15/32	23/64	35/64	15/64	21/64
JHW31530	10	1 ⁵⁵ / ₆₄	3/4	9/16	23/64	35/64	21/64	21/64
JHW31531	11	1 ⁵⁵ / ₆₄	3/4	5/8	²³ / ₆₄	35/64	21/64	21/64
JHW31532	12	1 ⁵⁵ / ₆₄	3/4	43/64	23/64	35/64	21/64	21/64
JHW31533	13	1 ⁵⁵ / ₆₄	3/4	45/64	23/64	³⁵ / ₆₄	21/64	²³ / ₆₄
JHW31534	14	1 15/16	3/4	49/64	²⁵ / ₆₄	39/64	21/64	1/2
JHW31535	15	1 ⁵⁷ / ₆₄	3/4	53/64	²⁵ / ₆₄	39/64	21/64	1/2
JHW31536	16	2	3/4	⁵⁵ / ₆₄	7/16	⁴⁵ / ₆₄	21/64	1/2
JHW31537	17	2	3/4	¹⁵ / ₁₆	7/16	⁴⁵ / ₆₄	21/64	1/2
JHW31538	18	2 1/64	3/4	15/16	15/32	3/4	21/64	1/2
JHW31539	19	2 3/64	3/4	1	1/2	49/64	21/64	1/2

Fed. Spec: ANSI B107.110

JHW31939 11 Piece 6 Point Universal Socket Set on Clip Rail Contents Include:

Oditicità illoladei					
Product Code	Size (mm)	Product Code	Size (mm)	Product Code	Size (mm)
JHW31528	8	JHW31533	13	JHW31537	17
JHW31530	10	JHW31534	14	JHW31538	18
JHW31531	11	JHW31535	15	JHW31539	19
.IHW31532	12	JHW31536	16	1	

Features

· Ideal for work in confined areas where fastener is inaccessible to standard sockets

3/8" DRIVE CROWFOOT WRENCH, FLARE NUT, 12 POINT





		Α	D	U	U
Product Code	Size (Inches)	Diameter of Head	Thickness of Head	Width of Slot	Length of Centers
JHWBCF20	5/8	¹⁵ / ₁₆	11/16	15/32	⁴⁷ / ₆₄
JHWBCF22	11/16	1 1/32	11/16	17/32	²⁵ / ₃₂
JHWBCF24	3/4	1 1/8	23/32	9/16	53/64
JHWBCF26	¹³ / ₁₆	1 ¹³ / ₆₄	²³ / ₃₂	5/8	7∕8
JHWBCF28	7/8	1 ¹⁹ / ₆₄	3/4	11/16	¹⁵ / ₁₆
JHWBCF30	¹⁵ / ₁₆	1 3/8	3/4	²³ / ₃₂	¹⁵ / ₁₆
JHWBCF32	1	1 ²⁹ / ₆₄	²⁵ / ₃₂	3/4	1 1/64
JHWBCF34	1 1/16	1 17/32	25/32	25/32	1 3/64

Fed. Spec: ASME B107.21 Type 1 Class 1

Satin Chrome Finish, SAE

JHWWSBCF-8 8 Piece 12 Point Crowfoot Wrench on Clip Rail

Contents	Include:
----------	----------

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBCF20	5/8	BCF24	3/4	JHWBCF28	7/8	JHWBCF32	1
JHWBCF22	11/16	BCF26	¹³ / ₁₆	JHWBCF30	15/16	JHWBCF34	1 1/16
JHWBCF24	3/4						





3/8" DRIVE CROWFOOT WRENCH, **OPEN END, SAE**



* USA

* USA

Made in U.S.A.

Satin Chrome Finish, SAE

		Α	С	D	E	F
		Outside	Center to	Overall		
	Size	Diameter	Center	Length	Head Depth	Total Depth
Product Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWBCO12	3/8"	7/8	23/32	7/32	33/64	1 19/64
JHWBCO14	⁷ /16"	7/8	41/64	7/32	33/64	1 ¹⁷ /64
JHWBCO16	1/2"	1 1/32	51/64	7/32	33/64	1 ²⁹ / ₆₄
JHWBCO18	9/16"	1 1/4	59/64	7/32	33/64	1 %
JHWBCO20	5/8"	1 1/4	55/64	7/32	33/64	1 19/32
JHWBCO22	11/16"	1 %6	1 ³ / ₃₂	7/32	33/64	1 59/64
JHWBCO24	3/4"	1 %16	1 1/32	7/32	33/64	1 ⁵⁷ / ₆₄
JHWBCO26	¹³ / ₁₆ "	1 ²³ / ₃₂	1 ³ / ₃₂	9/32	19/32	2
JHWBCO28	7/8"	1 ²³ / ₃₂	1 1/32	9/32	19/32	1 ³¹ / ₃₂
JHWBCO30	15/16"	2	1 5/32	11/32	21/32	2 1/8
JHWBCO32	1"	2	1 5/64	11/32	21/32	2 ³ / ₃₂
JHWBCO40	1 1/4"	2 5/32	1 ¹⁵ / ₆₄	3/8	41/64	2 ⁷ / ₃₂
JHWBCO44	1 3/8"	2 %	1 19/64	3/8	41/64	2 %

JHWWSBCO-10 10 Piece 3/8" Drive Crowfoot Wrenches on Clip Rails, SAE

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBCO12	3/8"	JHWBCO18	9/16"	JHWBCO24	3/4"
JHWBCO14	⁷ /16"	JHWBCO20	5/8"	JHWBCO26	¹³ / ₁₆ "
JHWBCO16	1/2"	JHWBCO22	11/16"	JHWBCO28	⁷ /8"
				JHWBCO32	1"

Features

- · Crowfoot wrenches are professional quality, made of high grade steel
- · Featuring an open end with a continuous arc for constant contact with the fastener for greater turning power without deforming the fastener



JHWBCO32







JHWBCOM19



JHWWSBCOM-10

3/8" DRIVE CROWFOOT WRENCH, **OPEN END, METRIC**



		Α	В	С	D	E
		Outside	Center to	Overall		
	Size	Diameter	Center	Length	Head Depth	Total Depth
Product Code	(mm)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWBCOM10	10	7/8	11/16	1/4	1/2	1 1/4
JHWBCOM11	11	7/8	5/8	1/4	1/2	1 1/4
JHWBCOM12	12	1	13/16	1/4	1/2	1 1/2
JHWBCOM13	13	1	6/8	1/4	1/2	1 1/2
JHWBCOM14	14	1	6%	1/4	1/2	1 3/8
JHWBCOM15	15	1 1/4	7/8	1/4	1/2	1 5/8
JHWBCOM16	16	1 1/4	7/8	1/4	1/2	1 %
JHWBCOM17	17	1 1/4	13/16	1/4	1/2	1 %
JHWBCOM18	18	1 ½	1 1/8	1/4	1/2	1 1/8
JHWBCOM19	19	1 ½	1	1/4	1/2	1 1/8
JHWBCOM20	20	1 ½	1	1/4	1/2	1 1/8
JHWBCOM21	21	1 3/4	1 1/8	1/4	5/8	1 1/8
JHWBCOM22	22	1 3/4	1	1/4	5/8	2

JHWWSBCOM-10 10 Piece 3/8" Drive Crowfoot Wrenches on Clip Rails, MM **Contents Include:**

Outtoile iii	UI MUU I				
Product Code	Size (mm)	Product Code	Size (mm)	Product Code	Size (mm)
JHWBCOM10	10	JHWBCOM13	13	JHWBCOM16	16
JHWBCOM11	11	JHWBCOM14	14	JHWBCOM17	17
JHWBCOM12	12	JHWBCOM15	15	JHWBCOM18	18
				JHWBCOM19	19

- · Crowfoot wrenches are professional quality, made of high grade steel
- · Featuring an open end with a continuous arc for constant contact with the fastener for greater turning power without deforming the fastener









JHW31612BT



JHW31708BT





JHW50671

3/8" DRIVE BOLT THRU SOCKETS, **6 POINT, SAE**





Product Code	Size (Inches)	Overall Length (Inches)	External Hex Inches
JHW31612BT	3/8	1 7/16	3/4
JHW31614BT	7/16	1 7/16	3/4
JHW31616BT	1/2	1 7/16	3/4
JHW31618BT	9/16	1 7/16	3/4
JHW31620BT	5/8	1 7/16	3/4
JHW31622BT	11/16	1 7/16	3/4
JHW31624BT	3/4	1 7/16	3/4

Features

Toll Free 1 800 563 1293

- SUPERTORQUE™ lobular openings for greater turning power without deforming the
- . Designed for quick engagement on both 6 point fasteners

3/8" DRIVE BOLT THRU SOCKETS, **6 POINT, METRIC**





Product Code	Size (mm)	Overall Length (Inches)	External Hex Inches
JHW31708BT	8	1 7/16	3/4
JHW31709BT	9	1 7/16	3/4
JHW31710BT	10	1 7/16	3/4
JHW31711BT	11	1 7/16	3/4
JHW31712BT	12	1 7/16	3/4
JHW31713BT	13	1 7/16	3/4
JHW31714BT	14	1 7/16	3/4
JHW31715BT	15	1 7/16	3/4
JHW31716BT	16	1 7/16	3/4
JHW31717BT	17	1 7/16	3/4
JHW31718BT	18	1 7/16	3/4
JHW31719BT	19	1 7/16	3/4

Features

JHW50671

Designed for quick engagement on 6 point fasteners

22 PIECE 3/8" DRIVE **BOLT THRU SOCKET SET**



22 Piece 3/8" Drive Bolt Thru Socket Set





6 Point Compact Case Tool Set, SAE & MM **Product Code** Description

Contents Inc	:lude:		
3/8" Drive Tools	S:	3/8" Drive Shallov	v 6-Point Sockets
Product Code	Description	Product Code	Size (mm)
JHW31018	Locking Flexible Ratchet	JHW31708BT	8
JHW31019	3" Extension	JHW31709BT	9
JHW31020	Adaptor	JHW31710BT	10
	•	JHW31711BT	11
3/8" Drive Shal	low 6 Point Sockets:	JHW31712BT	12
Product Code	Size (Inches)	JHW31713BT	13
JHW31612BT	3/8	JHW31714BT	14
JHW31614BT	7/16	JHW31715BT	15
JHW31616BT	1/2	JHW31716BT	16
JHW31618BT	9/16	JHW31717BT	17
JHW31620BT	5/8	JHW31718BT	18
JHW31622BT	11/16	JHW31719BT	19
JHW31624BT	3/4		

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged compact high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- · Ratchet with 7 locking positions and flex head design



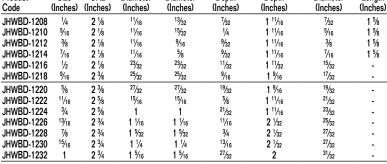
pplīfast

3/8" DRIVE DEEP SOCKETS, 12 POINT, SAE





High-Polished Chrome Finish Working End Broach Bolt Clearance Bolt Clearance Drive End Nose OAL Product Size Diameter Diameter Depth Depth Diameter Length (Inches) (Inches) Code (Inches) (Inches) (Inches) (Inches) (Inches) JHWBD-1208 1 11/16 7/32 JHWBD-1210 1 11/16 2 1/8 11/16 15/32 1/4 5/16 1 % 3/8 JHWBD-1212 2 1/8 11/16 9/16 9/32 1 11/16 1 % JHWBD-1214 ⁷/16 11/16 9/32 1 11/16 7/16 1 % JHWBD-1216 1/2 2 1/8 23/32 23/32 11/32 1 11/32 15/32 JHWBD-1218 25/32 25/32 9/16 1 %16 17/32





JHWWSBD-9RC 9 Piece 3/8" Drive Deep 12 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBD-1212	3/8	JHWBD-1218	9/16	JHWBD-1224	3/4
JHWBD-1214	7/16	JHWBD-1220	5/8	JHWBD-1226	13/16
JHWBD-1216	1/2	JHWBD-1222	11/16	JHWBD-1228	7/8

JHWWSBD-13RC 13 Piece 3/8" Drive Deep 12 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBD-1208	1/4	JHWBD-1218	9/16	JHWBD-1228	7/8
JHWBD-1210	5/16	JHWBD-1220	5/8	JHWBD-1230	¹⁵ / ₁₆
JHWBD-1212	3/8	JHWBD-1222	11/16	JHWBD-1232	1
JHWBD-1214	7/16	JHWBD-1224	3/4		
JHWBD-1216	1/2	JHWBD-1226	13/16		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for quick engagement on both 6 and 12 point fasteners







JHWWSBD-13RC



JHWBD-1208 JHWBD-1216















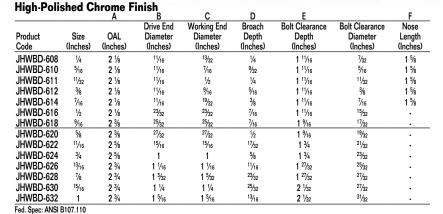
Toll Free 1 800 563 1293



JHWBD-616

JHWBD-608





JHWWSBD13HRC 13 Piece 3/8" Drive Deep 6 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBD-608	1/4	JHWBD-618	9/16	JHWBD-628	7/8
JHWBD-610	5/16	JHWBD-620	5/8	JHWBD-630	¹⁵ / ₁₆
JHWBD-612	3/8	JHWBD-622	11/16	JHWBD-632	1
JHWBD-614	7/16	JHWBD-624	3/4		
JHWBD-616	1/2	JHWBD-626	¹³ / ₁₆		

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners





3/8" DRIVE SPARK PLUG SOCKETS, 6 POINT, SAE





		Α	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW31301	5/8	2 ²⁷ / ₃₂	11/16	27/32	15/32	29/32	11/16	NA
JHW31303	¹³ / ₁₆	2 ²³ / ₃₂	¹³ / ₁₆	1 1/16	15/32	1 1/32	7/8	NA
Fed. Spec: ANS	SI B107.110							

Features

· Rubber insert holds spark plug and prevents damage to insulator



JHW31301



3/8" DRIVE SHALLOW SOCKETS, 12 POINT, METRIC





High-Polis	High-Polished Chrome Finish										
		Α	В	С	D	E		F			
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)			
JHWBM-1206	6	1 1/32	11/16	13/32	7/32	9/16	7/32	17/32			
JHWBM-1207	7	1 1/32	11/16	13/32	7/32	9/16	7/32	17/32			
JHWBM-1208	8	1 1/32	11/16	15/32	1/4	9/16	9/32	17/32			
JHWBM-1209	9	1 1/32	11/16	1/2	9/32	9/16	11/32	17/32			
JHWBM-1210	10	1 1/32	11/16	9/16	9/32	9/16	11/32	17/32			
JHWBM-1211	11	1 1/32	11/16	5/8	9/32	9/16	11/32	17/32			
JHWBM-1212	12	1 1/32	11/16	²¹ / ₃₂	11/32	9/16	11/32	17/32			
JHWBM-1213	13	1 1/32	23/32	23/32	11/32	9/16	3/8	-			
JHWBM-1214	14	1 1/32	25/32	25/32	⁷ /16	17/32	17/32				
JHWBM-1215	15	13/32	13/16	¹³ / ₁₆	19/32	19/32	9/16	-			
JHWBM-1216	16	11/8	27/32	27/32	19/32	5/8	19/32	-			
JHWBM-1217	17	15/32	29/32	29/32	5/8	5/8	5/8	-			
JHWBM-1218	18	15/32	31/32	31/32	5/8	21/32	11/16	-			
JHWBM-1219	19	1 3/16	1	1	21/32	11/16	23/32	-			
JHWBM-1220	20	1 7/32	1 1/32	1 1/32	11/16	23/32	3/4	-			
JHWBM-1221	21	1 1/4	1 1/8	1 1/8	23/32	23/32	3/16	-			
JHWBM-1222	22	1 %2	1 5/32	1 5/32	3/4	3/4	3/16	•			
JHWBM-1223	23	1 5/16	1 3/16	1 3/16	3/4	25/32	7/8	•			
JHWBM-1224	24	1 %	1 1/4	1 1/4	¹³ / ₁₆	²⁷ / ₃₂	7/8	•			
JHWBM-1226	26	1 7/16	1 ¹¹ / ₃₂	1 ¹¹ /32	²⁷ / ₃₂	7/8	¹⁵ / ₁₆				





JHWBM-1226 Fed. Spec: ANSI B107.110

JHWMSB-12RC 12 Piece 3/8" Drive Shallow 12 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWBM-1208	8	JHWBM-1212	12	JHWBM-1216	16
JHWBM-1209	9	JHWBM-1213	13	JHWBM-1217	17
JHWBM-1210	10	JHWBM-1214	14	JHWBM-1218	18
.IHWRM-1211	11	JHWRM-1215	15	.IHWRM-1219	19

JHWMSB-12RC

JHWMSB-17RC 17 Piece 3/8" Drive Shallow 12 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	
JHWBM-1206	6	JHWBM-1211	11	JHWBM-1216	16	JHWBM-1221	21	
JHWBM-1207	7	JHWBM-1212	12	JHWBM-1217	17	JHWBM-1222	22	
JHWBM-1208	8	JHWBM-1213	13	JHWBM-1218	18			
JHWBM-1209	9	JHWBM-1214	14	JHWBM-1219	19			
JHWBM-1210	10	JHWBM-1215	15	JHWBM-1220	20			



JHWMSB-20RC 20 Piece 3/8" Drive Shallow 12 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWBM-1206	6	JHWBM-1211	11	JHWBM-1216	16	JHWBM-1221	21
JHWBM-1207	7	JHWBM-1212	12	JHWBM-1217	17	JHWBM-1222	22
JHWBM-1208	8	JHWBM-1213	13	JHWBM-1218	18	JHWBM-1223	23
JHWBM-1209	9	JHWBM-1214	14	JHWBM-1219	19	JHWBM-1224	24
JHWBM-1210	10	JHWBM-1215	15	JHWBM-1220	20	JHWBM-1226	26

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for quick engagement on both 6 and 12 point fasteners





JHWMSB-20RC



















JHWBM-612

JHWBM-606



3/8" DRIVE SHALLOW SOCKETS, 6 POINT, METRIC

High-Polished Chrome Finish

Toll Free 1 800 563 1293

		Α	В	С	D	E		F
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWBM-605.5	5 ½	1 1/32	11/16	13/32	7/32	9/16	3/16	17/32
JHWBM-606	6	1 1/32	11/16	13/32	7/32	9/16	7/32	17/32
JHWBM-607	7	1 1/32	11/16	13/32	7/32	9/16	7/32	17/32
JHWBM-608	8	1 1/32	11/16	15/32	1/4	9/16	9/32	17/32
JHWBM-609	9	1 1/32	11/16	1/2	9/32	9/16	11/32	17/32
JHWBM-610	10	1 1/32	11/16	9/16	9/32	9/16	11/32	17/32
JHWBM-611	11	1 1/32	11/16	5/8	9/32	9/16	11/32	17/32
JHWBM-612	12	1 1/32	11/16	21/32	11/32	9/16	11/32	17/32
JHWBM-613	13	1 1/32	23/32	23/32	11/32	9/16	3/8	
JHWBM-614	14	1 1/32	²⁵ / ₃₂	25/32	7/16	17/32	17/32	
JHWBM-615	15	1 3/32	13/16	13/16	19/32	19/32	9/16	
JHWBM-616	16	1 1/8	27/32	27/32	19/32	5/8	19/32	
JHWBM-617	17	1 5/32	29/32	29/32	5/8	5/8	5/8	
JHWBM-618	18	1 5/32	31/32	31/32	5/8	21/32	¹¹ / ₁₆	
JHWBM-619	19	1 ³ /16	1	1	21/32	11/16	23/32	
JHWBM-620	20	1 7/32	1 1/32	1 1/32	11/16	23/32	3/4	
JHWBM-621	21	1 1/4	1 1/8	1 1/8	23/32	23/32	3/16	
JHWBM-622	22	1 %2	1 5/32	1 5/32	3/4	3/4	3/16	
JHWBM-623	23	1 5/16	1 3/16	1 3/16	3/4	25/32	7/8	
JHWBM-624	24	1 3/8	1 1/4	1 1/4	¹³ / ₁₆	²⁷ / ₃₂	7/8	-
JHWBM-626	26	1 7/16	1 11/32	1 11/32	27/32	7/8	¹⁵ / ₁₆	-

Fed. Spec: ANSI B107.110

JHWMSB-12HRC

12 Piece 3/8" Drive Shallow 6 Point Socket Set on Clip Rail

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWBM-608	8	JHWBM-612	12	JHWBM-616	16
JHWBM-609	9	JHWBM-613	13	JHWBM-617	17
JHWBM-610	10	JHWBM-614	14	JHWBM-618	18
JHWBM-611	11	JHWBM-615	15	JHWBM-619	19

JHWMSB-20HRC

20 Piece 3/8" Drive Shallow 6 Point Socket Set on Clip Rail

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWBM-605.5	5 1/2	JHWBM-610	10	JHWBM-615	15	JHWBM-620	20
JHWBM-606	6	JHWBM-611	11	JHWBM-616	16	JHWBM-621	21
JHWBM-607	7	JHWBM-612	12	JHWBM-617	17	JHWBM-622	22
JHWBM-608	8	JHWBM-613	13	JHWBM-618	18	JHWBM-623	23
JHWBM-609	9	JHWBM-614	14	JHWBM-619	19	JHWBM-624	24

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Designed for maximum engagement on 6 point fasteners







JHWMSB-20RC



3/8" DRIVE DEEP SOCKETS, 6 POINT, METRIC





High-Polished Chrome Finish

		A	В	C	ט	<u> </u>		h
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWBMD-606	6	2 1/8	11/16	13/32	7/32	1 11/16	7/32	1 %
JHWBMD-607	7	2 1/8	11/16	13/32	9/32	1 11/16	1/4	1 %
JHWBMD-608	8	2 1/8	11/16	15/32	9/32	1 11/16	5/16	1 %
JHWBMD-609	9	2 1/8	11/16	1/2	9/32	1 11/16	11/32	1 %
JHWBMD-610	10	2 1/8	11/16	⁹ /16	5/16	1 11/16	3/8	1 %
JHWBMD-611	11	2 1/8	11/16	5/8	3/8	1 11/16	7/16	1 %
JHWBMD-612	12	2 1/8	11/16	21/32	13/32	1 11/16	15/32	1 %
JHWBMD-613	13	2 1/8	23/32	23/32	13/32	1 %	17/32	
JHWBMD-614	14	2 %	25/32	25/32	13/32	1 %16	17/32	-
JHWBMD-615	15	2 %	13/16	¹³ / ₁₆	13/32	1 %16	17/32	
JHWBMD-616	16	2 %	27/32	²⁷ / ₃₂	13/32	1 %16	19/32	
JHWBMD-617	17	2 ²¹ / ₃₂	29/32	²⁹ / ₃₂	1/2	1 ¹³ / ₁₆	5/8	
JHWBMD-618	18	2 ²¹ / ₃₂	31/32	31/32	1/2	1 ¹³ / ₁₆	21/32	
JHWBMD-619	19	2 21/32	1	1	5/8	1 15/16	23/32	
JHWBMD-620	20	2 21/32	1 1/32	1 1/32	5/8	1 15/16	25/32	
JHWBMD-622	22	2 1/8	1 5/32	1 5/32	5/8	2 5/32	7/8	-
JHWBMD-623	23	2 1/8	1 3/16	1 3/16	1/2	2 5/32	²⁷ / ₃₂	-
JHWBMD-624	24	2 1/8	1 1/4	1 1/4	9/16	2 5/32	¹⁵ / ₁₆	-
JHWBMD-625	25	2 1/8	1 %32	1 %2	9/16	2 1/8	31/32	-
Tall Caras ANICI D4	07 110							





JHWBMD-612

JHWBMD-606

JHWMSBD12HRC 12 Piece 3/8" Drive Deep 6 Point Socket Set on Clip Rail

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWBMD-608	8	JHWBMD-612	12	JHWBMD-616	16
JHWBMD-609	9	JHWBMD-613	13	JHWBMD-617	17
JHWBMD-610	10	JHWBMD-614	14	JHWBMD-618	18
JHWBMD-611	11	JHWBMD-615	15	JHWBMD-619	19

JHWMSBD19HRC 19 Piece 3/8" Drive Deep 6 Point Socket Set on Clip Rail Contents Include:

Contents	iliciaac.							
Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	
JHWBMD-606	6	JHWBMD-611	11	JHWBMD-616	16	JHWBMD-622	22	
JHWBMD-607	7	JHWBMD-612	12	JHWBMD-617	17	JHWBMD-623	23	
JHWBMD-608	8	JHWBMD-613	13	JHWBMD-618	18	JHWBMD-624	24	
JHWBMD-609	9	JHWBMD-614	14	JHWBMD-619	19	JHWBMD-625	25	
.IHWRMD-610	10	JHWRMD-615	15	JHWRMD-620	20			

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 point fasteners





JHWMSBD12HRC



JHWMSBD19HRC

















High-Polished Chrome Finish

	Α	В	С	D	E		F
Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
6	2 1/2	11/16	3/8	5/8	1 %16	7/32	1 7/32
7	2 1/2	11/16	7/16	5/8	1 %16	1/4	1 7/32
8	2 1/2	11/16	7/16	5/8	1 %16	9/32	1 7/32
9	2 1/2	11/16	17/32	5/8	1 %16	5/16	1 7/32
10	2 1/2	11/16	9/16	1	1 11/16	3/8	1 7/32
11	2 1/2	11/16	5/8	1	1 25/32	13/32	1 7/32
12	2 1/2	11/16	11/16	1	1 25/32	7/16	
13	2 1/2	23/32	23/32	1	1 31/32	1/2	
14	2 1/2	3/4	3/4	1	2	17/32	
15	2 1/2	13/16	13/16	1	1 ¹⁵ / ₁₆	9/16	
16	2 1/2	7/8	7/8	1	1 29/32	19/32	
17	2 1/2	¹⁵ / ₁₆	¹⁵ /16	1	2	21/32	
18	2 1/2	31/32	31/32	1 1/16	1 29/32	11/16	
19	2 1/2	1	1	1 3/32	1 31/32	23/32	
	(MM) 6 7 8 9 10 11 12 13 14 15 16 17 18	Size (MM) (Inches) 6 2 ½ 7 2 ½ 8 2 ½ 9 2 ½ 10 2 ½ 11 2 ½ 12 2 ½ 13 2 ½ 14 2 ½ 15 2 ½ 16 2 ½ 17 2 ½ 18 2 ½	Size OAL Drive End Diameter (Inches)	Note	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$

Fed. Spec: ANSI B107.110

JHW31934 8 Piece 3/8" Drive Deep 12 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW31810	10	JHW31813	13	JHW31816	16
JHW31811	11	JHW31814	14	JHW31817	17
JHW31812	12	JHW31815	15		

JHW31936 14 Piece 3/8" Drive Deep 12 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW31806	6	JHW31811	11	JHW31816	16
JHW31807	7	JHW31812	12	JHW31817	17
JHW31808	8	JHW31813	13	JHW31818	18
JHW31809	9	JHW31814	14	JHW31819	19
JHW31810	10	JHW31815	15		

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners







JHW31806

JHW31812



plīfast

3/8" DRIVE TURBOSOCKET® SALVAGE/DAMAGED **FASTENER SOCKETS**





Black Industrial Finish, Metric and SAE

		Α	В	С	D	Ε		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWTS38375	3/8	1 1/4	11/16	19/32	13/32	3/4	3/8	11/16
JHWTS38437	7/16	1 1/4	11/16	21/32	1/2	3/4	7/16	11/16
JHWTS38500	1/2	1 1/4	3/4	3/4	1/2	3/4	1/2	-
JHWTS38562	9/16	1 1/4	¹³ / ₁₆	¹³ / ₁₆	1/2	23/32	⁹ /16	-
JHWTS38625	5/8	1 1/4	29/32	29/32	1/2	19/32	5/8	-
JHWTS38687	11/16	1 13/32	31/32	31/32	21/32	29/32	23/32	
JHWTS38750	3/4	1 13/32	1 1/16	1 1/16	21/32	²⁹ / ₃₂	3/4	

Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWTS38394	10	1 1/4	11/16	5/8	13/32	3/4	13/32	11/16
JHWTS38472	12	1 1/4	23/32	23/32	1/2	3/4	15/32	-
JHWTS38512	13	1 1/4	3/4	3/4	1/2	3/4	17/32	-
JHWTS38551	14	1 1/4	13/16	13/16	1/2	23/32	⁹ /16	-
JHWTS38591	15	1 1/4	27/32	27/32	1/2	19/32	19/32	-
JHWTS38669	17	1 13/32	31/32	31/32	21/32	29/32	23/32	-



JHWTS38687



JHWTSFS3807 7 Piece TURBOSOCKET® Salvage Socket Set on Clip Rail, SAE

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWTS38375	3/8	JHWTS38562	9/16	JHWTS38750	3/4
JHWTS38437	⁷ / ₁₆	JHWTS38625	5/8		
JHWTS38500	1/6	JHWTS38687	11/16		

JHWTSCS3813 13 Piece TURBOSOCKET® Salvage Socket Set on Clip Rail, **SAE and Metric**

Contents Include:

Product Code	Size (Inches)	Product Code	Size (MM)
JHWTS38375	3/8	JHWTS38394	10
JHWTS38437	7/16	JHWTS38472	12
JHWTS38500	1/2	JHWTS38512	13
JHWTS38562	9/16	JHWTS38551	14
JHWTS38625	5/8	JHWTS38591	15
JHWTS38687	11/16	JHWTS38669	17
JHWTS38750	3/4		



JHWTS38669

JHWTSMS3809 9 Piece TURBOSOCKET® Salvage Socket Set on Clip Rail, Metric

Contents Include:

Product Code Siz	e (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWTS38394	10	JHWTS38512	13	JHWTS38625	16 (5%")
JHWTS38437 11	1 (7/16")	JHWTS38551	14	JHWTS38669	17
JHWTS38472	12	JHWTS38591	15	JHWTS38750	19 (¾")

- · Quickly and easily remove damaged or rounded nuts and bolts
- · Place socket on fastener and turn with ratchet, breaker bar or T-handle
- · Grip on fastener tightens as more torque is applied
- No hammering is required to install socket over fastener
- Use on all types of standard nuts and bolts as well as studs, pipe nipples, and corroded auto and marine fasteners
- May be used for "best fit" on metric and fractional fasteners
- . May be used with air or electric impact wrench for extra speed and turning power























JHWBA-7HBA



JHWWSBB-7RC



JHWBA-7A



JHWWSB-7A



JHWWSBS-10RC



3/8" DRIVE STANDARD LENGTH HEX BIT SOCKETS, METRIC

nign-Polisnea Chrome Finish									
•	Size	Socket Length	Socket Outside Diameter	Overall Length	Bit Length				
Product Code	(MM)	(Inches)	(Inches)	(Inches)	(Inches)				
JHW35170	4	1 3/16	3/4	1 27/32	21/32				
JHW35171	5	1 3/16	3/4	1 27/32	21/32				
JHW35172	6	1 ³ / ₁₆	3/4	1 27/32	21/32				
JHW35173	7	1 ³ / ₁₆	3/4	1 27/32	21/32				
JHW35174	8	1 3/16	3/4	1 31/32	13/16				
JHW35175	9	1 ³ / ₁₆	3/4	1 31/32	¹³ / ₁₆				
JHW35176	10	1 3/16	3/4	1 31/32	13/16				

JHW31904 7 Piece Hex Bit Socket Set on Clip Rail

Ochiconico micrae					
Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW35170	4	JHW35173	7	JHW35176	10
JHW35171	5	JHW35174	8		
JHW35172	6	JHW35175	9		

. High-polished chrome finish socket cleans easily

Toll Free 1 800 563 1293

3/8" DRIVE BALL TIP HEX BIT SOCKETS, SAE High-Polished Chrome Finish





Product Code	Size (Inches)	Socket Length (Inches)	Socket OutsideDiameter (Inches)	Overall Length (Inches)	Replacement Bit Product Code
JHWBA-3HBA	3/32	1 1/16	11/16	1 27/32	JHWBITHB03T01
JHWBA-4HBA	1/8	1 1/16	11/16	1 7/8	JHWBITHB0402
JHWBA-5HBA	5/32	1 1/16	11/16	1 1/8	JHWBITHB0502
JHWBA-6HBA	³ / ₁₆	1 1/16	11/16	1 1/8	JHWBITHB0602
JHWBA-7HBA	7/32	1 1/16	11/16	1 1/8	JHWBITHB0702
JHWBA-8HBA	1/4	1 1/16	11/16	1 1/8	JHWBITHB0802
JHWBA-10HBA	5/16	1 1/16	11/16	1 1/8	JHWBITHB1001
JHWBA-12HBA	3/8	1 1/16	²³ / ₃₂	1 1/8	JHWBITHB1201

JHWWSBB-7RC 7 Piece Ball Tip Hex Bit Socket Set on Clip Rail

•••••••	•-				
Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBA-4HBA	1/8	JHWBA-7HBA	7/32	JHWBA-12HBA	3/8
JHWBA-5HBA	5/32	JHWBA-8HBA	1/4		
IHWRV CHBV	3/4.0	IHWRA 10HRA	5/46		

Features

- . High-polished chrome finish socket cleans easily
- · Two piece design allows bits to be replaced easily



3/8" DRIVE STANDARD LENGTH HEX BIT SOCKETS, SAE



High-Polished Chrome Finish

Product Code	Size (Inches)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Replacement Bit Product Code
JHWBA-3A	3/32	1 1/16	11/16	1 27/32	JHWBITH03T01
JHWBA-4A	1/8	1 1/16	11/16	1 1/8	JHWBITH0403
JHWBA-5A	5/32	1 1/16	11/16	1 ⁷ / ₈	JHWBITH0503
JHWBA-6A	3/16	1 1/16	11/16	1 ⁷ / ₈	JHWBITH0603
JHWBA-7A	7/32	1 1/16	11/16	1 1/8	JHWBITH0703
JHWBA-8A	1/4	1 1/16	11/16	1 %	JHWBITH0803
JHWBA-10A	5/16	1 1/16	11/16	1 1/8	JHWBITH1003
.IHWRA-12A	3/6	1 1/16	23/22	1 7/6	.IHWRITH1201

JHWWSB-7A 7 Piece Hex Bit Socket Set on Clip Rail

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBA-4A	1/8	JHWBA-8A	1/4
JHWBA-5A	5/32	JHWBA-10A	5/16
JHWBA-6A	3/16	JHWBA-12A	3/8
JHWBA-7A	7/32		

JHWWSBS-10RC 10 Piece Hex Bit Socket Set on Clip Rail, 3/8" & 1/2" Drive

Contents Include

Contonts morat	101				
3/8" Drive		3/8" Drive		1/2" Drive	
Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBA-4A	1/8	JHWBA-8A	1/4	JHWSA-16A	1/2
JHWBA-5A	5/32	JHWBA-10A	5/16	JHWSA-18A	9/16
JHWBA-6A	3/16	JHWBA-12A	3/8	JHWSA-20A	5/8
JHWBA-7A	7/32				

- · High-polished chrome finish socket cleans easily
- · Two piece design allows bits to be replaced easily





3/8" DRIVE LONG HEX BIT SOCKETS, SAE





High-Polished	l Chrome Fini	sh			
Product Code	Size (Inches)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Replacement Bit Product Code
JHWBA-3LA	3/32	1 1/16	11/16	3 3/4	JHWBITH03T02
JHWBA-4LA	1/8	1 1/16	11/16	3 3/4	JHWBITH0404
JHWBA-5LA	5/32	1 1/16	11/16	3 ¾	JHWBITH0504
JHWBA-6LA	3/16	1 1/16	11/16	3 ¾	JHWBITH0604
JHWBA-7LA	7/32	1 1/16	11/16	3 ¾	JHWBITH0704
JHWBA-8LA	1/4	1 1/16	11/16	3 ¾	JHWBITH0804
JHWBA-10LA	5/16	1 1/16	11/16	3 ¾	JHWBITH1004
JHWBA-12LA	3/8	1 1/16	23/32	3 ¾	JHWBITH1202

JHWWSBS-7LRC 7 Piece Long Hex Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWBA-4LA	1/8	JHWBA-7LA	7/32	JHWBA-12LA	3/8
JHWBA-5LA	5/32	JHWBA-8LA	1/4		
JHWBA-6LA	3/16	JHWBA-10LA	5/16		

Features

- . High-polished chrome finish socket cleans easily
- . Two piece design allows bits to be replaced easily





3/8" DRIVE SCREWDRIVER BIT SOCKETS

High-Polished Chrome Finish, Phillips® and Slotted

Product Code	Size (Inches)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Replacement Bit Product Code
Slotted Bits:					
JHWBA-5A-1S	3/16 x .032	1 1/16	11/16	1 13/16	JHWBITHS01
JHWBA-7A-2S	7∕ ₃₂ x .039	1 1/16	11/16	1 13/16	JHWBITHS02
JHWBA-10A-3S	%з2 х .047	1 1/16	11/16	1 1/8	JHWBITHS04
JHWBA-10A-4S	5∕16 x .061	1 1/16	11/16	1 1/8	JHWBITHS05
Phillips® Bits:					
JHWBA-7A-1P	1	1 1/16	11/16	1 1/8	JHWBITPH0102
JHWBA-7A-2P	2	1 1/16	11/16	1 1/8	JHWBITPH0202
JHWBA-10A-3P	3	1 1/16	11/16	1 1/8	JHWBITPH0302
JHWBA-12A-4P	4	1 1/16	23/32	1 1/8	JHWBITPH0401

JHWWSBSP-8RC 8 Piece Screwdriver Bit Socket Set on Clip Rail

Contents Include:

Product Code	Tip Size	Product Code	Tip Size	Product Code	Tip Size	Product Code	Tip Size
JHWBA-5A-1S	3/16 x .032	JHWBA-10A-3S	%2 x .047	JHWBA-7A-1P	1	JHWBA-10A-3P	3
JHWBA-7A-2S	⁷ /₃₂ x .039	JHWBA-10A-4S	5/16 x .061	JHWBA-7A-2P	2	JHWBA-12A-4P	4

Features

- . High-polished chrome finish socket cleans easily
- · Two piece design allows bits to be replaced easily



3/8" DRIVE LONG LENGTH **HEX BIT SOCKETS, METRIC**



Overell I anoth



High-Polished Chrome Finish

Product Code	(MM)	(Inches)	(Inches)	(Inches)
JHW35164	4	1 3/16	3/4	6
JHW35165	5	1 3/16	3/4	6
JHW35166	6	1 3/16	3/4	6
JHW35167	7	1 3/16	3/4	6
JHW35168	8	1 3/16	3/4	6
JHW35169	9	1 3/16	3/4	6
JHW35163	10	1 3/16	3/4	6

Cooket Outside Diameter

Coalcat I anath

JHW31951 7 Piece Hex Bit Socket Set on Clip Rail

Contents Include:

Ountents int	iuu c .				
Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW35164	4	JHW35167	7	JHW35163	10
JHW35165	5	JHW35168	8		
JHW35166	6	JHW35169	9		

Features

. High-polished chrome finish socket cleans easily



























JHW31912

3/8" DRIVE LONG BALL TIP **HEX BIT SOCKETS, SAE**

Toll Free 1 800 563 1293





High-Polish	Socket Outside Diameter	Overall Length		
Product Code	Size (Inches)	Socket Length (Inches)	(Inches)	(Inches)
JHW35130	1/8	1 3/16	3/4	5
JHW35131	9/64	1 3/16	3/4	5
JHW35132	5/32	1 3/16	3/4	5
JHW35133	3/16	1 3/16	3/4	5
JHW35134	7/32	1 3/16	3/4	5
JHW35135	1/4	1 3/16	3/4	5
JHW35136	5/16	1 3/16	3/4	5
ILI\M25127	3/4	1 3/	3/.	E

JHW31947 8 Piece Ball Tip Hex Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW35130	1/8	JHW35133	3/16	JHW35136	5/16
JHW35131	9/64	JHW35134	7/32	JHW35137	3/8
JHW35132	5/32	JHW35135	1/4		

Features

. High-polished chrome finish socket cleans easily

3/8" DRIVE TORX® BIT SOCKETS



High-Polished Chrome Finish									
Product Code	Torx [®] Size	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)				
JHW35182	T25	1 3/16	3/4	1 27/32	11/16				
JHW35183	T27	1 ³ / ₁₆	3/4	1 27/32	11/16				
JHW35184	T30	1 ³ / ₁₆	3/4	1 27/32	11/16				
JHW35185	T40	1 ³ / ₁₆	3/4	1 31/32	13/16				
JHW35186	T45	1 ³ / ₁₆	3/4	1 31/32	13/16				
JHW35187	T47	1 ³ / ₁₆	3/4	2	13/16				
JHW35188	T50	1 3/16	3/4	2	13/16				

JHW31910 7 Piece Torx® Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Torx® Size	Product Code	Torx® Size	Product Code	Torx® Size
JHW35182	T25	JHW35185	T40	JHW35188	T50
JHW35183	T27	JHW35186	T45		
JHW35184	T30	JHW35187	T47		

Features

. High-polished chrome finish socket cleans easily

3/8" DRIVE TAMPER-RESISTANT **TORX® BIT SOCKETS**



High-Polished Chrome Finish									
Product Code	Torx [®] Size	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)				
JHW35192	T25	1 3/16	3/4	1 27/32	21/32				
JHW35193	T27	1 ³ / ₁₆	3/4	1 27/32	21/32				
JHW35194	T30	1 3/16	3/4	1 27/32	21/32				
JHW35195	T40	1 3/16	3/4	1 31/32	13/16				
JHW35196	T45	1 ³ / ₁₆	3/4	1 31/32	13/16				
JHW35197	T47	1 ³ / ₁₆	3/4	1 31/32	13/16				
JHW35198	T50	1 3/16	3/4	1 31/32	13/16				

JHW31912 7 Piece Tamper-Resistant Torx® Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Torx® Size	Product Code	Torx® Size	Product Code	Torx® Size
JHW35192	T25	JHW35195	T40	JHW35198	T50
JHW35193	T27	JHW35196	T45		
JHW35194	T30	JHW35197	T47		

Features

. High-polished chrome finish socket cleans easily



3/8" DRIVE SOCKET FLEXTENSIONS

Williams Flextension are used extensively in engine and heavy equipment manufacturing, assembly and repair. They increase productivity by featuring an integrated (non-removable) design of the drive extension and socket to allow for reliable, continuous work without concern for the socket disconnecting from the extension as could happen with hand-tool type ball retained sockets.



3/8" DRIVE SOCKET FLEXTENSIONS, SAE

Black Industrial Finish

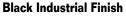
Diack industrial i mish									
		Α				В	С	D	Е
Product Code	Drive	Shank Length	Tension	Socket Points	Socket (SAE)	Socket Length	Socket Diameter	Nose Diameter	Hex Depth
JHWISFXT412	3/8"	4.57"/116.1MM	Yes	6	3/8"	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISFX412	3/8"	4.57"/116.1MM	No	6	3/8"	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISFXTD612	3/8"	6.57"/166.9MM	Yes	12	3/8"	0.81"/20.6MM	0.75"/19.1MM	0.60"/15.2MM	0.41"/10.4MM
JHWISFXT612	3/8"	6.57"/166.9MM	Yes	6	3/8"	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISFX612	3/8"	6.57"/166.9MM	No	6	3/8"	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISFXT1212	3/8"	12.57"/319.3MM	Yes	6	3/8"	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISFXT414	3/8"	4.57"/116.1MM	Yes	6	⁷ /16"	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISFX414	3/8"	4.57"/116.1MM	No	6	⁷ /16"	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISFXT614	3/8"	6.57"/166.9MM	Yes	6	7/16"	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISFX614	3/8"	6.57"/166.9MM	No	6	7/16"	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISFXT416	3/8"	4.57"/116.1MM	Yes	6	1/2"	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFX416	3/8"	4.57"/116.1MM	No	6	1/2"	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXT616	3/8"	6.57"/166.9MM	Yes	6	1/2"	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSX616	3/8"	6.57"/166.9MM	No	6	1/2"	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXT1216	3/8"	12.57"/319.3MM	Yes	6	1/2"	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXT418	3/8"	4.57"/116.1MM	Yes	6	9/16"	1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	0.44"/11.2MM
JHWISFX418	3/8"	4.57"/116.1MM	No	6	9/16"	1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	0.44"/11.2MM
JHWISFXT618	3/8"	6.57"/166.9MM	Yes	6	9/16"	1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	0.44"/11.2MM
JHWISFX618	3/8"	6.57"/166.9MM	No	6	9/16"	1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	0.44"/11.2MM
JHWISFXT420	3/8"	4.57"/116.1MM	Yes	6	5/8"	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISFX420	3/8"	4.57"/116.1MM	No	6	5/8"	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISFXT620	3/8"	6.57"/166.9MM	Yes	6	5/8"	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISFX620	3/8"	6.57"/166.9MM	No	6	5/8"	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM



3/8" DRIVE SOCKET FLEXTENSIONS, METRIC







		Α				В	C	U	Ŀ
Product Code	Drive	Shank Length	Tension	Socket Points	Socket (mm)	Socket Length	Socket Diameter	Nose Diameter	Socket Hex Depth
JHWISFXTM410	3/8"	4.57"/116.1MM	Yes	6	10	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISFXM410	3/8"	4.57"/116.1MM	No	6	10	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISFXTM610	3/8"	6.57"/166.9MM	Yes	6	10	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISFXM610	3/8"	6.57"/166.9MM	No	6	10	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISFXTM412	3/8"	4.57"/116.1MM	Yes	6	12	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXM412	3/8"	4.57"/116.1MM	No	6	12	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXTM612	3/8"	6.57"/166.9MM	Yes	6	12	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXM612	3/8"	6.57"/166.9MM	No	6	12	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXTM413	3/8"	4.57"/116.1MM	Yes	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXM413	3/8"	4.57"/116.1MM	No	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXTM613	3/8"	6.57"/166.9MM	Yes	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXM613	3/8"	6.57"/166.9MM	No	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISFXTM415	3/8"	4.57"/116.1MM	Yes	6	15	1.06"/26.9MM	0.90"/22.7MM	0.88"/22.4MM	0.42"/10.7MM
JHWISFXM415	3/8"	4.57"/116.1MM	No	6	15	1.06"/26.9MM	0.90"/22.7MM	0.88"/22.4MM	0.42"/10.7MM
JHWISFXTM615	3/8"	6.57"/166.9MM	Yes	6	15	1.06"/26.9MM	0.90"/22.7MM	0.88"/22.4MM	0.42"/10.7MM
JHWISFXM615	3/8"	6.57"/166.9MM	No	6	15	1.06"/26.9MM	0.90"/22.7MM	0.88"/22.4MM	0.42"/10.7MM
JHWISFXTM416	3/8"	4.57"/116.1MM	Yes	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISFXM416	3/8"	4.57"/116.1MM	No	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISFXTM616	3/8"	6.57"/166.9MM	Yes	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISFXM616	3/8"	6.57"/166.9MM	No	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM

- Durable black oxide finish
- . Socket retention pin is TIG welded, providing full rotation power to the socket
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Drive end has a 7/32" cross hole & bevel for ease of use
- . Up to 30 degree angle offset

- · Flextensions are designed for use on hand and power tools (Impulse or Direct drive); NOT FOR IMPACT TOOL USE
- Maximum working torque values: 160 Ft. Lbs. /1920 In. Lbs. /217 Nm
- Other lengths and socket sizes available by special order. Contact your Snap-on Industrial Brands representative
- See pages 290 to 292 for 1/2" Drive Socket Flextensions











JHW2-103A







3/8" DRIVE IMPACT EXTENSIONS AND ACCESSORIES

Black Industrial Finish

Product Code	Description	Length (Inches)	Socket Retention
JHW2-103A	Impact Extension	3	Spring Plunger
JHW2-106A	Impact Extension	6	Spring Plunger
JHW2-140B	Impact Universal Joint	2 1/4	Spring Plunger
JHW2-4A	½" M x %" F Adapter	1 1/4	Spring Plunger

Fed. Spec: ANSI B107.2

Features

- . Specially heat treated for impact use to provide long life, safety, and durability
- · Spring plunger provides secure socket retention for safety and convenience
- . Suitable for use with pneumatic and electric impact wrenches

3/8" DRIVE HEX TO SQUARE SHANK IMPACT EXTENSIONS

Black Industrial Finish

Product Code	Hex Shank Size (Inches)	Square Drive Size (Inches)	Length (Inches)
JHW2-02B	1/4	3/8	2
JHW2-33B	7/16	3/8	2 ³ / ₄

Features

- Specially heat treated for impact use to provide long life, safety, and durability
- Spring plunger provides secure socket retention for safety and convenience
- Suitable for use with pneumatic and electric impact wrenches
- . 2-33B Recommended working torque of 80 ft.lb

6 PIECE ADAPTOR SET

Black Finish and Impact, Furnished on Clip Rail

Product Code	Description
JHWWSB-6ADPA	6 Piece Adaptor Set

Contents Include:

Product Code	Description	Product Code	Description
JHWMB-130B	1/4" F x 3/8" M, Black Finish	JHW4-2F	½" F x 3/8" M, Impact, Black
JHWMB-131BA	3/8" F x 1/4" M, Black Finish	JHW4-6	1/2" F x 3/4" M, Impact, Black
JHWBS-130B	%" F x ½" M, Black Finish	JHW6-4A	3/4" F x 1/2" M, Impact, Black

Features

- · Impact adaptors are suitable for use on electric and air impact wrenches
- · Black finish adaptors are designed for use with hand drive tools

3/8" DRIVE HAND IMPACT DRIVER

Black Industrial Finish

Product Code	Length (Inches)	Shank Diameter (Inches)
JHWBHMD-30	5	1 1/4
Features		* VSA

Features

- . Specially heat treated for impact use to provide long life, safety, and durability.
- · Ball socket retention for fast socket changes.
- Ideal for loosening screws that cannot be loosened with an ordinary screwdriver.
- Impact driver is struck with a hammer to provide turning power.
- · Hammer blow forces bit into screw head to reduce stripping.
- Hand impact driver can be used with all 3/8" drive sockets, such as 6-point and hex-bit sockets.

7 PIECE 3/8" DRIVE IMPACT DRIVER SET

Packed in Exclusive Keen-Safe-Foam System

Fackeu III Exci	usive Neeh-Saie-i oa	iii Systeiii		
Product Code			Description	
JHWWSBHMD-7		7 Piece	Impact Driver Set	_
Contents Include:				
Product Code	Description	Product Code	Description	
JHWBHMD-30	Hand Impact Driver	JHWBA-7A-2P	#2 Phillips® Bit Socket	
JHWBA-7A-2S	7/32" x .040" Slotted Bit Socket	JHWBA-10A-3P	#3 Phillips® Bit Socket	
JHWBA-10A-3S	,	JHWBA-12A-4P	#4 Phillips® Bit Socket	
JHWBA-10A-4S	5/16" x .055" Slotted Bit Socket			







3/8" DRIVE SHALLOW IMPACT SOCKETS, **6 POINT, SAE**





Black In	dustria	I FINISI A	1 B	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)		Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW2-608	1/4	1 1/32	11/16	1/2	7/32	9/16	7/32	17/32
JHW2-610	5/16	1 1/32	11/16	1/2	1/4	9/16	9/32	17/32
JHW2-612	3/8	1 1/32	11/16	5/8	9/32	9/16	11/32	17/32
JHW2-614	7/16	1 1/16	11/16	21/32	9/32	19/32	11/32	
JHW2-616	1/2	1 1/16	3/4	3/4	5/16	19/32	3/8	
JHW2-618	9/16	1 3/32	13/16	13/16	9/16	19/32	17/32	
JHW2-620	5/8	1 1/8	29/32	29/32	19/32	5/8	5/8	
JHW2-622	11/16	1 5/32	31/32	31/32	19/32	5/8	21/32	
JHW2-624	3/4	1 3/16	1 1/16	1 1/16	21/32	11/16	23/32	
JHW2-626	13/16	1 1/4	1 1/8	1 1/8	11/16	23/32	25/32	
JHW2-628	7/8	1 %32	1 3/16	1 3/16	3/4	3/4	27/32	
JHW2-630	15/16	1 5/16	1 %2	1 %2	25/32	13/16	29/32	
JHW2-632	1	1 5/16	1 11/32	1 11/32	25/32	25/32	31/32	



JHWWS-2-8 8 Piece 3/8" Drive Shallow 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW2-610	5/16	JHW2-618	9/16
JHW2-612	3/8	JHW2-620	5/8
JHW2-614	7/16	JHW2-622	11/16
JHW2-616	1/2	JHW2-624	3/4

JHWWS-2-13 13 Piece 3/8" Drive Shallow 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW2-608	1/4	JHW2-618	9/16	JHW2-628	7/8
JHW2-610	5/16	JHW2-620	5/8	JHW2-630	15/16
JHW2-612	3/8	JHW2-622	11/16	JHW2-632	1
JHW2-614	7/16	JHW2-624	3/4		
JHW2-616	1/2	JHW2-626	13/16		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability



3/8" DRIVE UNIVERSAL IMPACT SOCKETS,





6 POINT, SAE Black Industrial Finish

Diaon iiic	wstiui							
		Α	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW36212	3/8	2 1/4	1	10/16	6/16	8/16	5/16	15/16
JHW36214	7/16	2 1/4	1	11/16	6/16	8/16	6/16	15/16
JHW36216	1/2	2 1/3	1	13/16	6/16	9/16	7/16	1 1/16
JHW36218	9/16	2 1/3	1	13/16	6/16	9/16	8/16	1 1/16
JHW36220	5/8	2 1/3	1	14/16	6/16	9/16	9/16	1 1/16
JHW36222	11/16	2 1/8	1	1	8/16	11/16	10/16	1 1/16
JHW36224	3/4	2 %	1	1 2/16	8/16	11/16	11/16	1 1/16

Fed. Spec: ANSI B107.2

JHW36912 7 Piece 3/8" Drive Universal 6 Point Impact Socket Set on Clip Rail

Contents include:			
Product Code	Size (Inches)	Product Code	Size (Inches)
JHW36212	3/8	JHW36220	5/8
JHW36214	7/16	JHW36222	11/16
JHW36216	1/2	JHW36224	3/4
IHW36218	9/40		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 point fasteners
- · Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability
- Drive end features pin retention hole and groove



Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets. extensions and u-joints



JHW2-608











JHW36224



JHW36912







use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets. extensions and u-joints





JHW36921









JHWWS-12-12



3/8" DRIVE SHALLOW IMPACT SOCKETS, 12 POINT, SAE

Toll Free 1 800 563 1293





Black Indu	ıstrial Fi		В	С	D	-		F
		A	Drive End	Working End	Broach	Bolt Clear-	Bolt Clearance	Nose
Product Code	Size (Inches)	OAL (Inches)	Diameter (Inches)	Diameter (Inches)	Depth (Inches)	ance Depth (Inches)	Diameter (Inches)	Length (Inches)
JHW35310	5/16	1 1/8	3/4	1/2	3/8	/	1/4	1/2
JHW35312	3/8	1 1/8	3/4	1/2	3/8	/	3/8	1/2
JHW35314	7/16	1 1/8	3/4	5/8	3/8	/	3/8	1/2
JHW35316	1/2	1 1/8	3/4	3/4	3/8	/	3/8	/
JHW35318	9/16	1 1/8	3/4	3/4	3/8	/	1/2	/
JHW35320	5/8	1 1/8	1	¹⁵ / ₁₆	1/2	/	1/2	/
JHW35322	11/16	1 1/8	1	15/16	1/2	/	1/2	/
JHW35324	3/4	1 1/8	1	1	1/2	/	5/8	/
JHW35326	13/16	1 1/8	1 1/8	1	1/2	/	3/4	/
JHW35328	7/8	1 1/8	1 1/8	1 1/8	1/2	/	3/4	/
JHW35330	¹⁵ / ₁₆	1 1/8	1 1/4	1 1/4	1/2	/	3/4	/
JHW35332	1	1 1/8	1 3/8	1 %	1/2	/	1	/

JHW36921 12 piece 3/8" Drive Shallow 12 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW35310	5/16	JHW35318	9/16	JHW35326	13/16
JHW35312	3/8	JHW35320	5/8	JHW35328	7/8
JHW35314	7/16	JHW35322	11/16	JHW35330	15/16
JHW35316	1/2	JHW35324	3/4	JHW35332	1

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 or 12 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability
- · Drive end features pin retention hole and groove

3/8" DRIVE DEEP IMPACT SOCKETS, **6 POINT, SAE**





Black Indu	ustrial Fi	nish						
		Α	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW12-610	5/16	2 1/8	11/16	1/2	1/4	1 21/32	9/32	1 5/8
JHW12-612	3/8	2 1/8	11/16	5/8	9/32	1 %	11/32	1 5/8
JHW12-614	7/16	2 1/8	11/16	21/32	11/32	1 %	11/32	1 5/8
JHW12-616	1/2	2 1/8	3/4	3/4	3/8	1 15/32	7/16	
JHW12-618	9/16	2 3/8	13/16	13/16	7/16	1 1/2	17/32	
JHW12-620	5/8	2 %	29/32	29/32	15/32	11/2	5/8	
JHW12-622	11/16	2 5/8	31/32	31/32	1/2	1 19/32	21/32	
JHW12-624	3/4	2 5/8	1 1/16	1 1/16	9/16	1 19/32	23/32	
JHW12-626	13/16	2 3/4	1 1/8	1 1/8	9/16	1 ²⁵ / ₃₂	25/32	
JHW12-628	7/8	2 3/4	1 3/16	1 3/16	19/32	1 1/8	27/32	
JHW12-630	15/16	2 3/4	1 %2	1 %2	19/32	1 15/16	29/32	
JHW12-632	1	2 3/4	1 11/32	1 11/32	5/8	2	1	

Fed. Spec: ANSI B107.2

JHWWS-12-8 8 Piece 3/8" Drive Deep 6 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW12-610	5/16	JHW12-614	7/16	JHW12-618	9/16	JHW12-622	11/16
JHW12-612	3/8	JHW12-616	1/2	JHW12-620	5/8	JHW12-624	3/4

JHWWS-12-12 12 Piece 3/8" Drive Deep 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code		Product Code	Size (Inches)
JHW12-610	5/16	JHW12-616	1/2	JHW12-622	11/16	JHW12-628	7/8
JHW12-612	3/8	JHW12-618	9/16	JHW12-624	3/4	JHW12-630	15/16
JHW12-614	7/16	JHW12-620	5/8	JHW12-626	13/16	JHW12-632	1

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Designed for maximum engagement on 6 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- · Specially heat treated for impact use to provide long life, safety, and durability





3/8" DRIVE DEEP IMPACT SOCKETS, 12 POINT, SAE





Black Ind	ustrial	Finish						
		A	B	C	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW36410	5/16	2 1/2	3/4	1/2	1/2	/	3/8	1 1/4
JHW36412	3/8	2 1/2	3/4	1/2	3/4	/	1/2	1 1/4
JHW36414	7/16	2 1/2	3/4	5/8	3/4	/	1/2	1 1/4
JHW36416	1/2	2 1/2	3/4	3/4	1	/	1/2	/
JHW36418	9/16	2 1/2	3/4	3/4	1	/	1/2	/
JHW36420	5/8	2 1/2	1	1	1	/	1/2	/
JHW36422	11/16	2 1/2	1	1	1	/	1/2	/
JHW36424	3/4	2 1/2	1	1	1	/	3/4	/
JHW36426	¹³ / ₁₆	2 1/2	1	1	1	/	3/4	/
JHW36428	7/8	2 1/2	1 1/8	1 1/8	1	/	3/4	/
JHW36430	15/16	2 1/2	1 1/4	1 1/4	1	/	5/8	/
JHW36432	1	2 1/2	1 %	1 %	1	/	1	/





JHW36416 JHW36410

JHW36922 12 piece 3/8" Drive Shallow 12 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW36410	5/16	JHW36418	9/16	JHW36426	13/16
JHW36412	3/8	JHW36420	5/8	JHW36428	7/8
JHW36414	7/16	JHW36422	11/16	JHW36430	¹⁵ / ₁₆
JHW36416	1/2	JHW36424	3/4	JHW36432	1

Features

Product

JHW2M-607

JHW2M-608

JHW2M-609

JHW2M-610

JHW2M-611

JHW2M-612

JHW2M-613

JHW2M-614

JHW2M-615

JHW2M-616

JHW2M-617

JHW2M-618

JHW2M-619

Code

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 or 12 point fasteners
- · Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability

Drive End

Diameter

11/16

11/16

11/16

11/16

23/32

²⁵/₃₂

13/16

27/32

29/32

31/32

· Drive end features pin retention hole and groove

OAL

(Inches)

1 1/32

1 1/32

1 1/32

1 1/32

1 1/16

1 1/16

1 3/32

1 3/32

1 1/8

1 5/32

1 5/32

1 3/16

Black Industrial Finish

(MM)

9

10

11

13

14

15

16

17

18

19

3/8" DRIVE SHALLOW IMPACT SOCKETS, **6 POINT, METRIC**

Working End Diameter

%16

5/8

21/32

23/32

²⁵/₃₂

13/16

27/32

29/32

31/32

Broach

Depth

9/32

9/32

9/32

9/32

9/32

9/16

⁹/16

19/32

19/32

Bolt Clearance

Depth

9/16

9/16

19/32

9/16

19/32

19/32

19/32

5⁄8

21/32



Bolt Clearance

Diameter

9/32

11/32

11/32

11/32

11/32

⅙

1/2

9/16

19/32

5⁄8

11/16

23/32



Nose

Length

17/32

17/32

17/32

17/32

9/16

	Ā
* Sweet N	AMMI MARIIS
HILLIAN AND	

JHW36922



JHWMS-2-13H

JHWMS-2-13H 13 Piece 3/8" Drive Shallow 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW2M-607	7	JHW2M-612	12	JHW2M-617	17
JHW2M-608	8	JHW2M-613	13	JHW2M-618	18
JHW2M-609	9	JHW2M-614	14	JHW2M-619	19
JHW2M-610	10	JHW2M-615	15		
JHW2M-611	11	JHW2M-616	16		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- . Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability









extensions and u-joints



JHW36612 JHW36607



JHW36923





JHW36819



JHW36910

3/8" DRIVE SHALLOW IMPACT SOCKETS. **12 POINT, METRIC** Black Industrial Finish

Toll Free 1 800 563 1293





DIACK III	uusti	Iai I IIII	В	С	D	E		F
Product Code	Size (MM)	Overall Length (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW36607	7	1 1/8	3/4	1/2	3/8	/	3/8	1/2
JHW36608	8	1 1/8	3/4	1/2	3/8	/	1/2	1/2
JHW36609	9	1 1/8	3/4	1/2	3/8	/	1/2	1/2
JHW36610	10	1 1/8	3/4	1/2	3/8	/	1/2	1/2
JHW36611	11	1 1/8	3/4	1/2	1/2	/	1/2	1/2
JHW36612	12	1 1/8	3/4	3/4	1/2	/	1/2	/
JHW36613	13	1 1/8	3/4	3/4	1/2	/	1/2	/
JHW36614	14	1 1/8	3/4	3/4	1/2	/	1/2	/
JHW36615	15	1 1/8	7/8	7/8	1/2	/	1/2	/
JHW36616	16	1 1/8	7/8	1	1/2	/	1/2	/
JHW36617	17	1 1/8	7/8	1	1/2	/	5/8	/
JHW36618	18	1 1/8	1	1	1/2	/	5/8	/
JHW36619	19	1 1/8	1	1	1/2	1	5/8	1

JHW36923 13 Piece 3/8" Drive Shallow 12 point Impact Socket Set on Clip and Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW36607	7	JHW36612	12	JHW36617	17
JHW36608	8	JHW36613	13	JHW36618	18
JHW36609	9	JHW36614	14	JHW36619	19
JHW36610	10	JHW36615	15		
JHW36611	11	JHW36616	16		

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 or 12 point fasteners
- · Suitable for use with pneumatic and electric impact wrenches
- · Specially heat treated for impact use to provide long life, safety, and durability
- Drive end features pin retention hole and groove

3/8" DRIVE UNIVERSAL IMPACT SOCKETS, **6 POINT, METRIC**





Black Industrial Finish

		Α	В	С	D	E		F
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW36810	10	2 1/4	7/8	5/8	3/8	1/2	5/16	15/16
JHW36811	11	2 1/4	7/8	11/16	1/2	1/2	3/8	15/16
JHW36812	12	2 1/4	7/8	11/16	1/2	1/2	3/8	¹⁵ / ₁₆
JHW36813	13	3/8	7/8	¹³ / ₁₆	1/2	9/16	3/8	1 1/16
JHW36814	14	3/8	7/8	13/16	1/2	9/16	1/2	1 1/16
JHW36815	15	3/8	7/8	7/8	1/2	9/16	9/16	1 1/16
JHW36816	16	3/8	7/8	7/8	1/2	9/16	9/16	1 1/16
JHW36817	17	3/8	7/8	1	1/2	11/16	5/8	1 1/4
JHW36818	18	2 1/8	7/8	1 1/16	1/2	11/16	11/16	1 1/4
JHW36819	19	2 5/8	7/8	1/8	1/2	11/16	11/16	1 1/4

JHW36910 10 Piece 3/8" Drive Universal 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW36810	10	JHW36814	14	JHW36818	18
JHW36811	11	JHW36815	15	JHW36819	19
JHW36812	12	JHW36816	16		
JHW36813	13	JHW36817	17		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability
- Drive end features pin retention hole and groove



3/8" DRIVE DEEP IMPACT SOCKETS, **6 POINT, METRIC**





Black Industrial Finish

		Α	В	С	D	Ε		F
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose
Product	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length
Code	(MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHW12M-607	7	2 1/8	11/16	7/16	9/32	1 ¹¹ / ₁₆	1/4	1 %
JHW12M-608	8	2 1/8	11/16	1/2	1/4	1 ¹¹ / ₁₆	9/32	1 %
JHW12M-609	9	2 1/8	11/16	9/16	9/32	1 ¹¹ / ₁₆	11/32	1 %
JHW12M-610	10	2 1/8	11/16	5/8	9/32	1 ¹¹ / ₁₆	11/32	1 %
JHW12M-611	11	2 1/8	11/16	21/32	21/64	1 ¹¹ / ₁₆	11/32	1 %
JHW12M-612	12	2 1/8	23/32	23/32	3/8	1 ²³ / ₃₂	7/16	-
JHW12M-613	13	2 1/8	25/32	25/32	7/16	1 %	15/32	-
JHW12M-614	14	2 %	¹³ / ₁₆	13/16	13/32	1 %16	1/2	
JHW12M-615	15	2 ¾	27/32	²⁷ / ₃₂	13/32	1 %16	9/16	
JHW12M-616	16	2 ¾	29/32	²⁹ / ₃₂	13/32	1 %16	19/32	-
JHW12M-617	17	2 %	31/32	31/32	7/16	1 3/4	5/8	-
JHW12M-618	18	2 %	1	1	7/16	1 3/4	11/16	-
JHW12M-619	19	2 %	1 1/16	1 1/16	9/16	1 3/4	23/32	-
JHW12M-620	20	2 %	1 1/8	1 1/8	15/32	1 3/4	3/4	-
JHW12M-621	21	2 ⁵ / ₈	1 ⁵ / ₃₂	1 5/32	1/2	1 3/4	25/32	-
JHW12M-622	22	2 ⁷ /8	1 ³ /16	1 3/16	1/2	1 ³¹ / ₃₂	²⁷ / ₃₂	-
JHW12M-623	23	2 1/8	1 1/4	1 1/4	17/32	1 ³¹ / ₃₂	7/8	-
JHW12M-624	24	2	1 5/16	1 5/16	19/32	1 ³¹ / ₃₂	29/32	



13 Piece 3/8" Drive Deep 6 Point Impact Socket Set on Clip Rail

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW12M-607	7	JHW12M-612	12	JHW12M-617	17
JHW12M-608	8	JHW12M-613	13	JHW12M-618	18
JHW12M-609	9	JHW12M-614	14	JHW12M-619	19
JHW12M-610	10	JHW12M-615	15		
JHW12M-611	11	JHW12M-616	16		

JHWMS-12-18H

18 Piece 3/8" Drive Deep 6 Point Impact Socket Set on Clip Rail

Contents Include:

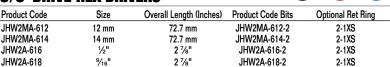
Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW12M-607	7	JHW12M-613	13	JHW12M-619	19
JHW12M-608	8	JHW12M-614	14	JHW12M-620	20
JHW12M-609	9	JHW12M-615	15	JHW12M-621	21
JHW12M-610	10	JHW12M-616	16	JHW12M-622	22
JHW12M-611	11	JHW12M-617	17	JHW12M-623	23
JHW12M-612	12	JHW12M-618	18	JHW12M-624	24

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- · Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability



3/8" DRIVE HEX DRIVERS



Features

- Designed for use with pneumatic or cordless impact guns
- Optional retaining ring ensures positive attachment to anvil
- Manufactured from special alloy steel and heat treated for optimum strength and durability
- Williams® bits are designed with a precise fit and tight tolerances to prevent slippage and disengagement
- Outperforms one-piece design models our two-piece design makes replacement economical and convenient
- Bits can be easily replaced by hand no need to put them in a vice and punch them out with a hammer
- · Optional retaining rings available for added protection









JHW12M-614 JHW12M-607



Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets. extensions and u-joints

TOOLS@





JHWMS-12-13H



JHWMS-12-18H



JHW2MA-614



JHW2MA-614 with Optional Ret Ring 2-1XS





JHW35412 JHW35407









3/8" DRIVE DEEP IMPACT SOCKETS, 12 POINT, METRIC

Black Ind	ustria	l Finish	1					
		Α	В	С	D	E		F
Product Code	Size (mm)	Overall Length (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW35407	7	2 1/2	3/4	1/2	1/2	/	1/4	1 1/4
JHW35408	8	2 1/2	3/4	1/2	1/2	/	1/4	1 1/4
JHW35409	9	2 1/2	3/4	1/2	1/2	/	1/4	1 1/4
JHW35410	10	2 1/2	3/4	1/2	3/4	/	3/8	1 1/4
JHW35411	11	2 1/2	3/4	1/2	3/4	/	3/8	1 1/4
JHW35412	12	2 1/2	3/4	3/4	3/4	/	3/8	/
JHW35413	13	2 1/2	3/4	3/4	7/8	/	1/2	/
JHW35414	14	2 1/2	3/4	3/4	7/8	/	1/2	/
JHW35415	15	2 1/2	7/8	7/8	1	/	1/2	/
JHW35416	16	2 1/2	7/8	7/8	1	/	1/2	/
JHW35417	17	2 1/2	7/8	7/8	1	/	1/2	/
JHW35418	18	2 1/2	7/8	7/8	1	/	5/8	/
JHW35419	19	2 1/2	1	1	1	/	5/8	/

JHW36924 13 Piece 3/8" Drive Deep 12 point Impact Socket Set on Clip and Rail

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW35407	7	JHW35411	11	JHW35415	15
JHW35408	8	JHW35412	12	JHW35416	16
JHW35409	9	JHW35413	13	JHW35417	17
JHW35410	10	JHW35414	14	JHW35418	18
				JHW35419	19

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 or 12 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability
- Drive end features pin retention hole and groove



JHW36924





57 PIECE 1/2" DRIVE SOCKET (3) **AND DRIVE TOOL SET**





8 & 12 Point SAE, with Metal Box

Product Code	Description
JHWWSS-57TB	57 Piece Tool Set with JHWTB-6124B Metal Tool Box
JHWWSS-57F	57 Piece Tool Set Only

Contents Include:

Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWS-15A	18" Speeder Handle	JHWS-70	Ratchet Spinner Disk
JHWS-20A	12" Sliding T-Handle	JHWS-102P	2" Extension
JHWS-40AA	10 13/16" Flex Handle	JHWS-110P	5" Extension
JHWS-41AA	15 1/2" Flex Handle	JHWS-115P	10" Extension
JHWS-52EHA	10 3/8" Enclosed Head Ratchet	JHWS-140A	Universal Joint
IHWS-52FHI A	15" Enclosed Head Ratchet		

JHWS-52EHA	10 3/8" Enclosed Head Ratchet	JHWS-140A	Universal Joint
JHWS-52EHLA	15" Enclosed Head Ratchet		
		Deep 12-Point	t Sockets
Shallow 12-P	oint Sockets	Product Code	Size (Inches)
Product Code	Size (Inches)	JHWSD-1216	1/2
JHWST-1212	3/8	JHWSD-1218	9/16
JHWST-1214	7/16	JHWSD-1220	5/8
JHWST-1216	1/2	JHWSD-1222	11/16
JHWST-1218	⁹ / ₁₆	JHWSD-1224	3/4
JHWST-1220	5/8	JHWSD-1226	13/16
JHWST-1222	11/16	JHWSD-1228	7/8
JHWST-1224	3/4	JHWSD-1230	¹⁵ / ₁₆
JHWST-1226	13/16	JHWSD-1232	1
JHWST-1228	7/8	JHWSD-1234	1 ¹ / ₁₆
JHWST-1230	¹⁵ / ₁₆	JHWSD-1236	1 ¹ /8
JHWST-1232	1		
JHWST-1234	1 1/16	Shallow 8-Poi	nt Sockets
JHWST-1236	1 ¹/8	Product Code	Size (Inches)
JHWST-1238	1 ³ / ₁₆	JHWST-812	3/8
JHWST-1240	1 ¹/₄	JHWST-814	7/16
JHWST-1242	1 ⁵ / ₁₆	JHWST-816	1/2
JHWST-1244	1 3/8	JHWST-818	9/16
JHWST-1246			
	1 7/16	JHWST-820	5/8
JHWST-1248	1 '/16 1 ¹ /2	JHWST-822	11/16
		JHWST-822 JHWST-824	11/ ₁₆ 3/ ₄
JHWST-1248		JHWST-822 JHWST-824 JHWST-826	11/ ₁₆ 3/ ₄ 13/ ₁₆
JHWST-1248	1 1/2	JHWST-822 JHWST-824	11/ ₁₆ 3/ ₄
JHWST-1248 Standard Hea	1 1/2 x Bit Sockets	JHWST-822 JHWST-824 JHWST-826	11/ ₁₆ 3/ ₄ 13/ ₁₆
JHWST-1248 Standard Hea	1 1/2 x Bit Sockets Size (Inches)	JHWST-822 JHWST-824 JHWST-826 JHWST-828	11/ ₁₆ 3/ ₄ 13/ ₁₆ 7/ ₈
Standard Her Product Code JHWSA-8A	1 1/2 x Bit Sockets Size (Inches) 1/4	JHWST-822 JHWST-824 JHWST-826 JHWST-828	11/ ₁₆ 3/ ₄ 13/ ₁₆ 7/ ₈
JHWST-1248 Standard Her Product Code JHWSA-8A JHWSA-10A	1 1/2 x Bit Sockets Size (Inches) 1/4 5/16	JHWST-822 JHWST-824 JHWST-826 JHWST-828	11/ ₁₆ 3/ ₄ 13/ ₁₆ 7/ ₈
JHWST-1248 Standard Hea Product Code JHWSA-8A JHWSA-10A JHWSA-12A	1 1/2 x Bit Sockets Size (Inches) 1/4 5/16 3/8	JHWST-822 JHWST-824 JHWST-826 JHWST-828	11/ ₁₆ 3/ ₄ 13/ ₁₆ 7/ ₈
JHWST-1248 Standard Hez Product Code JHWSA-8A JHWSA-10A JHWSA-12A JHWSA-16A	1 1/2 x Bit Sockets Size (Inches) 1/4 5/16 3/8 1/2	JHWST-822 JHWST-824 JHWST-826 JHWST-828	11/ ₁₆ 3/ ₄ 13/ ₁₆ 7/ ₈

Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use









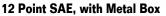
260



38 PIECE 1/2" DRIVE SOCKET **AND DRIVE TOOL SET**







Product Code	Description
JHWWSS-38FTB	38 Piece Tool Set with JHWTB-104 Metal Tool Box
JHWWSS-38F	38 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWS-15A	18" Speeder Handle	JHWS-140A	Universal Joint
JHWS-41AA	15 ½" Flex Handle	JHWS-102P	2" Extension
JHWS-52EHA	10 %" Enclosed Head Ratchet	JHWS-110P	5" Extension
JHWS-70	Ratchet Spinner Disk	JHWS-115P	10" Extension
Shallow 12 l	Point Sockets	Shallow 12-P	oint Cookete
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWST-1212	3/8	JHWST-1244	1 %
JHWST-1214	⁷ / ₁₆	JHWST-1246	1 7/16
JHWST-1216	1/2	JHWST-1248	1 ½
JHWST-1218	⁹ / ₁₆		
JHWST-1220	5/8	Deep 12-Poin	
JHWST-1222	11/16	Product Code	Size (Inches)
JHWST-1224	3/4	JHWSD-1216	1/2
JHWST-1226	13/16	JHWSD-1218	9/16
JHWST-1228	7/8	JHWSD-1220	5/8
JHWST-1230	¹⁵ / ₁₆	JHWSD-1222	11/16
JHWST-1232	1	JHWSD-1224	3/4
JHWST-1234	1 1/16	JHWSD-1226	¹³ / ₁₆
JHWST-1236	1 1/8	JHWSD-1228	7/8
JHWST-1238	1 3/16	JHWSD-1230	¹⁵ / ₁₆
JHWST-1240	1 1/4	JHWSD-1232	1
JHWST-1242	1 ⁵ ⁄16	JHWSD-1234	1 1/16
		JHWSD-1236	1 1/8







JHWWSS-38FTB

 All tools are professional quality, made of high-grade chrome vanadium steel Sockets feature SUPERTORQUE™ lobular openings for greater turning

Features

Features

power without deforming the fastener • Metal tool box made for years of rugged use

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel

JHWWSS-30FTB

- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use

30 PIECE 1/2" DRIVE SOCKET AND DRIVE TOOL SET





Description

5" Extension

10" Extension

12 Point SAE, with Metal Box

Description

15 1/2" Flex Handle

JHWS-52EHA 10 %" Enclosed Head Ratchet JHWS-115P

Product Code	Description
JHWWSS-30FTB	30 Piece Tool Set with JHWTB-104 Metal Tool Box
JHWWSS-30F	30 Piece Tool Set Only - Packed in Keep Safe Foam System

Drive Tools:

Product Code

JHWS-110P

Contents Include:

Drive Tools:

Product Code

JHWS-41AA

JHWS-140A	Universal Joint		
Shallow 12-Po	int Sockets	Deep 12-Poin	t Sockets
Product Code	Size (Inches)		Size (Inches)
JHWST-1212	3/8	JHWSD-1216	1/2
JHWST-1214	7/16	JHWSD-1218	9/16
JHWST-1216	1/2	JHWSD-1220	5/8
JHWST-1218	9/16	JHWSD-1222	11/ ₁₆
JHWST-1220	5/8	JHWSD-1224	3/ ₄ 13/ ₁₆
JHWST-1222	11/16	JHWSD-1226	
JHWST-1224	3/ ₄	JHWSD-1228	7/8
JHWST-1226	13/ ₁₆	JHWSD-1230	15/ ₁₆
JHWST-1228	7/8	JHWSD-1232	1 1/16
JHWST-1230	15/16	JHWSD-1234	
JHWST-1232 JHWST-1234	1 1 ½16	JHWSD-1236	1 1/8
JHWST-1236 JHWST-1240	1 ½ 1 ½		





22 PIECE 1/2" DRIVE SOCKET **AND DRIVE TOOL SET**





12 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

JHWWSS-22FTB 22 Piece Tool Set with JHWTB-104 Metal Tool Box	Product Code	Description
JHWW55-22F 22 Piece Tool Set Only - Packed in Keep Sate Foam System	JHWWSS-22FTB JHWWSS-22F	22 Piece Tool Set with JHWTB-104 Metal Tool Box 22 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWS-15A	18" Speeder Handle	JHWS-102P	2" Extension
JHWS-41AA	15 ½ Flex Handle	JHWS-110P	5" Extension
JHWS-52EHA	10 %" Enclosed Head Ratchet	JHWS-115P	10" Extension
JHWS-140A	Universal Joint		
Cl - II 40 D - '	.1 01	Challand 40 Dala	
Shallow 12-Point Sockets		Shallow 12-Point	
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWST-1212	3/8	JHWST-1228	7/8
JHWST-1214	⁷ / ₁₆	JHWST-1230	¹⁵ / ₁₆
JHWST-1216	1/2	JHWST-1232	1
JHWST-1218	9/16	JHWST-1234	1 1/16
JHWST-1220	5/8	JHWST-1236	1 1/8
JHWST-1222	11/16	JHWST-1238	1 3/16
JHWST-1224	3/4	JHWST-1240	1 1/4
JHWST-1226	¹³ / ₁₆		



- · Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use



19 PIECE 1/2" DRIVE SOCKET **AND DRIVE TOOL SET**





12 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWWSS-19FTB	19 Piece Tool Set with JHWTB103 Metal Tool Box
JHWWSS-19F	19 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

confents in	Jiuuci		
Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWS-41AA	15 ½" Flex Handle	JHWS-110P	5" Extension
JHWS-52EHA	10 %" Enclosed Head Ratchet	JHWS-140A	Universal Joint
Shallow 12-Po	int Sockets	Shallow 12-Point	t Sockets
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWST-1212	3/8	JHWST-1228	7/8
JHWST-1214	7/16	JHWST-1230	15/16
JHWST-1216	1/2	JHWST-1232	1
JHWST-1218	⁹ / ₁₆	JHWST-1234	1 1/16
JHWST-1220	5/8	JHWST-1236	1 1/8
JHWST-1222	11/16	JHWST-1238	1 3/16
JHWST-1224	3/4	JHWST-1240	1 1/4
IHWST-1226	13/16		

- Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use























6 Point SAE, Packed in Exclusive Keep-Safe-Foam System with Metal Box

Product Code	Description
JHWWSS18HFTB	18 Piece Tool Set with JHWTB103 Metal Tool Box
JHWWSS-18HF	18 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Toll Free 1 800 563 1293

Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWS-41AA	15 1/2" Flex Handle	JHWS-110P	5" Extension
JHWS-52EHA	10 %" Enclosed Head Ratchet	JHWS-140A	Universal Joint
Shallow 6-Point	Sockets	Shallow 6-Point	t Sockets
Product Code	Size (Inches)	Product Code	Size (Inches)
JHWST-612	3/8	JHWST-626	13/16
JHWST-614	7/16	JHWST-628	7/8
JHWST-616	1/2	JHWST-630	15/16
JHWST-618	9/16	JHWST-632	1
JHWST-620	5/8	JHWST-634	1 1/16
JHWST-622	11/16	JHWST-636	1 1/8
JHWST-624	3/4	JHWST-640	1 1/4

Features

- Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use



15 PIECE 1/2" DRIVE SOCKET **AND DRIVE TOOL SET**







Product Code	Description
JHWWSS-15FTB JHWWSS-15F	15 Piece Tool Set with JHWTB103 Metal Tool Box 15 Piece Tool Set Only - Packed in Keep Safe Foam System
	·

Contents Include:

Drive Tools:		Shallow 12-Poi	nt Sockets
Product Code	Description	Product Code	Size (Inches)
JHWS-41AA	15 ½" Flex Handle	JHWST-1214	7/16
JHWS-52EHA	10 %" Enclosed Head Ratchet	JHWST-1216	1/2
JHWS-110P	5" Extension	JHWST-1218	9/16
JHWS-115P	10" Extension	JHWST-1220	5/8
JHWS-140A	Universal Joint	JHWST-1222	11/16
		JHWST-1224	3/4
		JHWST-1226	¹³ / ₁₆
		JHWST-1228	7/8
		JHWST-1230	¹⁵ / ₁₆
		JHWST-1232	1

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use





JHWWSS18HFTB



pplifast

47 PIECE 1/2" DRIVE SOCKET AND DRIVE TOOL SET





12 Point Metric, with Metal Box

Product Code Description

JHWMSS-47TB 47 Piece Tool Set with JHWTB-6124B Metal Tool Box (Keep Safe Foam Not Included)
JHWMSS-47F 47 Piece Tool Set Only - Packed in Keep Safe Foam System

^				
Con	ter	its	Inc	ude:

Description	Contents Inclu	ide:		
JHWS-15A	Drive Tools:		Shallow 12-Point 9	Sockets
JHWS-20A	Product Code	Description	Product Code	Size (MM)
JHWS-40AA	JHWS-15A	18" Speeder Handle	JHWSTM-1210	10
JHWS-41AA	JHWS-20A	12" Sliding T-Handle	JHWSTM-1211	11
JHWS-52EHA		10 13/16" Flex Handle		12
JHWS-60D	JHWS-41AA	15 ½" Flex Handle	JHWSTM-1213	13
JHWS-70				14
JHWS-102P 2" Extension JHWSTM-1217 17 JHWS-110P 5" Extension JHWSTM-1218 18 JHWS-115P 10" Extension JHWSTM-1219 19 JHWS-140A Universal Joint JHWSTM-1220 20 JHWSTM-1221 21 Deep 12-Point Sockets JHWSTM-1221 21 JHWSMD-1213 13 JHWSTM-1223 23 JHWSMD-1214 14 JHWSTM-1225 25 JHWSMD-1215 15 JHWSTM-1226 26 JHWSMD-1216 16 JHWSTM-1227 27 JHWSMD-1217 17 JHWSTM-1228 28 JHWSMD-1218 18 JHWSTM-1229 29 JHWSMD-1219 19 JHWSTM-1230 30 JHWSMD-1210 21 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1230 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27				
JHWS-110P				
JHWS-115P				• • •
JHWSTM-1220 JHWSTM-1220 JHWSTM-1221 21 Deep 12-Point Sockets JHWSTM-1221 21 JHWSTM-1222 22 Product Code JHWSTM-1223 23 JHWSTM-1213 23 JHWSTM-1213 23 JHWSTM-1213 24 JHWSTM-1215 25 JHWSTM-1225 25 JHWSMD-1215 15 JHWSTM-1226 26 JHWSMD-1216 16 JHWSTM-1227 27 JHWSMD-1217 17 JHWSTM-1228 28 JHWSMD-1218 18 JHWSTM-1229 29 JHWSMD-1219 19 JHWSTM-1229 29 JHWSMD-1219 21 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1230 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27 JHWSMD-1227 27 JHWSTM-1236 36 JHWSMD-1227 27 JHWSTM-1236 36 JHWSMD-1227 27 JHWSTM-1236 36 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 33 JHWSTM-1236 36 JHWSMD-1227 34 JHWSTM-1236 36 JHWSMD-1227 32 JHWSMD-1227 32 JHWSTM-1236 36 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSTM-1236 36 JHWSMD-1227 32 JHWSMD-1227 32 JHWSTM-1236 36 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSTM-1236 36 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSTM-1236 36 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1220 32 JHWSMD-1227 32 JHWSMD-1227 32 JHWSMD-1227 32				
JHWSTM-1221 21				
Deep 12-Point Sockets JHWSTM-1222 22 Product Code Size (MM) JHWSTM-1223 23 JHWSMD-1213 13 JHWSTM-1224 24 JHWSMD-1214 14 JHWSTM-1225 25 JHWSMD-1215 15 JHWSTM-1226 26 JHWSMD-1216 16 JHWSTM-1227 27 JHWSMD-1217 17 JHWSTM-1228 28 JHWSMD-1218 18 JHWSTM-1229 29 JHWSMD-1219 19 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1232 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27	JHWS-140A	Universal Joint	JHWSTM-1220	20
Product Code Size (MM) JHWSTM-1223 23 JHWSMD-1213 13 JHWSTM-1224 24 JHWSMD-1214 14 JHWSTM-1225 25 JHWSMD-1215 15 JHWSTM-1226 26 JHWSMD-1216 16 JHWSTM-1227 27 JHWSMD-1217 17 JHWSTM-1228 28 JHWSMD-1218 18 JHWSTM-1229 29 JHWSMD-1219 19 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1232 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27			JHWSTM-1221	21
JHWSMD-1213 13 JHWSTM-1224 24 JHWSMD-1214 14 JHWSTM-1225 25 JHWSMD-1215 15 JHWSTM-1226 26 JHWSMD-1216 16 JHWSTM-1227 27 JHWSMD-1217 17 JHWSTM-1228 28 JHWSMD-1218 18 JHWSTM-1229 29 JHWSMD-1219 19 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1232 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27	Deep 12-Point So	ockets	JHWSTM-1222	22
JHWSMD-1214 14 JHWSTM-1225 25 JHWSMD-1215 15 JHWSTM-1226 26 JHWSMD-1216 16 JHWSTM-1227 27 JHWSMD-1217 17 JHWSTM-1228 28 JHWSMD-1218 18 JHWSTM-1229 29 JHWSMD-1219 19 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1232 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27	Product Code	Size (MM)	JHWSTM-1223	23
JHWSMD-1215 15 JHWSTM-1226 26 JHWSMD-1216 16 JHWSTM-1227 27 JHWSMD-1217 17 JHWSTM-1228 28 JHWSMD-1218 18 JHWSTM-1229 29 JHWSMD-1219 19 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1232 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27	JHWSMD-1213	13	JHWSTM-1224	24
JHWSMD-1216 16 JHWSTM-1227 27 JHWSMD-1217 17 JHWSTM-1228 28 JHWSMD-1218 18 JHWSTM-1229 29 JHWSMD-1219 19 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1232 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27	JHWSMD-1214	14	JHWSTM-1225	25
JHWSMD-1217 17 JHWSTM-1228 28 JHWSMD-1218 18 JHWSTM-1229 29 JHWSMD-1219 19 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1232 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27	JHWSMD-1215	15	JHWSTM-1226	26
JHWSMD-1218 18 JHWSTM-1229 29 JHWSMD-1219 19 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1232 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27	JHWSMD-1216	16	JHWSTM-1227	27
JHWSMD-1219 19 JHWSTM-1230 30 JHWSMD-1221 21 JHWSTM-1232 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27 36	JHWSMD-1217	17	JHWSTM-1228	28
JHWSMD-1221 21 JHWSTM-1232 32 JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27	JHWSMD-1218	18	JHWSTM-1229	29
JHWSMD-1222 22 JHWSTM-1234 34 JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27 34		19		
JHWSMD-1224 24 JHWSTM-1236 36 JHWSMD-1227 27	***************************************			
JHWSMD-1227 27		22		
			JHWSTM-1236	36
JHWSMD-1230 30		-		
	JHWSMD-1230	30		



Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Metal tool box made for years of rugged use



33 PIECE 1/2" DRIVE SOCKET **AND DRIVE TOOL SET**





12 Point Metric, with Metal Box

Product Code	Description
JHWMSS-33FTB	33 Piece Tool Set with JHWTB-104 Metal Tool Box
JHWMSS-33F	33 Piece Tool Set Only - Packed in Keep Safe Foam System
Contents Include:	

Contents Include:				
Drive Tools:		Shallow 12-Point S	ockets	
Product Code	Description	Product Code	Size (MM)	
JHWS-41AA	15 ½" Flex Handle	JHWSTM-1210	10	
JHWS-52EHA	10 %" Enclosed Head Ratchet	JHWSTM-1211	11	
JHWS-102P	2" Extension	JHWSTM-1212	12	
JHWS-110P	5" Extension	JHWSTM-1213	13	
JHWS-115P	10" Extension	JHWSTM-1214	14	
JHWS-140A	Universal Joint	JHWSTM-1215	15	
		JHWSTM-1216	16	
Deep 12-Point 9	Sockets	JHWSTM-1217	17	
Product Code	Size (MM)	_JHWSTM-1218	18	
JHWSMD-1213	13	JHWSTM-1219	19	
JHWSMD-1214	14	JHWSTM-1220	20	
JHWSMD-1215	15	JHWSTM-1221	21	
JHWSMD-1216	16	JHWSTM-1222	22	
JHWSMD-1217	17	JHWSTM-1223	23	
JHWSMD-1218	18	JHWSTM-1224	24	
JHWSMD-1219	19			
JHWSMD-1221	21			
JHWSMD-1222	22			
JHWSMD-1224	24			
JHWSMD-1227	27			
JHWSMD-1230	30			



- · All tools are professional quality, made of high-grade chrome vanadium steel.
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener.
- Metal tool box made for years of rugged use.







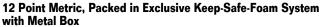




29 PIECE 1/2" DRIVE SOCKET **AND DRIVE TOOL SET**







Product Code	Description
JHWMSS-29FTB	29 Piece Tool Set with JHWTB-104 Metal Tool Box
JHWMSS-29F	29 Piece Tool Set Only - Packed in Keep Safe Foam System

Contents Include:

Contents inc	Jude:		
Drive Tools:		Drive Tools:	
Product Code	Description	Product Code	Description
JHWS-41AA	15 ½" Flex Handle	JHWS-110P	5" Extension
JHWS-52EHA	10 %" Enclosed Head Ratchet	JHWS-115P	10" Extension
JHWS-102P	2" Extension	JHWS-140A	Universal Joint
Shallow 12-Poi	nt Sockets	Shallow 12-Poir	it Sockets
Product Code	Size (MM)	Product Code	Size (MM)
JHWSTM-1210	10	JHWSTM-1222	22
JHWSTM-1211	11	JHWSTM-1223	23
JHWSTM-1212	12	JHWSTM-1224	24
JHWSTM-1213	13	JHWSTM-1225	25
JHWSTM-1214	14	JHWSTM-1226	26
JHWSTM-1215	15	JHWSTM-1227	27
JHWSTM-1216	16	JHWSTM-1228	28
JHWSTM-1217	17	JHWSTM-1229	29
JHWSTM-1218	18	JHWSTM-1230	30
JHWSTM-1219	19	JHWSTM-1232	32
JHWSTM-1220	20	JHWSTM-1234	34
JHWSTM-1221	21		

Features

- . Keep-Safe-Foam system keeps tools organized and helps prevent loss
- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Metal tool box made for years of rugged use



22 PIECE 1/2" DRIVE SOCKET **AND DRIVE TOOL SET**







Product Code	Description
JHWMSS-22FTB JHWMSS-22F	22 Piece Tool Set with JHWTB-104 Metal Tool Box 22 Piece Tool Set Only - Packed in Keep Safe Foam System

Drive Tools:

Contents Include:

Drive Tools:

Product Code	Description	Product Code	Description
JHWS-41AA	15 1/2" Flex Handle	JHWS-115P	10" Extension
JHWS-52EHA	10 3/4" Enclosed Head Ratchet	JHWS-140A	Universal Joint
JHWS-110P	5" Extension		
Shallow 6-Point 9	Sockets	Shallow 12-Poir	nt Sockets
Product Code	Size (MM)	Product Code	Size (MM)
JHWSTM-1210	10	JHWSTM-1219	19
JHWSTM-1211	11	JHWSTM-1220	20
JHWSTM-1212	12	JHWSTM-1221	21
JHWSTM-1213	13	JHWSTM-1222	22
JHWSTM-1214	14	JHWSTM-1223	23
JHWSTM-1215	15	JHWSTM-1224	24
JHWSTM-1216	16	JHWSTM-1225	25
JHWSTM-1217	17	JHWSTM-1226	26
JHWSTM-1218	18		

Features

- · Keep-Safe-Foam system keeps tools organized and helps prevent loss
- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use





JHWMSS-22FTB

JHWMSS-29FTB





pplīfast

20 PIECE 1/2" DRIVE SOCKET AND DRIVE TOOL SET





12 Point Metric, Packed in Exclusive Keep-Safe-Foam-System with Metal Box

Product Code	Description
JHWMSS-20FTB	20 Piece Tool Set with JHWTB-104 Metal Tool Box and Foam

Contents Include:

D	rive	Too	ls:

Product Code	Description	
JHWS-41AA	15 ½" Flex Handle	
JHWS-52EHA	10 3/8" Enclosed Head Ratchet	
JHWS-110P	5" Extension	

Shallow 12-Point Sockets		Shallow 12-Point Sockets	
Product Code	Size (mm)	Product Code	Size (mm)
JHWSTM-1210	10	JHWSTM-1222	22
JHWSTM-1213	13	JHWSTM-1223	23
JHWSTM-1214	14	JHWSTM-1224	24
JHWSTM-1215	15	JHWSTM-1226	26
JHWSTM-1217	17	JHWSTM-1227	27
JHWSTM-1218	18	JHWSTM-1230	30
JHWSTM-1219	19	JHWSTM-1232	32
JHWSTM-1220	20	JHWSTM-1236	36
JHWSTM-1221	21		

- All tools are professional quality, made of high grade special alloy steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use















Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- . Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- . Two-component handles are easy to grip and comfortable to carry

146 PIECE 1/4", 3/8", 1/2" DRIVE **SOCKET AND DRIVE TOOL SET**









6 & 12 Point Rugged-Case-System Tool Set, SAE and Metric

Product Code	Description
JHW50614B	146 Piece 1/4", 3/8", 1/2" Drive Socket Set

1/4" Drive **Contents Include:**

1/4" Drive Tools

Ratchet 3" Extension Handle Universal Joint

1/4" Drive Deep **6 Point Sockets**

Metric Size	SAE Size
(MM)	(Inches)
4	3/16
5 6	7/32
<u>6</u>	1/4
7	9/32
8 9	5/16 11/32
10	3/8
11	7/16
12	1/2
13	,-

1/4" Drive Shallow **6 Point Sockets**

Metric Size	SAE Size
(MM)	(Inches)
4	5/32
5	3/16
5.5	7/32
6 7	1/4
	9/32
8	5/16
9	11/32
10	3/8
11	7/16
12	1/2
13	9/16
1.4	

1/4" Drive **Hex Bit Sockets**

TICK DIL COUNCIS	
Metric Size	SAE Size
(MM)	(Inches)
3	1/8
4	5/32
5	3/16
6	7/32
7	1/4
8	5/16

1/4" Drive Screwdriver Bit Sockets

ariver bit Juckets		
Size	Size	
32" Slotted Tip	#0 Phillips Tip	
32" Slotted Tip	#1 Phillips Tip	
%" Slotted Tin	#2 Phillins Tin	

1/4" Drive

Torx Bit Sockets Size T10 Size T25 T15 T27 T20 T30

3/8" Drive **Contents Include:**

3/8" Drive Tools

Ratchet 3" Extension 6" Extension Adaptor - 3/8" F x 1/4" M

3/8" Drive Deep 12 Point Sockets

Metric Size	SAE Size
(MM)	(Inches)
6	1/4
7	5/16
8	3/8
9	7/16
10	1/2
11	9/16
12	5%
13	11/16
14	3/4
15	¹³ / ₁₆
16	7/8
17	15/16
18	1
19	

3/8" Drive Shallow 6

Point Sockets	
Metric Size	SAE Size
(MM)	(Inches)
6	1/4
7	5/16
8	3/8
9	⁷ /16
10	1/2
11	⁹ /16
12	5/8
13	11/16
14	3/4
15	13/16
16	7/8
17	15/16
18	1
19	

3/8" Drive **Spark Plug Socket**

SAE Size (Inches)	
5/8	
¹³ /16	

1/2" Drive **Contents Include:**

1/2" Drive Tools

Ratchet 6" Extension 10" Extension Universal Joint Adaptor - 1/2" F x 3/8" M

1/2" Drive Shallow

2 Point Sockets	
SAE Size (Inches)	
3/8	
7/16	
1/2	
⁹ / ₁₆	
5/8	
11/16	
3/4	
13/16	
7/8	
15/16	
1	



138 PIECE 1/4", 3/8", 1/2" DRIVE SOCKET AND DRIVE TOOL SET







6 Point Rugged-Case-System Tool Set, SAE and Metric

Product Code	Description
JHW50612B	138 Piece 1/4", 3/8", 1/2" Drive Socket Set

1/4" Drive Contents Include:

1/4" Drive Tools

Ratchet
1 ½" Extension
3" Extension
Spinner Handle
Universal Joint
Hex Bit Holder
13 Piece Insert Bit Set

1/4" Drive Deep 6 Point Sockets

6 Point Sockets	
Metric Size	SAE Size
(MM)	(Inches)
4	5/32
5	3/16
6	7/32
7	1/4
8	9/32
9	5/16
10	11/32
11	3/8
12	7/16
13	1/2

1/4" Drive Shallow 6 Point Sockets

Metric Size	SAE Size
(MM)	(Inches)
4	5/32
5	3/16
5.5	7/32
6 7	1/4
7	9/32
8	5/16
9	11/32
10	3/8
11	7/16
12	1/2
13	

3/8" Drive Contents Include:

3/8" Drive Tools

Ratchet 3" Extension 6" Extension Universal Joint Adaptor Hex Bit Holder

3/8" Drive Deep

12 Point Sockets	
Metric Size	SAE Size
(MM)	(Inches)
10	3/8
11	7/16
12	1/2
13	9/16
14	5/8
15	11/16
16	3/4
17	13/16
18	7/8
19	

3/8" Drive Shallow 6 Point Sockets

ivietric Size	SAE SIZE
(MM)	(Inches)
10	3/8
11	7/16
12	1/2
13	9/16
14	5/8
15	11/16
16	3/4
17	
18	
19	

1/2" Drive Contents Include:

1/2" Drive Tools

Ratchet 6" Extension 10" Extension Universal Joint Adaptor

1/2" Drive Shallow

12 Point Sockets	
Metric Size	SAE Size
(MM)	(Inches)
10	3/8
11	7/16
12	1/2
13	9/16
14	5/8
15	11/16
16	3/4
17	13/16
18	7/8
19	15/16
21	1
22	1 1/16
24	1 1/8
27	1 3/16
30	1 1/4
32	. / 4





- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- Two-component handles are easy to grip and comfortable to carry









JHW50617B

Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- · Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- . Two-component handles are easy to grip and comfortable to carry



61 PIECE 1/2" DRIVE **SOCKET AND TOOL SET**









12 Point Rugged-Case-System Tool Set, SAE and Metric

Product Code Description

JHW50617B 61 Piece Socket, Wrench, and Screwdriver Set

1/2" Drive Contents Include:

	.,_
1/2" Drive Tools	12
Ratchet	Metri
3" Extension	(N
6" Extension	1
10" Extension	1
15- 1/2" Flex Handle	1
Universal Joint	1
Adaptor	1
Adaptor 1/2 F x 3/4 M	1
7.taapto: 1/21 X 0/ 1111	1
	1
	1
	1
	2

1/2" Drive Shallow		12 Point		
12 Point Sockets		Combination Wrenches		
Metric Size	SAE Size	Metric Size	SAE Size	
(MM)	(Inches)	(MM)	(Inches)	
10	3/8	6	1/4	
11	7/16	8	5/16	
12	1/2	10	3/8	
13	9/16	12	7/16	
14	5/8	13	1/2	
15	11/16	14	9/16	
16	3/4	15	5/8	
17	13/16	17	11/16	
18	7/8	19	3/4	
19	15/16			
21	1	Comfort Grip		
22	1 1/16	Screwdrivers		
24	1 1/8	3/16" x 4" Slotted		
27	1 3/16	1/4" x 4" Slotted		
30	1 1/4	# 1 x 3" Phillips		
32		# 2 x 4"	Phillips	



pplifast

23 PIECE 1/2" DRIVE BASIC TOOL SET





12 Point	Rugged-Case-System	Tool	Set,	SAE
Product Cod			Decer	

Product Code	Description
JHW50609	23 Piece Basic Tool Set, SAE

Contents Include:	
1/2" Drive Tools	1/2" Drive Shallow 12-Point Sockets
Description	Size (Inches)
9 %" Quick-Release Ratchet	3/8
3" Extension	7/16
6" Extension	1/2
10" Extension	9/16
15" Flex Handle Breaker Bar	5/8
Universal Joint	11/16
1/2" F X 3/8" M Adapter	3/4
1/2" F X 3/4" M Adapter	13/16
•	7/8
	15/16
	1
	1 1/16
	1 1/8
	1 3/16
	1 1/4



25 PIECE 1/2" DRIVE BASIC TOOL SET





12 Point Rugged-Case-System Tool Set, Metric

Product Code	Description
JHW50619	25 Piece Basic Tool Set, Metric

Contents Include:

1/2" Drive Tools	1/2" Drive Shallow 12-Point Sockets
Description	Size (MM)
9 1/8" Quick-Release Ratchet	10
3" Extension	11
6" Extension	12
10" Extension	13
15" Flex Handle Breaker Bar	14
Universal Joint	15
1/2" F X 3/8" M Adapter	16
1/2" F X 3/4" M Adapter	17
	18
	19
	20
	21
	22
	24
	27
	30
	32



- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Packed in rugged high-density polyethylene (HDPE) cases that are strong and durable yet light in weight
- Case is shock proof at both high and low temperatures, equipped with heavy-duty metal latches and hinges
- Two-component handles are easy to grip and comfortable to carry







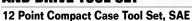






1 1/4





Product Code	Description		
JHW50668	23 Piece 1/2" Drive Socket and Drive Tool Set		
Contents Include:			
1/2" Drive Tools Description	1/2" Drive Deep 12 Point Sockets Size (Inches)	1/2" Drive Shallow 12 Point Sockets Size (Inches)	
9 %" Pear Head Ratchet	1/2	7/16	
15 1/2" Flex Handle	9/16	1/2	
6" Extension	5/8	9/16	
	11/16	5/8	
	3/4	11/16	
	¹³ / ₁₆	3/4	
	7/8	13/16	
		7/8	
		15/16	
		1	
		1 1/16	
		1 1/8	

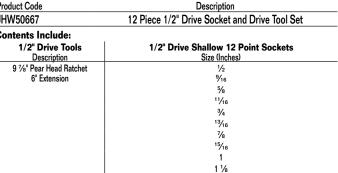






AND DRIVE TOOL SET 12 Point Compact Case Tool Set, SAE Product Code JHW50667 Contents Include:

12 PIECE 1/2" DRIVE SOCKET





JHW50669

Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Packed in rugged compact high-density polyethylene (HDPE) cases that are strong and durable yet light in weight

12 PIECE 1/2" DRIVE SOCKET AND DRIVE TOOL SET





Product Code	Case Tool Set, MM Description		
JHW50669	12 Piece 1/2" Drive Socket and Drive Tool Set		
Contents Include:			
1/2" Drive Tools Description	1/2" Drive Shallow 12 Point Sockets Size (Inches)		
9 % Pear Head Ratchet	12		
6" Extension	13		
	14		
	15		
	16		
	17		
	18		
	19		
	22		

Number of



pplifas<u>t</u>

1/2" DRIVE ENCLOSED HEAD RATCHETS

Williams® Sealed Narrow Head Design, **Chrome and Black Industrial Finish**

Product Code	Description	(Inches)	Teeth
JHWS-52EHA	Chrome Finish Enclosed Head Ratchet	10 1/4	36
JHWS-52EHLA	Chrome Finish Enclosed Head Ratchet, Long	15	36
JHWSB-52EHLA	Black Industrial Finish Enclosed Head Ratchet, Long	15	36
JHWS-52EHFA	Chrome Finish Flex Head Ratchet	14 1/4	36
JHWSB-52EHA	Black Industrial Finish Enclosed Head Ratchet	10 1/4	36
JHWS-52EHRKA	Repair Kit "EHA" Model Enclosed Head Ratchets		

Fed. Spec: ANSI B107.10M

Features

- . Enclosed head is sealed to prevent dust, dirt, and liquids from entering head, preserving internal lubrication
- · Forged one-piece ratchet provide strength and safety for industrial applications
- . Smooth comfort-grip handle permits all-day use without gloves
- . 36 tooth gear with 10 degree of engagement allows engagement in tight working areas
- · Nickel/Chrome plating provides increase protection from rust and corrosion
- . Chrome finish models feature mirror-like exterior that can be easily cleaned after each use
- Single Pawl ratchet design
 - 1) Designed for tighter tolerances between pawl and gear which reduces metal fatigue and slippage under load
 - 2) Does not require as many working parts, reducing possible breakage and parts
- · Easy access reverse lever allows user to change working direction quickly and easily with only one hand





Knurled Handle, Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Number of Teeth
JHWS-52A	Chrome Finish Round Head Ratchet	11 5/16	72
JHWS-53A	Chrome Finish Round Head Ratchet, Long	15	72
JHWBS-52A	Black Industrial Finish Round Head Ratchet	11 5/16	72
JHWS-52ARK	Repair Kit		

Fed. Spec: ANSI B107.10M

Features

- . Double pawl design with 72 teeth action provides a 5° ratcheting angle
- · Shift lever reverses action instantly
- Knurled handle provides a non-slip grip
- Chrome finish models provides increased protection from rust and corrosion



1/2" DRIVE ROUND HEAD LINEMAN'S RATCHET

Knurled Handle, Chrome Finish

Product Code	Description	Length (Inches)	Number of Teeth
JHWS-52LAB JHWS-52LARK	Round Head Lineman's Ratchet Repair Kit	11 5/16	72
Fed. Spec: ANSI B107.10M			

- · Same features as other Williams' round head ratchets
- · Extra-large shift lever allows easy reversal even when wearing gloves

































1/2" DRIVE NARROW HEAD CONSTRUCTION RATCHET

Knurled Handle, Black Industrial Finish

Product Code	Description	Length (Inches)	Number of Teeth
JHWBS-71CBA	Narrow Head Construction Ratchet	15 ¹³ / ₁₆	36
JHWBS-71ARKA	Repair Kit		
Fed. Spec: ANSI B107.10	M		

Features

- 36 tooth gear with 10 degree of engagement allows engagement in tight working areas
- · Extra-large shift lever reverses action instantly and easily, even when wearing gloves
- · Tapered spud handle easily lines up bolt holes



1/2" DRIVE SCAFFOLDING RATCHET

Product Code	Description	Product Code	Description
JHWBS-62 BS-63A JHWBS-63B JHWBS-63BRK	Scaffolding Ratchet with out pry bar Scaffolding Ratchet with reversed pry bar Scaffolding Ratchet with pry bar Repair Kit	JHWBS-63BTIP JHWBS-63BBAR	Hammer Tip Pry Bar

Features

- 1/2" Drive with pinned 7/8" 6-point socket, 2-1/4" length
- . 36 tooth gear with 10 degree of engagement allows engagement in tight working areas
- · Bronze hammer head reduces rebound
- · Pry bar handle provide alignment option
- Socket feature SUPERTORQUE™ lobular opening for greater turning power without deforming the fastener
- · Easy access reversing lever allows user to change working direction quickly and easily with only one hand
- Tethering device attached to handle
- · Repair kit includes ratchet repair kit and cover plate



1/2" DRIVE HANDLES

Knurled Handle, Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)
JHWS-40AA	Chrome Flex Handle	10 ¹³ / ₁₆
JHWSB-40AA	Black Industrial Finish Flex Handle	10 ¹³ / ₁₆
JHWS-41AA	Chrome Flex Handle	15 ½
JHWBS-41AA	Black Industrial Finish Flex Handle	15 ½
JHWS-20A	Sliding T-Handle	12
JHWS-10A	Speeder Handle	13 ⁵ %
JHWS-15A	Speeder Handle	18 1/16
JHWS-41RK	Flex Handle Repair Kit	

Fed. Spec: ANSI B107.10M

- Chrome plating provides increased protection from rust and corrosion
- Drive handles provide extra leverage with greater strength than ratchets
- · Speeder handle is ideal for fast turn down of fasteners





pplifast

1/2" DRIVE EXTENSIONS AND ACCESSORIES

High-Polished Chrome Finish

Product Code	Description	Length (Inches)
JHWS-102P	Extension	2
JHWS-110P	Extension	5
JHWS-115P	Extension	10
JHWS-121P	Extension	20
JHWS-140A	Universal Joint	2 ¹¹ / ₁₆
JHWS-70	Ratchet Spinner Disk	1 %6

Fed. Spec: ANSI B107.10M

JHWWSS-3XT 3 Piece Extension Set in Pouch

Contents Include:

Product Code	Size (Inches)
JHWS-102P	2
JHWS-110P	5
JHWS-115P	10

Features

- . Chrome plating provides increased protection from rust and corrosion
- · Ball and spring socket retention
- · Spinner disk is ideal for fast turn down of fasteners



1/2" DRIVE ADAPTORS AND EXTENSION ADAPTERS

High-Polished Chrome and Black Oxide Finish

9				
Product Code	Length (Inches)	Male End (Inches)	Female End (Inches)	
Chrome Finish /	Adapter			
JHWSH-130	1 ¹⁵ /16	3/4	1/2	
Black Industrial	Finish Adapters			
JHWSH-130B	1 ¹⁵ / ₁₆	3/4	1/2	
JHWSH-131BF	2 5/16	1/2	3/4	
Black Industrial	Finish Extension Ad	lapters		
JHWBS-05B	5	3/8	1/2	
JHWBS-12B	12	3/8	1/2	

Fed. Spec: ANSI B107.10M

Features

- · Ball and spring socket retention
- · Extension adapters offer convenience of extension and adapter in one tool





1/2" DRIVE STUD REMOVER

Satin Chrome Finish

Product Code	Description	Length (Inches)	Capacity (Inches)	
S-60E	Stud Remover	2 ⁷ /16	½ to ¾	
Fall Cores ANICI DAGE 40M				

Fed. Spec: ANSI B107.10M

- . Knurled wheel grips studs during removal
- · Drive shank extends through both sides of housing for even bearing surface
- Capacity is 1/2" to 3/4" stud diameter













JHWSH-130

JHWSH-131BF



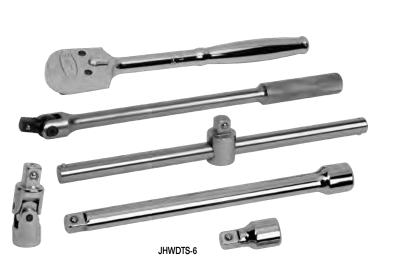
S-60E













1/2" DRIVE RATCHETS AND HANDLES

High-Polished Chrome Finish

Product Code	Description	Length (Inches)	
JHW11920	Flex Handle, Comb, 3% x 1% Drive	10	

Fed. Spec: ANSI B107.10M

Features

- High-polished chrome finish for easy cleaning
- Unique combination 3/8" x 1/2" drive flex handle offers convenience of both drive sizes on one handle

1/2" DRIVE LOCKING EXTENSIONS

High-Polished Chrome Finish

Product Code	Description	Length (Inches)
JHW32023	Locking Extension	3
JHW32024	Locking Extension	6
JHW32025	Locking Extension	10
JHW32026	Locking Extension	12
JHW32027	Locking Extension	18
JHW32028	Locking Extension	24

Fed. Spec: ANSI B107.10M

Features

• Chrome plating provides increased protection from rust and corrosion

1/2" WOBBLE EXTENSIONS

High-Polished Chrome Finish

Product Code	Length (Inches)	
JHWS-202P	2	
JHWS-205P	5	
JHWS-211P	11	
JHWS-220P	20	

Features

- Chrome plating provides increased protection from rust and corrosion
- Provides 16 degrees of additional accessibility

6 PIECE 1/2" DRIVE RATCHET AND DRIVE TOOL SET

Furnished in a Pouch

Product Code	Description
JHWDTS-6	6 Piece 1/2" Drive Ratchet and Accessory Set

Contents Include:

Product Code	Description	
JHWS-52EHA	Chrome Finished Enclosed Head Ratchet	
JHWS-102P	2" Extension	
JHWS-115P	10" Extension	
JHWS-41AA	Chrome Flex Handle	
JHWS-140A	Universal Joint	
JHWS-20A	Sliding T-Handle	

Features

 All tools are professional quality, made of high-grade chrome vanadium steel



pplīfast

1/2" DRIVE SHALLOW 12 POINT SOCKETS, SAE





High-Polished Chrome Finish

		Α	В	С	D	Ε		F
Product	Size	OAL	Drive End Diameter	Working End Diameter	Broach Depth	Depth	Bolt Clearance Diameter	Nose Length
Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWST-1212	3/8	1 1/2	29/32	19/32	5/16	7/8	11/32	23/32
JHWST-1214	7/16	1 1/2	29/32	21/32	3/8	7/8	13/32	23/32
JHWST-1216	1/2	1 1/2	29/32	3/4	3/8	7/8	15/32	23/32
JHWST-1218	9/16	1 1/2	29/32	¹³ / ₁₆	3/8	7/8	15/32	23/32
JHWST-1219	19/32	1 1/2	²⁹ / ₃₂	7/8	3/8	7/8	15/32	23/32
JHWST-1220	5/8	1 1/2	29/32	29/32	9/16	7/8	15/32	-
JHWST-1221	21/32	1 1/2	31/32	31/32	19/32	7/8	15/32	-
JHWST-1222	11/16	1 1/2	31/32	31/32	13/16	27/32	5/8	-
JHWST-1224	3/4	1 1/2	1 1/32	1 1/32	13/16	27/32	23/32	-
JHWST-1225	25/32	1 1/2	1 1/16	1 ½16	13/16	²⁷ / ₃₂	3/4	-
JHWST-1226	¹³ / ₁₆	1 1/2	1 1/8	1 1/8	13/16	²⁷ / ₃₂	²⁵ / ₃₂	-
JHWST-1228	7/8	1 1/2	1 3/16	1 3/16	13/16	13/16	7/8	-
JHWST-1230	¹⁵ / ₁₆	1 ¹⁷ /32	1 %2	1 %32	13/16	²⁷ / ₃₂	²⁹ / ₃₂	-
JHWST-1231	31/32	1 %16	1 5/16	1 ⁵ ⁄16	²⁷ / ₃₂	7/8	¹⁵ /16	-
JHWST-1232	1	1 %16	1 11/32	1 11/32	27/32	7/8	31/32	-
JHWST-1234	1 1/16	1 11/16	1 7/16	1 7/16	31/32	1	1 1/16	-
JHWST-1236	1 1/8	1 3/4	1 1/2	1 ½	1 1/32	1 1/16	1 1/8	-
JHWST-1238	1 3/16	1 3/4	1 %	1 %	1	1 1/32	1 5/32	•
JHWST-1240	1 1/4	1 1/8	1 11/16	1 11/16	1 1/8	1 5/32	1 1/4	-
JHWST-1242	1 1/16	1 1/8	1 3/4	1 3/4	1 1/32	1 5/32	1 %2	-
JHWST-1244	1 %	2 1/16	1 13/16	1 ¹³ / ₁₆	1	1 5/16	1 11/32	-
JHWST-1246	1 7/16	2 1/4	1 15/16	1 ¹⁵ / ₁₆	1 1/32	1 1/2	1 1/8	-
JHWST-1248	1 1/2	2 1/4	2	2	1 1/16	1 1/2	1 1/8	-
Fed Spec ANSI	R107 110							



JHWST-1212



Fed. Spec: ANSI B107.110

JHWWSS-15RC

15 Piece 1/2" Drive Shallow 12-Point Socket Set on Clip Rail

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWST-1212	3/8	JHWST-1222	11/16	JHWST-1232	1
JHWST-1214	7/16	JHWST-1224	3/4	JHWST-1234	1 1/16
JHWST-1216	1/2	JHWST-1226	¹³ / ₁₆	JHWST-1236	1 ½
JHWST-1218	9/16	JHWST-1228	7/8	JHWST-1238	1 3/16
JHWST-1220	5/8	JHWST-1230	15/16	JHWST-1240	1 1/4

JHWWSS-23RC

23 Piece 1/2" Drive Shallow 12-Point Socket Set on Clip Rail

Contents Include:

Product	Size	Product	Size	Product	Size	Product	Size
Code	(Inches)	Code	(Inches)	Code	(Inches)	Code	(Inches)
JHWST-1212	3/8	JHWST-1221	21/32	JHWST-1230	¹⁵ / ₁₆	JHWST-1240	1 1/4
JHWST-1214	⁷ / ₁₆	JHWST-1222	11/16	JHWST-1231	31/32	JHWST-1242	1 ⁵ ⁄16
JHWST-1216	1/2	JHWST-1224	3/4	JHWST-1232	1	JHWST-1244	1 ¾
JHWST-1218	9/16	JHWST-1225	25/32	JHWST-1234	1 1/16	JHWST-1246	1 7/16
JHWST-1219	19/32	JHWST-1226	13/16	JHWST-1236	1 1/8	JHWST-1248	1 1/2
JHWST-1220	5/8	JHWST-1228	7/8	JHWST-1238	1 3/16		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners





JHWWSS-23RC



















JHWST-620

JHWST-612



High-Polished Chrome Finish

		Α	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWST-612	3/8	1 1/2	29/32	19/32	5/16	7/8	11/32	23/32
JHWST-614	⁷ /16	1 1/2	29/32	21/32	3/8	7/8	13/32	23/32
JHWST-616	1/2	1 1/2	29/32	3/4	3/8	7/8	15/32	23/32
JHWST-618	9/16	1 1/2	29/32	¹³ / ₁₆	3/8	7/8	15/32	23/32
JHWST-619	19/32	1 1/2	29/32	7/8	3/8	7/8	15/32	23/32
JHWST-620	5/8	1 1/2	29/32	29/32	9/16	7/8	15/32	
JHWST-622	11/16	1 1/2	31/32	31/32	¹³ / ₁₆	²⁷ / ₃₂	5/8	-
JHWST-624	3/4	1 1/2	1 1/32	1 1/32	¹³ / ₁₆	²⁷ / ₃₂	23/32	-
JHWST-625	25/32	1 1/2	1 1/16	1 1/16	¹³ / ₁₆	²⁷ / ₃₂	3/4	-
JHWST-626	13/16	1 1/2	1 1/8	1 1/8	13/16	27/32	25/32	-
JHWST-628	7/8	1 1/2	1 3/16	1 3/16	13/16	13/16	7/8	-
JHWST-630	15/16	1 17/32	1 %32	1 %2	13/16	27/32	29/32	-
JHWST-632	1	1 %16	1 11/32	1 11/32	27/32	7/8	31/32	-
JHWST-634	1 1/16	1 ¹¹ / ₁₆	1 1/16	1 7/16	31/32	1	1 1/16	-
JHWST-636	1 1/8	1 3/4	1 ½	1 1/2	1 1/32	1 1/16	1 1/8	-
JHWST-640	1 1/4	1 1/8	1 11/16	1 11/16	1 1/8	1 5/32	1 1/4	

Fed. Spec: ANSI B107.1

JHWWSS-14HRC

14 Piece 1/2" Drive Shallow 6 Point Socket Set on Clip Rail

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWST-612	3/8	JHWST-622	11/16	JHWST-632	1
JHWST-614	7/16	JHWST-624	3/4	JHWST-634	1 1/16
JHWST-616	1/2	JHWST-626	¹³ / ₁₆	JHWST-636	1 1/8
JHWST-618	9/16	JHWST-628	7/8	JHWST-640	1 1/4
JHWST-620	5/8	JHWST-630	¹⁵ / ₁₆		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners







pplīfast

1/2" DRIVE CROWFOOT WRENCH, **OPEN END SAE**



Satin Chrome Finish, SAE

		Α	С	E	F
Product Code	Size	Outside Diameter	Center to Center	Head Depth	Total Depth
Flouuci Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWSCOE30	15/16"	1 ²⁷ / ₃₂	1 15/32	11/32	5/8
JHWSCOE32	1"	1 ³¹ / ₃₂	1 11/16	23/64	5/8
JHWSCOE34	1 1/16"	2 ³ / ₃₂	1 3/4	3/8	5/8
JHWSCOE36	1 1/8"	2 7/32	1 3/4	3/8	5/8
JHWSCOE38	1 3/16"	2 11/32	1 3/4	13/32	5/8
JHWSCOE40	1 1/4"	2 ¹⁵ / ₃₂	2	13/32	5/8
JHWSCOE42	1 5/16"	2 19/32	2	7/16	5/8
JHWSCOE44	1 3/8"	2 ²³ / ₃₂	2	7/16	5/8
JHWSCOE46	1 ⁷ /16"	2 ²⁷ / ₃₂	2	7/16	5/8
JHWSCOE48	1 1/2"	2 ³¹ / ₃₂	2	15/32	5/8
JHWSCOE50	1 %16"	2 ³¹ / ₃₂	1 31/32	15/32	5/8
JHWSCOE52	1 %"	3 7/32	1 31/32	1/2	5/8
JHWSCOE54	1 ¹¹ /16"	3 1/⁄3	2 ³ / ₁₆	1/2	5/8
JHWSCOE56	1 3/4"	3 ¹⁵ / ₃₂	2 ³ / ₁₆	17/32	5/8
JHWSCOE58	1 ¹³ /16"	3 19/32	2 3/16	17/32	5/8
JHWSCOE60	1 1/8"	3 23/32	2 3/16	9/16	5/8
JHWSCOE64	2"	3 ³¹ / ₃₂	2 ⁷ / ₃₂	9/16	5/8
JHWSCOE68	2 1/8"	3 ³¹ / ₃₂	2 ⁷ / ₃₂	37/64	5/8
JHWSCOE72	2 1/4"	3 ³¹ / ₃₂	2 ¹³ / ₃₂	37/64	5/8
JHWSCOE76	2 3/8"	4 3/8	2 31/64	19/32	5/8
JHWSCOE78	2 7/16"	4 3/8	2 ⁷ /16	19/32	5/8
JHWSCOE80	2 1/2"	4 3/8	2 13/32	19/32	5/8



JHWSCOE48



JHWWSSCOE-7 7 Piece 1/2" Drive Crowfoot Wrenches on Clip Rails, SAE

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWSCOE30	15/16"	JHWSCOE36	1 1/8"	JHWSCOE48	1 1/2"
JHWSCOE32	1"	JHWSCOE40	1 1/4"		
JHWSCOE34	1 ¹ /16"	JHWSCOE46	1 7/16"		

Features

- Crowfoot wrenches are professional quality, made of high grade steel
- Featuring an open end with a continuous arc for constant contact with the fastener for greater turning power without deforming the fastener





JHWWSSCOE-7



278





















1/2" DRIVE CROWFOOT WRENCH, FLARE NUT, 12 POINT

Satin Chrome Finish, SAE									
		Α	B	С	D				
Product			Thickness of						
Code	Size (Inches)	Diameter of Head	Head	Width of Slot	Length of Centers				
JHWSCF36	1 1/8	1 5/8	7/8	²⁷ / ₃₂	1 5/32				
JHWSCF38	1 3/16	1 11/16	7/8	²⁷ / ₃₂	1 3/16				
JHWSCF40	1 1/4	1 25/32	7/8	15/16	1 15/64				
JHWSCF42	1 5/16	1 27/32	7/8	31/32	1 17/64				
JHWSCF44	1 3/8	1 15/16	15/16	1 1/16	1 5/16				
JHWSCF46	1 7/16	2	15/16	1 1/16	1 11/32				
JHWSCF48	1 ½	2 1/16	¹⁵ / ₁₆	1 1/8	1 3/8				
JHWSCF50	1 %16	2 5/32	¹⁵ / ₁₆	1 5/32	1 ²⁷ / ₆₄				
JHWSCF52	1 5/8	2 7/32	15/16	1 7/32	1 ²⁹ / ₆₄				
JHWSCF54	1 11/16	2 5/16	1	1 5/16	1 33/64				
JHWSCF56	1 3/4	2 3/8	1	1 5/16	1 35/64				
JHWSCF58	1 13/16	2 15/32	1	1 11/32	1 19/32				
JHWSCF60	1 1/8	2 1/16	1 1/16	1 3/8	1 41/64				
JHWSCF62	1 ¹⁵ / ₁₆	2 1/2	1 1/16	1 7/16	1 43/64				
JHWSCF64	2	2 23/32	1 1/16	1 1/16	1 ²³ / ₃₂				

Fed. Spec: ASME B107.21 Type 1 Class 1

JHWWSSCF-7 7 Piece 12 Point Crowfoot Wrench on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWSCF36	1 1/8	JHWSCF42	1 5/16	JHWSCF46	1 7/16
JHWSCF38	1 3/16	JHWSCF44	1 3/8	JHWSCF48	1 1/2
JHWSCF40	1 1/4				

JHWWSSCF-15 15 Piece 12 Point Crowfoot Wrench on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWSCF36	1 1/8	JHWSCF44	1 %	JHWSCF52	1 1 1/8	JHWSCF60	1 1/8
JHWSCF38	1 3/16	JHWSCF46	1 1/16	JHWSCF54	1 11/16	JHWSCF62	1 ¹⁵ / ₁₆
JHWSCF40	1 1/4	JHWSCF48	1 1/2	JHWSCF56	1 3/4	JHWSCF64	2
JHWSCF42	1 5/16	JHWSCF50	1 %16	JHWSCF58	1 13/16		

- All tools are professional quality, made of high grade steel
- High-polished chrome finish cleans easily









1/2" DRIVE SHALLOW SOCKETS, **8 POINT, SAE**





High-Polished Chrome Finish

		Α	В	C	υ	Ŀ		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWST-812	3/8	1 1/2	7/8	23/32	5/16	27/32	5/16	7/8
JHWST-814	7/16	1 1/2	7/8	¹³ / ₁₆	3/8	²⁷ / ₃₂	5/16	7/8
JHWST-816	1/2	1 1/2	²⁹ / ₃₂	²⁹ / ₃₂	13/32	²⁷ / ₃₂	11/32	-
JHWST-818	9/16	1 1/2	31/32	31/32	7/16	²⁷ / ₃₂	7/16	-
JHWST-820	5/8	1 ½	1 1/16	1 1/16	1/2	27/32	7/16	
JHWST-822	11/16	1 1/2	1 3/16	1 3/16	1/2	27/32	17/32	
JHWST-824	3/4	1 1/2	1 %32	1 %32	9/16	13/16	23/32	
JHWST-826	13/16	1 1/8	1 1/16	17/16	9/16	31/32	27/32	
JHWST-828	7/8	1 3/4	1 1/2	1 1/2	5/8	1 1/16	¹⁵ / ₁₆	
JHWST-830	¹⁵ / ₁₆	1 13/16	1 1/8	1 1 1/8	11/16	1 1/8	1 1/32	
JHWST-832	1	1 15/16	1 11/16	1 11/16	11/16	1 1/4	1 1/32	-
JHWST-834	1 1/16	1 15/16	1 3/4	1 3/4	23/32	1 1/8	13/16	-
JHWST-836	1 1/8	2	1 13/16	1 13/16	3/4	1 3/16	13/16	-
JHWST-840	1 1/4	2	2	2	²⁵ / ₃₂	1 3/16	1	-



JHWWSS-810RC 10 Piece 1/2" Drive Shallow 8 Point Socket Set on Clip Rail

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWST-812	3/8	JHWST-820	5/8	JHWST-826	13/16
JHWST-814	7/16	JHWST-822	11/16	JHWST-828	7/8
JHWST-816	1/2	JHWST-824	3/4	JHWST-830	15/16
JHWST-818	⁹ / ₁₆				

JHWWSS-814RC 14 Piece 8 Point Socket Set on Clip Rail Contents Include:

Product		Product		Product		Product	
Code	Size (Inches)	Code	Size (Inches)	Code	Size (Inches)	Code	Size (Inches)
JHWST-812	3/8	JHWST-820	5/8	JHWST-828	7/8	JHWST-834	1 1/16
JHWST-814	7/16	JHWST-822	11/16	JHWST-830	15/16	JHWST-836	1 1/8
JHWST-816	1/2	JHWST-824	3/4	JHWST-832	1	JHWST-840	1 1/4
JHWST-818	9/16	JHWST-826	13/16				





1/2" DRIVE DEEP SOCKETS, 12 POINT, SAE

High-Polished Chrome Finish

		Α	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWSD-1216	1/2	3 1/4	29/32	3/4	13/32	2 19/32	15/32	2 15/32
JHWSD-1218	9/16	3 1/4	29/32	13/16	7/16	2 19/32	15/32	2 15/32
JHWSD-1220	5/8	3 1/4	29/32	²⁹ / ₃₂	15/32	2 1/16	19/32	
JHWSD-1222	11/16	3 1/4	31/32	31/32	17/32	2 11/32	²¹ / ₃₂	
JHWSD-1224	3/4	3 1/4	1 1/16	1 1/16	19/32	2 5/16	²³ / ₃₂	
JHWSD-1225	²⁵ / ₃₂	3 1/4	1 1/16	1 1/16	21/32	2 %32	25/32	
JHWSD-1226	13/16	3 1/4	1 1/8	1 1/8	21/32	2 %32	²⁵ / ₃₂	
JHWSD-1228	7/8	3 1/4	1 3/16	1 3/16	23/32	2 %32	27/32	
JHWSD-1230	15/16	3 1/4	1 1 1/32	1 %32	3/4	2 %32	²⁹ / ₃₂	
JHWSD-1232	1	3 1/4	1 11/32	111/32	3/4	2 1/4	1	
JHWSD-1234	1 1/16	3 1/4	1 1/16	1 7/16	3/4	2 1/4	1 1/16	
JHWSD-1236	1 1/8	3 1/4	1 1/2	1 1/2	25/32	2 1/4	1 3/32	

Fed. Spec: ANSI B107.110

JHWWSSD-11RC 11 Piece 1/2" Drive Deep 12 Point Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWSD-1216	1/2	JHWSD-1224	3/4	JHWSD-1232	1
JHWSD-1218	9/16	JHWSD-1226	¹³ / ₁₆	JHWSD-1234	1 1/16
JHWSD-1220	5/8	JHWSD-1228	7/8	JHWSD-1236	1 1/8
JHWSD-1222	11/16	JHWSD-1230	¹⁵ / ₁₆		







JHWST-824



JHWWSS-810RC



JHWWSS-814RC

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · 8 point sockets are designed for quick engagement on 4 point fasteners



JHWSD-1224 JHWSD-1216



JHWWSSD-11RC

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Designed for quick engagement on both 6 and 12 point fasteners









High-Polished Chrome Finish











JHWSD-624 JHWSD-616

		Α	В	С	D	E		F
Product	Size	OAL	Drive End Diameter	Working End Diameter	Broach Depth	Bolt Clearance Depth	Bolt Clearance Diameter	Nose Length
Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWSD-616	1/2	3 1/4	29/32	3/4	13/32	2 19/32	15/32	2 ¹⁵ / ₃₂
JHWSD-618	9/16	3 1/4	²⁹ / ₃₂	13/16	⁷ /16	2 19/32	15/32	2 ¹⁵ / ₃₂
JHWSD-620	5/8	3 1/4	²⁹ / ₃₂	29/32	15/32	2 1/16	19/32	-
JHWSD-622	11/16	3 1/4	31/32	31/32	17/32	2 ¹¹ / ₃₂	21/32	-
JHWSD-624	3/4	3 1/4	1 1/16	1 1/16	19/32	2 5/16	23/32	-
JHWSD-626	13/16	3 1/4	1 1/8	1 1/8	21/32	2 1/32	25/32	-
JHWSD-628	7/8	3 1/4	1 3/16	1 3/16	23/32	2 1/32	27/32	
JHWSD-630	¹⁵ / ₁₆	3 1/4	1 %2	1 1 1/32	3/4	2 1/32	²⁹ / ₃₂	
JHWSD-632	1	3 1/4	1 11/32	1 11/32	3/4	2 ½	1	-
JHWSD-634	1 1/16	3 1/4	1 7/16	1 7/16	²⁵ / ₃₂	2 ½	1 1/32	-
JHWSD-636	1 1/8	3 1/4	1 1/2	1 1/2	25/32	2 1/4	1 3/32	

Fed. Spec: ANSI B107.110

JHWWSSD11HRC 11 Piece 1/2" Drive Deep 6 Point Socket Set on Clip Rail

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWSD-616	1/2	JHWSD-624	3/4	JHWSD-632	1
JHWSD-618	9/16	JHWSD-626	13/16	JHWSD-634	1 1/16
JHWSD-620	5/8	JHWSD-628	7/8	JHWSD-636	1 1/8
JHWSD-622	11/16	JHWSD-630	¹⁵ / ₁₆		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners





JHWWSSD11HRC



1/2" DRIVE SHALLOW SOCKETS, **12 POINT, METRIC**





High-Polished Chrome Finish

	Nose Length (Inches)
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	(Inches)
JHWSTM-1210 10 1 ½ 29/52 19/52 ½ 11/32 JHWSTM-1211 11 1 ½ 29/52 11/16 5/16 7/6 13/32 JHWSTM-1212 12 1 ½ 29/52 23/52 13/32 7/6 7/16 JHWSTM-1213 13 1 ½ 29/52 25/52 3/6 7/6 15/32 JHWSTM-1214 14 1 ½ 29/52 27/52 3/6 7/6 15/52 JHWSTM-1215 15 1½ 29/52 7/8 3/6 7/6 15/52 JHWSTM-1216 16 1 ½ 29/52 29/32 9/16 7/6 15/32 JHWSTM-1217 17 1 ½ 31/52 31/32 9/16 7/6 15/32 JHWSTM-1218 18 1 ½ 1 3/6 7/6 15/32 JHWSTM-1219 19 1 ½ 1 ½ 1 /3 1 /3 27/52 25/32 JHWSTM-1219 19 1 ½ 1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	23/
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	23/32
JHWSTM-1213 13 1 ½ 29/52 25/52 3/6 7/6 15/52 JHWSTM-1214 14 1 ½ 29/52 27/32 3/6 7/6 15/52 JHWSTM-1215 15 1½ 29/52 7/8 3/6 7/6 15/52 JHWSTM-1216 16 1½ 29/52 29/52 9/16 7/6 15/52 JHWSTM-1217 17 1½ 31/52 31/52 9/16 7/6 15/52 JHWSTM-1218 18 1½ 1 1 13/16 27/52 15/52 JHWSTM-1219 19 1½ 1 ½ 1 ½ 1 ½ 27/52 23/52 JHWSTM-1220 20 1½ 1 ½ 1 ½ 1½ 27/52 23/52	23/32
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	23/32
JHWSTM-1215 15 1½ 29/52 7/6 3/8 7/6 19/32 JHWSTM-1216 16 1½ 29/52 29/52 9/16 7/6 15/52 JHWSTM-1217 17 1½ 31/52 9/16 7/6 15/32 JHWSTM-1218 18 1½ 1 1 13/16 27/52 15/32 JHWSTM-1219 19 1½ 1 1/32 1 1/32 15/16 27/52 23/32 JHWSTM-1220 20 1½ 1 1/16 1 1/16 19/16 27/52 23/32	23/32
$ \begin{array}{ccccccccccccccccccccccccccccccccc$	23/32
	-
	-
JHWSTM-1219 19 1 ½ 1 ⅓32 1 ⅓32 1 ⅓6 27/62 23/32 JHWSTM-1220 20 1 ½ 1 ¼6 1 ¼6 1 ¾6 27/62 23/32	-
JHWSTM-1220 20 1 ½ 1 ½ 1 ½ 1 1/16 1 3/16 27/32 23/32	-
	-
JHWSTM-1221 21 1 ½ 1 ½ 1 ½ 1 ½ 1 ½ 27/32 3/4	-
	-
JHWSTM-1222 22 1 ½ 1 ¾6 1 ¾6 1 ¾6 27/32 25/32	-
JHWSTM-1223 23 1 ½ 1 ¼ 1 ¼ 25/32 13/16 27/32	-
JHWSTM-1224 24 1 17/32 1 9/32 1 9/32 13/16 27/32 7/8	-
JHWSTM-1225 25 1 % 1 5/16 1 5/16 13/16 7/8 15/16	-
JHWSTM-1226 26 1 5/8 1 3/8 1 3/8 29/32 15/16 31/32	-
JHWSTM-1227 27 1 ²³ / ₃₂ 1 ⁷ / ₁₆ 1 ⁷ / ₁₆ 3 ¹ / ₃₂ 1 1	-
JHWSTM-1228 28 1 3/4 1 1/2 1 1 1 1/6 1 1/32	-
JHWSTM-1229 29 1 3/4 1 9/16 1 9/16 1 1/32 1 1/16 1 1/16	-
JHWSTM-1230 30 1 1/4 1 1/8 1 1/8 1 1/32 1 1/32 1 1/32	-
JHWSTM-1232 32 1 1/8 1 11/16 1 1/16 1 1/8 1 5/32 1 3/16	-
JHWSTM-1234 34 2 1/6 1 3/4 1 3/4 7/8 1 7/6 1	-
JHWSTM-1236 36 2 1/16 1 15/16 1 15/16 7/8 1 17/16 1 13/32	



JHWMSS-15RC

15 Piece 1/2" Drive Shallow 12 Point Socket Set on Clip Rail

Contents Include:

Product	Size	Product	Size	Product	Size	Product	Size
Code	(MM)	Code	(MM)	Code	(MM)	Code	(MM)
JHWSTM-1210	10	JHWSTM-1214	14	JHWSTM-1218	18	JHWSTM-1222	22
JHWSTM-1211	11	JHWSTM-1215	15	JHWSTM-1219	19	JHWSTM-1223	23
JHWSTM-1212	12	JHWSTM-1216	16	JHWSTM-1220	20	JHWSTM-1224	24
JHWSTM-1213	13	JHWSTM-1217	17	JHWSTM-1221	21		



15 Piece 1/2" Drive Shallow 12 Point Socket Set on Clip Rail

Contents Include:

Product	Size	Product	Size	Product	Size	Product	Size
Code	(MM)	Code	(MM)	Code	(MM)	Code	(MM)
JHWSTM-1210	10	JHWSTM-1217	17	JHWSTM-1222	22	JHWSTM-1227	27
JHWSTM-1213	13	JHWSTM-1218	18	JHWSTM-1223	23	JHWSTM-1230	30
JHWSTM-1214	14	JHWSTM-1219	19	JHWSTM-1224	24	JHWSTM-1232	32
JHWSTM-1215	15	JHWSTM-1220	20	JHWSTM-1226	26		

JHWMSS-24RC

24 Piece 1/2" Drive Shallow 12 Point Socket Seton Clip Rail

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWSTM-1210	10	JHWSTM-1216	16	JHWSTM-1222	22	JHWSTM-1228	28
JHWSTM-1211	11	JHWSTM-1217	17	JHWSTM-1223	23	JHWSTM-1229	29
JHWSTM-1212	12	JHWSTM-1218	18	JHWSTM-1224	24	JHWSTM-1230	30
JHWSTM-1213	13	JHWSTM-1219	19	JHWSTM-1225	25	JHWSTM-1232	32
JHWSTM-1214	14	JHWSTM-1220	20	JHWSTM-1226	26	JHWSTM-1234	34
JHWSTM-1215	15	JHWSTM-1221	21	JHWSTM-1227	27	JHWSTM-1236	36

- Designed for quick engagement on both 6 and 12 point fasteners



Villiams JHWSTM-1229

JHWSTM-1212





JHWMSS-15RC



JHWMSS-15SRC























JHW32515





High-Polished Chrome Finish

Toll Free 1 800 563 1293

		Α	В	С	D	E		F
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose
Product	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length
Code	(MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHW32509	9	1 1/2	7/8	9/16	9/16	11/16	5/16	23/32
JHW32510	10	1 1/2	7/8	5/8	1/2	²⁷ / ₃₂	3/8	²³ / ₃₂
JHW32511	11	1 1/2	7/8	²¹ / ₃₂	1/2	7/8	13/32	23/32
JHW32512	12	1 1/2	7/8	²³ / ₃₂	1/2	7/8	⁷ / ₁₆	²³ / ₃₂
JHW32513	13	1 1/2	7/8	3/4	9/16	27/32	15/32	23/32
JHW32514	14	1 1/2	7/8	¹³ / ₁₆	9/16	13/16	17/32	23/32
JHW32515	15	1 1/2	7/8	7/8	17/32	13/16	9/16	-
JHW32516	16	1 1/2	²⁹ / ₃₂	²⁹ / ₃₂	17/32	²⁷ / ₃₂	19/32	-
JHW32517	17	1 1/2	¹⁵ / ₁₆	¹⁵ /16	17/32	²⁷ / ₃₂	21/32	-
JHW32518	18	1 1/2	1	1	3/4	13/16	11/16	-
JHW32519	19	1 1/2	1 1/16	1 1/16	3/4	7/8	45/64	-
JHW32520	20	1 1/2	1 3/32	1 3/32	25/32	¹⁵ / ₁₆	⁴⁷ / ₆₄	-
JHW32521	21	1 1/2	1 1/8	1 1/8	25/32	15/16	49/64	-
JHW32522	22	1 %	1 3/16	1 3/16	7/8	1 1/32	25/32	-
JHW32523	23	1 %	1 7/32	1 7/32	7/8	1 1/32	13/16	-
JHW32524	24	1 %	1 1/4	1 1/4	7/8	1 3/32	53/64	-
JHW32525	25	1 %	1 5/16	1 5/16	7/8	1 3/32	⁵⁵ / ₆₄	-
JHW32526	26	1 3/4	1 5/16	1 5/16	¹⁵ / ₁₆	1 3/16	57/64	-
JHW32527	27	1 3/4	1 7/16	1 7/16	15/16	1 3/16	29/32	-
JHW32528	28	1 3/4	1 7/16	1 7/16	31/32	1 %2	15/16	-
JHW32529	29	1 3/4	1 1/2	1 1/2	31/32	1 1/32	31/32	-
JHW32530	30	1 3/4	1 %16	1 %16	31/32	1 11/32	63/64	-
JHW32532	32	1 ³¹ / ₃₂	1 11/16	1 ³¹ / ₃₂	1 1/8	1 1/2	1 1/32	-
JHW32534	34	1 ⁴⁷ /64	1 ½	1 ⁴⁹ / ₆₄	31/32	1 11/32	1 1/64	-
JHW32536	36	2 1/16	1 15/16	1 15/16	7/8	1 7/16	1 13/32	-

Fed. Spec: ANSI B107.110



JHW32943



JHW32941

JHW32943

16 Piece 1/2" Drive Shallow 6 Point Socket Set on Clip Rail

Contents Include:

Product	Size	Product	Size	Product	Size	Product	Size
Code	(MM)	Code	(MM)	Code	(MM)	Code	(MM)
JHW32509	9	JHW32513	13	JHW32517	17	JHW32521	21
JHW32510	10	JHW32514	14	JHW32518	18	JHW32522	22
JHW32511	11	JHW32515	15	JHW32519	19	JHW32523	23
JHW32512	12	JHW32516	16	JHW32520	20	JHW32524	24

JHW32941

24 piece 1/2" Drive Shallow 6 Point Socket Set on Clip Rails

Contents Include:

Product	Size	Product	Size	Product	Size	Product	Size
Code	(MM)	Code	(MM)	Code	(MM)	Code	(MM)
JHW32509	9	JHW32515	15	JHW32521	21	JHW32527	27
JHW32510	10	JHW32516	16	JHW32522	22	JHW32528	28
JHW32511	11	JHW32517	17	JHW32523	23	JHW32529	29
JHW32512	12	JHW32518	18	JHW32524	24	JHW32530	30
JHW32513	13	JHW32519	19	JHW32525	25	JHW32532	32
JHW32514	14	JHW32520	20	JHW32526	26	JHW32536	36

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 point fasteners



pplrfast

1/2" DRIVE DEEP SOCKETS, 12 POINT, METRIC





High-Polished Chrome Finish

		Α	В	С	D	Ε		F
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose
Product	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length
Code	(MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWSMD-1213	13	3 1/4	29/32	25/32	13/32	2 ¹⁵ / ₃₂	15/32	2 19/32
JHWSMD-1214	14	3 1/4	29/32	27/32	13/32	2 15/32	15/32	2 ¹⁹ / ₃₂
JHWSMD-1215	15	3 1/4	29/32	7/8	13/32	2 15/32	15/32	
JHWSMD-1216	16	3 1/4	29/32	²⁹ / ₃₂	15/32	2 ⁷ /16	17/32	
JHWSMD-1217	17	3 1/4	31/32	31/32	1/2	2 11/32	5/8	-
JHWSMD-1218	18	3 1/4	1	1	17/32	2 11/32	21/32	
JHWSMD-1219	19	3 1/4	1 1/32	1 1/32	9/16	2 5/16	11/16	•
JHWSMD-1221	21	3 1/4	1 1/8	1 1/8	21/32	2 5/16	3/4	-
JHWSMD-1222	22	3 1/4	1 3/16	1 ³ ⁄16	23/32	2 %2	¹³ / ₁₆	-
JHWSMD-1224	24	3 1/4	1 %2	1 %32	3/4	2 %2	7/8	-
JHWSMD-1227	27	3 1/4	1 7/16	1 1/16	3/4	2 ½	1	-
JHWSMD-1230	30	3 1/4	1 %	1 %	¹³ / ₁₆	2 1/4	1 3/32	-



JHWMSSD-12RC

12 Piece 1/2" Drive Deep 12 Point Socket Set on Clip Rail

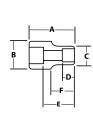
Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWSMD-1213	13	JHWSMD-1217	17	JHWSMD-1222	22
JHWSMD-1214	14	JHWSMD-1218	18	JHWSMD-1224	24
JHWSMD-1215	15	JHWSMD-1219	19	JHWSMD-1227	27
JHWSMD-1216	16	JHWSMD-1221	21	JHWSMD-1230	30

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners







JHWSMD-1218



JHWMSSD-12RC













High-Polished Chrome Finish

Toll Free 1 800 563 1293

		Α	В	С	D	E		F
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW32709	9	3 1/4	29/32	19/32	5/16	2 ¹⁵ / ₃₂	11/32	2 19/32
JHW32710	10	3 1/4	29/32	19/32	5/16	2 ¹⁵ / ₃₂	11/32	2 19/32
JHW32711	11	3 1/4	29/32	11/16	5/16	2 ¹⁵ / ₃₂	13/32	2 19/32
JHW32712	12	3 1/4	29/32	23/32	13/32	2 ¹⁵ / ₃₂	7/16	2 19/32
JHW32713	13	3 1/4	29/32	25/32	3/8	2 ¹⁵ / ₃₂	15/32	2 19/32
JHW32714	14	3 1/4	29/32	27/32	3/8	2 15/32	15/32	2 19/32
JHW32715	15	3 1/4	29/32	7/8	3/8	2 11/32	15/32	-
JHW32716	16	3 1/4	29/32	29/32	9/16	2 11/32	15/32	-
JHW32717	17	3 1/4	31/32	31/32	9/16	2 11/32	15/32	-
JHW32718	18	3 1/4	1	1	13/16	2 11/32	15/32	-
JHW32719	19	3 1/4	1 1/32	1 1/32	¹³ / ₁₆	2 5/16	23/32	
JHW32720	20	3 1/4	1 1/16	1 1/16	13/16	2 5/16	23/32	-
JHW32721	21	3 1/4	1 1/8	1 1/8	13/16	2 5/16	3/4	-
JHW32722	22	3 1/4	1 3/16	1 3/16	¹³ / ₁₆	2 5/16	²⁵ / ₃₂	-
JHW32723	23	3 1/4	1 1/4	1 1/4	25/32	2 5/16	27/32	
JHW32724	24	3 1/4	1 %2	1 %32	13/16	2 5/16	7/8	-
JHW32725	25	3 1/4	1 5/16	1 5/16	¹³ / ₁₆	2 1/4	¹⁵ / ₁₆	-
JHW32726	26	3 1/4	1 %	1 3/8	²⁹ / ₃₂	2 1/4	31/32	-
JHW32727	27	3 1/4	1 7/16	1 ½16	31/32	2 1/4	1	-
JHW32728	28	3 1/4	1 1/2	1 1/2	1	2 1/4	1 1/32	
JHW32729	29	3 1/4	1 %16	1 %16	1 1/32	2 1/4	1 1/16	-
JHW32730	30	3 1/4	1 %	1 %	1 1/32	2 1/4	1 3/32	
JHW32732	32	3 1/4	1 11/16	1 ¹¹ / ₁₆	1 1/8	2 1/4	1 3/16	
JHW32734	34	3 1/4	1 3/4	1 3/4	7/8	2 1/4	1	
JHW32736	36	3 1/4	1 15/16	1 15/16	7/8	2 1/4	1 13/32	-

Fed. Spec: ANSI B107.110

JHW32947 16 Piece 1/2" Drive Deep 6 Point Socket Set on Clip Rail **Contents Include:**

Product	Size	Product	Size	Product	Size	Product	Size
Code	(MM)	Code	(MM)	Code	(MM)	Code	(MM)
JHW32709	9	JHW32713	13	JHW32717	17	JHW32721	21
JHW32710	10	JHW32714	14	JHW32718	18	JHW32722	22
JHW32711	11	JHW32715	15	JHW32719	19	JHW32723	23
JHW32712	12	JHW32716	16	JHW32720	20	JHW32724	24

JHW32945 24 Piece 1/2" Drive Deep 6 Point Socket Set on Clip Rail **Contents Include:**

Product	Size	Product	Size	Product	Size	Product	Size
Code	(MM)	Code	(MM)	Code	(MM)	Code	(MM)
JHW32709	9	JHW32715	15	JHW32721	21	JHW32727	27
JHW32710	10	JHW32716	16	JHW32722	22	JHW32728	28
JHW32711	11	JHW32717	17	JHW32723	23	JHW32729	29
JHW32712	12	JHW32718	18	JHW32724	24	JHW32730	30
JHW32713	13	JHW32719	19	JHW32725	25	JHW32732	32
JHW32714	14	JHW32720	20	JHW32726	26	JHW32736	36

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners



JHW32717 JHW32710









1/2" DRIVE TURBOSOCKET® SALVAGE/ **DAMAGED FASTENER SOCKETS**





Black Indu	Black Industrial Finish, Metric and SAE							
		A	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWTS50750	3/4	1 21/32	1 1/16	1 1/16	23/32	1	3/4	
JHWTS50812	13/16	1 21/32	1 1/8	1 1/8	23/32	1	¹³ / ₁₆	
JHWTS50875	7/8	1 21/32	1 3/16	1 3/16	23/32	1	7/8	
JHWTS50937	15/16	1 21/32	1 5/16	1 5/16	23/32	1	¹⁵ / ₁₆	
JHWTS50100	1	1 21/32	1 11/32	1 11/32	23/32	1	1	

Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWTS51551	14	1 21/32	29/32	27/32	1/2	1	9/16	29/32
JHWTS51591	15	1 ²¹ / ₃₂	29/32	29/32	1/2	1	19/32	
JHWTS51625	16	1 ²¹ / ₃₂	31/32	31/32	1/2	23/32	5/8	
JHWTS51669	17	1 ²¹ / ₃₂	1	1	21/32	23/32	11/16	
JHWTS51709	18	1 ²¹ / ₃₂	1 1/32	1 1/32	21/32	23/32	23/32	
JHWTS51750	19	1 ²¹ /32	1 ¹ /16	1 1/16	23/32	1	3/4	
JHWTS51827	21	1 21/32	1 3/16	1 3/16	21/32	1	27/32	

JHWTSFS5005 5 Piece TURBOSOCKET® Salvage Socket Set on Clip Rail, SAE **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	
JHWTS50750	3/4	JHWTS50937	¹⁵ / ₁₆	
JHWTS50812	13/16	JHWTS50100	1	
JHWTS50875	7/8			

JHWTSMS5107 7 Piece TURBOSOCKET® Salvage Socket Set on Clip Rail, Metric **Contents Include:**

Outtones intolea	VI .			
Product Code	Size (MM)	Product Code	Size (MM)	
JHWTS51551	14	JHWTS51709	18	
JHWTS51591	15	JHWTS51750	19 (¾")	
JHWTS51625	16 (%")	JHWTS51827	21	
JHWTS51669	17			

- Quickly and easily remove damaged or rounded nuts and bolts
- · Place socket on fastener and turn with ratchet, breaker bar or T-handle
- . Grip on fastener tightens as more torque is applied
- · No hammering is required to install socket over fastener
- . Use on all types of standard nuts and bolts as well as studs, pipe nipples, and corroded auto and marine fasteners
- . May be used for "best fit" on metric and fractional fasteners
- . May be used with air or electric impact wrench for extra speed and turning power







JHWTS51551









JHWSA-16LA



JHWWSSS-6LRC



Toll Free 1 800 563 1293







nign-Polisnea Chrome Finish							
Product Code	Size (Inches)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Replacement Bit Product Code		
JHWSA-8LA	1/4	1 ½	29/32	4 1/2	JHWBITH0806		
JHWSA-10LA	5/16	1 1/2	29/32	4 1/2	JHWBITH1006		
JHWSA-12LA	3/8	1 1/2	29/32	4 1/2	JHWBITH1204		
JHWSA-16LA	1/2	1 1/2	31/32	4 1/2	JHWBITH1602		
JHWSA-18LA	⁹ /16	1 ⁹ /16	1 1/16	4 1/2	JHWBITH1802		
JHWSA-20LA	5/8	1 ²⁵ / ₃₂	1 1/4	4 1/2	JHWBITH2002		

JHWWSSS-6LRC 6 Piece Long Hex Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)
JHWSA-8LA	1/4	JHWSA-16LA	1/2
JHWSA-10LA	5/16	JHWSA-18LA	9/16
JHWSA-12LA	3/8	JHWSA-20LA	5/8

Features

- High-polished chrome finish socket cleans easily
- . Two piece design allows bits to be replaced easily





1/2" DRIVE STANDARD LENGTH **HEX BIT SOCKETS, SAE**





	hed Chr	ome Finish			
Product Code	Size (Inches)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Replacement Bit Product Code
JHWSA-8A	1/4	1 ½	²⁹ / ₃₂	2 1/4	JHWBITH0805
JHWSA-10A	5/16	1 1/2	29/32	2 1/4	JHWBITH1005
JHWSA-12A	3/8	1 1/2	29/32	2 1/4	JHWBITH1203
JHWSA-16A	1/2	1 1/2	31/32	2 1/4	JHWBITH1601
JHWSA-18A	9/16	1 %16	1 1/16	2 1/4	JHWBITH1801
JHWSA-20A	5∕8	1 ²⁵ / ₃₂	1 1/4	2 1/4	JHWBITH2001

JHWWSSS-6RC 6 Piece Hex Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)
JHWSA-8A	1/4	JHWSA-16A	1/2
JHWSA-10A	5/16	JHWSA-18A	9/16
JHWSA-12A	3/8	JHWSA-20A	5/8

- . High-polished chrome finish socket cleans easily
- . Two piece design allows bits to be replaced easily



1/2" DRIVE STANDARD LENGTH **HEX BIT SOCKETS, METRIC**







High-Polished Chrome Finish

Product Code	Size (MM)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)	
JHW35274	8	1 19/32	29/32	2 13/32	27/32	_
JHW35275	10	1 19/32	29/32	2 7/16	²⁷ / ₃₂	
JHW35276	12	1 19/32	29/32	2 ⁷ /16	27/32	
JHW35277	14	1 19/32	1	2 ⁷ /16	27/32	
JHW35278	17	1 19/32	1 3/32	2 ⁷ /16	27/32	
IHW35270	10	1 19/22	1 3/46	2 7/46	27/22	

JHW32904 6 Piece Hex Bit Socket Set on Clip Rail

Contents Include:			
Product Code	Size (MM)	Product Code	Size (MM)
JHW35274	8	JHW35277	14
JHW35275	10	JHW35278	17
JHW35276	12	JHW35279	19

Features

• High-polished chrome finish socket cleans easily



JHWSA-16A

JHWWSSS-6RC





1/2" DRIVE LONG LENGTH **HEX BIT SOCKETS, METRIC**





High-Polished Chrome Finish

Product Code	(MM)	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)
JHW35294	8	1 1/2	29/32	5 1/2
JHW35295	10	1 ½	²⁹ / ₃₂	5 ½
JHW35296	12	1 1/2	²⁹ / ₃₂	5 ½
JHW35297	14	1 ½	1	5 ½
JHW35298	17	1 1/2	1 ³ / ₃₂	5 ½
JHW35299	19	1 ½	1 3/16	5 ½

JHW32953 6 Piece Hex Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)
JHW35294	8	JHW35297	14
JHW35295	10	JHW35298	17
JHW35296	12	JHW35299	19

Features

· High-polished chrome finish socket cleans easily





1/2" DRIVE TORX® BIT SOCKETS

-/			COULTIO		
High-Polish	ned Chrom	e Finish Socket Length	Socket Outside Diameter	Overall Length	Bit Length
Product Code	Torx® Size	(Inches)	(Inches)	(Inches)	(Inches)
JHW35283	T40	1 19/32	²⁹ / ₃₂	2 7/16	7/8
JHW35284	T45	1 19/32	29/32	2 7/16	7/8
JHW35285	T50	1 19/32	²⁹ / ₃₂	2 7/16	7/8
JHW35286	T55	1 19/32	²⁹ / ₃₂	2 7/16	7/8
JHW35287	T60	1 19/32	²⁹ / ₃₂	2 7/16	7/8

JHW32908 5 Piece Torx® Bit Socket Set on Clip Rail **Contents Include:**

Product Code	Torx® Size	Product Code	Torx® Size
JHW35283	T40	JHW35286	T55
JHW35284	T45	JHW35287	T60
JHW35285	T50		

Features

. High-polished chrome finish socket cleans easily



JHW35283

JHW32908

1/2" DRIVE SCREWDRIVER BIT SOCKETS

High-Polished Chrome Finish, Phillips® and Slotted Socket Outside

Product Code	Size (Inches) / Point Size	Socket Length (Inches)	Diameter (Inches)	Overall Length (Inches)	Replacement Bit Product Code
Slotted Bits:					
JHWSA-10A-3S	23/64 x .061	1 1/2	29/32	2 %32	JHWBITHS03
JHWSA-12A-4S	²⁷ / ₆₄ x .075	1 1/2	29/32	2 1/4	JHWBITHS04
Phillips® Bits:					
JHWSA-10A-3P	#3	1 1/2	29/32	2 1/4	JHWBITPH0302
JHWSA-12A-4P	#4	1 ½	29/32	2 1/4	JHWBITPH0401

JHWWSSSP-4RC 4 Piece Screwdriver Bit Socket Set on Clip Rail

Contents inclu	ae:			
Product Code	Tip Size	Product Code	Tip Size	
JHWSA-10A-3S	²³ / ₆₄ x.061	JHWSA-10A-3P	3	
IHWSA-12A-4S	27/c4 v 075	IHWSΔ-12Δ-4P	4	

- High-polished chrome finish socket cleans easily
- . Two piece design allows bits to be replaced easily







JHWSA-10A-3P

JHWSA-10A-3S



JHWWSSSP-4RC







JHW35251





JHW32906

1/2" DRIVE PHILLIPS® SCREWDRIVER BIT SOCKETS

High-Polished Chrome Finish

Toll Free 1 800 563 1293

Product Code	Tip Size	Socket Length (Inches)	Socket Outside Diameter (Inches)	Overall Length (Inches)	Bit Length (Inches)
JHW35251	#2	1 19/32	29/32	2 7/16	7/8
JHW35252	#3	1 19/32	29/32	2 1/16	7/8
JHW35253	#4	1 19/32	29/32	2 1/16	7/8

JHW32906 3 Piece Phillips® Screwdriver Bit Socket Set on Clip Rail

Product Code	Tip Size
JHW35251	#2
JHW35252	#3
JHW35253	#4

Features

. High-polished chrome finish socket cleans easily



1/2" DRIVE DRAG LINK SOCKETS



Fed. Spec: ANSI B107.1

Features

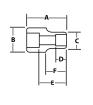
· Ideal for drag links on trucks and heavy equipment, as well as large screws



1/2" DRIVE 5 POINT PENTA-SOCKET







JHWSB-526

Black Industrial Finish

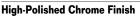
		Α	В	С	D	E		F
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose
Product	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length
Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWSB-526	51/64	1 1/4	1 1/8	1 1/8	7/16	1/2	23/32	

• 5 point Penta-Socket services 5 point nuts found on tamper-resistant Buffalo covers used by gas, electric, and some water companies to protect shutoff gates



1/2" DRIVE HEX DRIVERS





	riigii i diidiida diii diiid i iiidii										
Product Code	Size	Overall Length (Inches)	Product Code Bits	Optional Ret Ring							
JHW4A-620	5/8	3 1/2	JHW4A-620-2	4-1XS							
JHW4A-622	11/16	3 1/2	JHW4A-622-2	4-1XS							
JHW4A-624	3/4	3 ½	JHW4A-624-2	4-1XS							
JHW4A-628	7/8	3 ½	JHW4A-628-2	4-1XS							

- · Designed for use with pneumatic or cordless impact guns
- . Optional retaining ring ensures positive attachment to anvil
- . Manufactured from special alloy steel and heat treated for optimum strength and durability
- Williams® bits are designed with a precise fit and tight tolerances to prevent slippage and disengagement
- · Outperforms one-piece design models our two-piece design makes replacement economical and convenient
- . Bits can be easily replaced by hand no need to put them in a vice and punch them out with a hammer
- · Optional retaining rings available for added protection



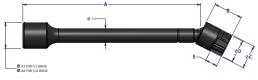


1/2" DRIVE SOCKET FLEXTENSIONS

Williams Flextension are used extensively in engine and heavy equipment manufacturing, assembly and repair. They increase productivity by featuring an integrated (non-removable) design of the drive extension and socket to allow for reliable, continuous work without concern for the socket disconnecting from the extension as could happen with hand-tool type ball retained sockets.

See page 252 for 3/8" Drive Socket Flextensions.











1/2" DRIVE SOCKET FLEXTENSIONS, SAE

Black Industrial Finish

Product Code			Α				В	С	D	E
J.HWISSX112	Product Code	Drive	Shank Length	Tension	Socket Points	Socket	Socket Length	Socket Diameter	Nose Diameter	Hex Depth
JHWISSK112 % 4.091/10.3 yMM No 6 % % 1.091/25.9 yMM 0.901/22.7 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.831/6.0 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM 0.281/11 yMM	JHWISSXT312	1/2"	3.02"/76.7MM	Yes	6	3/8	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISSX112	JHWISSX312	1/2"	3.02"/76.7MM	No	6	3/8	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
J-HWISSX1912	JHWISSXT412	1/2"	4.09"/103.9MM	Yes	6	3/8	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISSXT912	JHWISSX412	1/2"	4.09"/103.9MM	No	6	3/8	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
J-HWISSX912	JHWISSX612	1/2"	6.57"/166.9MM	No	6	3/8	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
J-HWISSX1314	JHWISSXT912	1/2"	9.57"/243.1MM	Yes	6	3/8	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISSX1414	JHWISSX912	1/2"	9.57"/243.1MM	No	6	3/8	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISSX141	JHWISSXT314	1/2"	3.02"/76.7MM	Yes	6	7/16	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISSXT614	JHWISSX314	1/2"	3.02"/76.7MM	No	6	7/16	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISSX1614 ½" 6.57°/166.9MM			4.09"/103.9MM	Yes			1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISSX1914 ½" 6.57*/166.9MM	JHWISSX414	1/2"	4.09"/103.9MM	No	6	7/16	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISSX914 ½' 9.57'/243.1MM	JHWISSXT614	1/2"	6.57"/166.9MM	Yes	6	7/16	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISSXT316	JHWISSX614	1/2"	6.57"/166.9MM	No	6	7/16	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISSX1316	JHWISSXT914	1/2"	9.57"/243.1MM	Yes	6	7/16	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISSX1616	JHWISSX914	1/2"	9.57"/243.1MM	No			1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.3"/7.6MM
JHWISSX1616 ½' 4.09'/103.9MM Yes 6 ½ 1.06'/26.9MM 0.90'/22.7MM 0.76'/19.3MM 0.34'/8.6MM JHWISSX1616 ½' 4.09'/103.9MM No 6 ½ 1.06'/26.9MM 0.90'/22.7MM 0.76'/19.3MM 0.34'/8.6MM JHWISSX1616 ½' 6.57'/166.9MM No 6 ½ 1.06'/26.9MM 0.90'/22.7MM 0.76'/19.3MM 0.34'/8.6MM JHWISSX1616 ½' 6.57'/166.9MM Yes 6 ½ 1.06'/26.9MM 0.90'/22.7MM 0.76'/19.3MM 0.34'/8.6MM JHWISSX1616 ½' 9.57'/243.1MM Yes 6 ½ 1.06'/26.9MM 0.90'/22.7MM 0.76'/19.3MM 0.34'/8.6MM JHWISSX1618 ½' 9.57'/243.1MM No 6 ½ 1.06'/26.9MM 0.90'/22.7MM 0.76'/19.3MM 0.34'/8.6MM JHWISSX1618 ½' 4.09'/103.9MM No 6 ½ 1.06'/26.9MM 0.90'/22.7MM 0.76'/19.3MM 0.44'/11.2MM JHWISSX1618 ½' 6.57'/166.9MM No 6 ½' 1.06'/26.9MM 0.90'/22.7MM 0.82'/20.8MM 0.44'/11.2MM JHWISSX1618 ½' 6.57'/166.9MM No 6 ½' 0.76'/19.8MM 0.90'/22.7MM 0.76'/19.4MM 0.16'/4.1MM JHWISSX1618 ½' 6.57'/166.9MM No 6 ½' 0.76'/19.8MM 0.90'/22.7MM 0.76'/19.4MM 0.16'/4.1MM JHWISSX1618 ½' 6.57'/166.9MM No 6 ½' 0.76'/19.8MM 0.90'/22.7MM 0.76'/19.4MM 0.16'/4.1MM JHWISSX1618 ½' 6.57'/166.9MM No 6 ½' 0.76'/19.8MM 0.90'/22.7MM 0.76'/19.4MM 0.16'/4.1MM JHWISSX1618 ½' 0.57'/26.9MM No 6 ½' 0.76'/26.9MM 0.90'/22.7MM 0.82'/20.8MM 0.44'/11.2MM JHWISSX1618 ½' 0.57'/26.9MM No 6 ½' 0.76'/26.9MM 0.90'/22.7MM 0.82'/20.8MM 0.44'/11.2MM JHWISSX1218 ½' 9.57'/243.1MM No 6 ½' 0.76'/26.9MM 0.90'/22.7MM 0.82'/20.8MM 0.44'/11.2MM JHWISSX1218 ½' 9.57'/243.1MM No 6 ½' 0.76'/26.9MM 0.90'/22.7MM 0.82'/20.8MM 0.44'/11.2MM JHWISSX1218 ½' 9.57'/243.1MM No 6 ½' 0.76'/26.9MM 0.90'/22.7MM 0.82'/20.8MM 0.44'/11.2MM JHWISSX1218 ½' 3.02'/76.7MM No 6 ½' 0.76'/26.9MM 0.90'/22.7MM 0.90'/22.7MM 0.44'/11.2MM JHWISSX120 ½' 0.57'/166.9MM No 6 ½' 0.76'/26.9MM 0.90'/22.7MM 0.90'/22.7MM 0.44'	JHWISSXT316	1/2"	3.02"/76.7MM	Yes	6	1/2	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSX616	JHWISSX316	1/2"	3.02"/76.7MM	No	6	1/2	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXT616 \(\frac{\psi}{\chi} \) 6.57"/166.9MM \(\text{ Ve} \) 6.57"/166.9MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 1.06"/26.9MM 0.90"/22.7MM 0.76"/19.3MM 0.34"/8.6MM JHWISSXT916 \(\frac{\psi}{\chi} \) 9.57"/243.1MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 1.06"/26.9MM 0.90"/22.7MM 0.76"/19.3MM 0.34"/8.6MM JHWISSXT916 \(\frac{\psi}{\chi} \) 9.57"/243.1MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 1.06"/26.9MM 0.90"/22.7MM 0.76"/19.3MM 0.34"/8.6MM JHWISSXT418 \(\frac{\psi}{\chi} \) 4.09"/103.9MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 1.06"/26.9MM 0.90"/22.7MM 0.82"/20.8MM 0.44"/11.2MM JHWISSXT418 \(\frac{\psi}{\chi} \) 4.09"/103.9MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 1.06"/26.9MM 0.90"/22.7MM 0.82"/20.8MM 0.44"/11.2MM JHWISSXT418 \(\frac{\psi}{\chi} \) 4.09"/103.9MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 6.57"/166.9MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 0.76"/19.3MM 0.30"/22.7MM 0.76"/19.4MM 0.16"/4.1MM JHWISSXT618 \(\frac{\psi}{\chi} \) 6.57"/166.9MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 0.76"/19.3MM 0.90"/22.7MM 0.76"/19.4MM 0.16"/4.1MM JHWISSXT618 \(\frac{\psi}{\chi} \) 6.57"/166.9MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 1.06"/26.9MM 0.90"/22.7MM 0.76"/19.4MM 0.16"/4.1MM JHWISSXT618 \(\frac{\psi}{\chi} \) 6.57"/166.9MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 1.06"/26.9MM 0.90"/22.7MM 0.82"/20.8MM 0.44"/11.2MM JHWISSXT618 \(\frac{\psi}{\chi} \) 9.57"/243.1MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 1.06"/26.9MM 0.90"/22.7MM 0.82"/20.8MM 0.44"/11.2MM JHWISSXT1218 \(\frac{\psi}{\chi} \) 9.57"/243.1MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 1.06"/26.9MM 0.90"/22.7MM 0.82"/20.8MM 0.44"/11.2MM JHWISSXT218 \(\frac{\psi}{\chi} \) 9.57"/243.1MM \(\text{ No} \) 6 \(\frac{\psi}{\chi} \) 1.06"/26.9MM 0.90"/22.7MM	JHWISSXT416	1/2"	4.09"/103.9MM	Yes	6	1/2	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSX616	JHWISSX416	1/2"	4.09"/103.9MM	No	6	1/2	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXT916	JHWISSXT616		6.57"/166.9MM	Yes			1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSX118 ½" 9.57*/243.1MM	JHWISSX616	1/2"	6.57"/166.9MM	No	6	1/2	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSX418	JHWISSXT916	1/2"	9.57"/243.1MM	Yes	6	1/2	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSX418	JHWISSX916	1/2"	9.57"/243.1MM	No	6	1/2	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWSPSXTL618	JHWISSXT418		4.09"/103.9MM	Yes	6	9/16	1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	0.44"/11.2MM
JHWSSX1618 ½" 6.57"/166.9MM	JHWISSX418		4.09"/103.9MM				1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	
JHWISSXT618 1.06*/26.9MM 1.06*/26.9MM 0.90*/22.7MM 0.82*/20.8MM 0.44*/11.2MM JHWISSX618 1.06*/26.9MM 0.90*/22.7MM 0.82*/20.8MM 0.44*/11.2MM JHWISSXT918 1.06*/26.9MM 0.90*/22.7MM 0.82*/20.8MM 0.44*/11.2MM JHWISSXT918 1.06*/26.9MM 0.90*/22.7MM 0.82*/20.8MM 0.44*/11.2MM JHWISSX118 1.06*/26.9MM 0.90*/22.7MM 0.82*/20.8MM 0.44*/11.2MM JHWISSX11218 1.25*/319.3MM Yes 6	JHWSPSXTL618		6.57"/166.9MM	Yes			0.78"/19.8MM	0.90"/22.7MM	0.76"/19.4MM	0.16"/4.1MM
JHWISSX618 \(\frac{1}{2} \)	JHWSPSXL618		6.57"/166.9MM	No		⁹ /16	0.78"/19.8MM	0.90"/22.7MM	0.76"/19.4MM	0.16"/4.1MM
JHWISSXT918 ½" 9.57"/243.1MM Yes 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.82"/20.8MM 0.44"/11.2MM JHWISSX1218 ½" 12.57"/319.3MM Yes 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.82"/20.8MM 0.44"/11.2MM JHWISSX1218 ½" 12.57"/319.3MM No 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.82"/20.8MM 0.44"/11.2MM JHWISSX1320 ½" 3.02"/76.7MM Yes 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.82"/20.8MM 0.44"/11.2MM JHWISSX320 ½" 3.02"/76.7MM No 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX1420 ½" 3.02"/76.7MM No 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX1420 ½" 4.09"/103.9MM Yes 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.90"/22.7MM JHWISSX1420 ½" 4.09"/103.9MM No 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX1620 ½" 6.57"/166.9MM Yes 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.90"/22.7MM JHWISSX1620 ½" 6.57"/166.9MM No 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.90"/22.7MM JHWISSX1620 ½" 6.57"/166.9MM No 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.90"/22.7MM JHWISSX1620 ½" 6.57"/166.9MM No 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.90"/22.7MM JHWISSX1620 ½" 9.57"/243.1MM Yes 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.90"/22.7MM JHWISSX1620 ½" 9.57"/243.1MM No 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.90"/22.7MM JHWISSX1620 ½" 9.57"/243.1MM No 6 ¾/6 1.06"/26.9MM 0.90"/22.7MM 0.	JHWISSXT618	1/2"	6.57"/166.9MM	Yes	6	9/16	1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	0.44"/11.2MM
JHWISSX918 ½" 9.57"/243.1MM	JHWISSX618	1/2"	6.57"/166.9MM	No	6	⁹ /16	1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	0.44"/11.2MM
JHWISSXT1218	JHWISSXT918		9.57"/243.1MM	Yes	6		1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	0.44"/11.2MM
JHWISSX1218 ½" 12.57"/319.3MM			9.57"/243.1MM	No			1.06"/26.9MM			0.44"/11.2MM
JHWISSXT320	JHWISSXT1218		12.57"/319.3MM	Yes		9/16	1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	0.44"/11.2MM
JHWISSX320 ½" 3.02"/76.7MM	JHWISSX1218	1/2"	12.57"/319.3MM	No	6	⁹ /16	1.06"/26.9MM	0.90"/22.7MM	0.82"/20.8MM	0.44"/11.2MM
JHWISSXT420 ½" 4.09"/103.9MM Yes 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSXT620 ½" 4.09"/103.9MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSXT620 ½" 6.57"/166.9MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX620 ½" 6.57"/166.9MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM ISSX620SOC75 ½" 6.57"/166.9MM No 6 % 0.97"/24.7MM 0.90"/22.7MM 0.90"/22.7MM 0.35"/8.9MM JHWISSXT920 ½" 9.57"/243.1MM Yes 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX7920 ½" 9.57"/243.1MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX7324 ½" 3.02"/76.7MM Yes<	JHWISSXT320		3.02"/76.7MM	Yes		5/8	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISSX420 ½" 4.09"/103.9MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSXT620 ½" 6.57"/166.9MM Yes 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX620 ½" 6.57"/166.9MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM ISSX620SOC75 ½" 6.57"/166.9MM No 6 % 0.97"/24.7MM 0.90"/22.7MM 0.90"/22.7MM 0.35"/8.9MM JHWISSXT920 ½" 9.57"/243.1MM Yes 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX7920 ½" 9.57"/243.1MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX7324 ½" 3.02"/76.7MM Yes 6 ¾ 1.25"/31.8MM 1.00"/25.4MM 1.12"/28.4MM 0.56"/14.2MM	JHWISSX320		3.02"/76.7MM	No			1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISSXT620 ½" 6.57"/166.9MM Yes 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX620 ½" 6.57"/166.9MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM ISSX620SOC75 ½" 6.57"/166.9MM No 6 % 0.97"/24.7MM 0.90"/22.7MM 0.90"/22.7MM 0.35"/8.9MM JHWISSXT920 ½" 9.57"/243.1MM Yes 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSXT324 ½" 9.57"/243.1MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSXT324 ½" 3.02"/76.7MM Yes 6 ¾ 1.25"/31.8MM 1.00"/25.4MM 1.12"/28.4MM 0.56"/14.2MM	JHWISSXT420		4.09"/103.9MM	Yes	6	5/8	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISSX620 ½" 6.57"/166.9MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM ISSX620SOC75 ½" 6.57"/166.9MM No 6 % 0.97"/24.7MM 0.90"/22.7MM 0.90"/22.7MM 0.35"/8.9MM JHWISSXT920 ½" 9.57"/243.1MM Yes 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSXT920 ½" 9.57"/243.1MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSXT324 ½" 3.02"/76.7MM Yes 6 ¾ 1.25"/31.8MM 1.00"/25.4MM 1.12"/28.4MM 0.56"/14.2MM	JHWISSX420	1/2"	4.09"/103.9MM	No	6	5/8	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
ISSX620SOC75	JHWISSXT620	1/2"	6.57"/166.9MM	Yes	6	5/8	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISSXT920 ½" 9.57"/243.1MM Yes 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSX920 ½" 9.57"/243.1MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSXT324 ½" 3.02"/76.7MM Yes 6 ¾ 1.25"/31.8MM 1.00"/25.4MM 1.12"/28.4MM 0.56"/14.2MM	JHWISSX620	1/2"	6.57"/166.9MM	No	6	5/8	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISSX920 ½" 9.57"/243.1MM No 6 % 1.06"/26.9MM 0.90"/22.7MM 0.90"/22.7MM 0.44"/11.2MM JHWISSXT324 ½" 3.02"/76.7MM Yes 6 ¾ 1.25"/31.8MM 1.00"/25.4MM 1.12"/28.4MM 0.56"/14.2MM	ISSX620SOC75	1/2"	6.57"/166.9MM	No	6	5/8		0.90"/22.7MM	0.90"/22.7MM	0.35"/8.9MM
JHWISSXT324 ½" 3.02"/76.7MM Yes 6 ¾ 1.25"/31.8MM 1.00"/25.4MM 1.12"/28.4MM 0.56"/14.2MM	JHWISSXT920	1/2"	9.57"/243.1MM	Yes	6	5/8	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
	JHWISSX920	1/2"	9.57"/243.1MM	No	6	5/8	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISSX324 ½" 3.02"/76.7MM No 6 ¾ 1.25"/31.8MM 1.00"/25.4MM 1.12"/28.4MM 0.56"/14.2MM	JHWISSXT324	1/2"	3.02"/76.7MM	Yes	6	3/4	1.25"/31.8MM	1.00"/25.4MM	1.12"/28.4MM	0.56"/14.2MM
	JHWISSX324	1/2"	3.02"/76.7MM	No	6	3/4	1.25"/31.8MM	1.00"/25.4MM	1.12"/28.4MM	0.56"/14.2MM









1/2" DRIVE SOCKET FLEXTENSIONS

Williams Flextension are used extensively in engine and heavy equipment manufacturing, assembly and repair. They increase productivity by featuring an integrated (non-removable) design of the drive extension and socket to allow for reliable, continuous work without concern for the socket disconnecting from the extension as could happen with hand-tool type ball retained sockets.

See page 252 for 3/8" Drive Socket Flextensions.



1/2" DRIVE SOCKET FLEXTENSIONS, SAE

Black Industrial Finish

		Α				В	С	D	E
Product Code	Drive	Shank Length	Tension	Socket Points	Socket	Socket Length	Socket Diameter	Nose Diameter	Hex Depth
JHWISSXT424	1/2"	4.09"/103.9MM	Yes	6	3/4	1.25"/31.8MM	1.00"/25.4MM	1.12"/28.4MM	0.56"/14.2MM
JHWISSX424	1/2"	4.09"/103.9MM	No	6	3/4	1.25"/31.8MM	1.00"/25.4MM	1.12"/28.4MM	0.56"/14.2MM
JHWISSXT624	1/2"	6.57"/166.9MM	Yes	6	3/4	1.25"/31.8MM	1.00"/25.4MM	1.12"/28.4MM	0.56"/14.2MM
JHWISSX624	1/2"	6.57"/166.9MM	No	6	3/4	1.25"/31.8MM	1.00"/25.4MM	1.12"/28.4MM	0.56"/14.2MM
JHWISSX624MD	1/2"	6.57"/166.9MM	No	6	3/4	0.85"/21.6MM	1.00"/25.4MM	1.12"/28.4MM	0.31"/7.9MM
JHWISDX624LD	1/2"	6.57"/166.9MM	No	12	3/4	0.85"/21.6MM	1.00"/25.4MM	1.00"/25.4MM	0.31"/7.9MM
JHWISSXT924	1/2"	9.57"/243.1MM	Yes	6	3/4	1.25"/31.8MM	1.00"/25.4MM	1.12"/28.4MM	0.56"/14.2MM
JHWISSX924	1/2"	9.57"/243.1MM	No	6	3/4	1.25"/31.8MM	1.00"/25.4MM	1.12"/28.4MM	0.56"/14.2MM
JHWISSXT430	1/2"	4.09"/103.9MM	Yes	6	15/16	1.31"/33.3MM	1.00"/25.4MM	1.30"/33.0MM	0.62"/15.7MM
JHWISSX430	1/2"	4.09"/103.9MM	No	6	¹⁵ / ₁₆	1.31"/33.3MM	1.00"/25.4MM	1.30"/33.0MM	0.62"/15.7MM
JHWISSXT630	1/2"	6.57"/166.9MM	Yes	6	15/16	1.31"/33.3MM	1.00"/25.4MM	1.30"/33.0MM	0.62"/15.7MM
JHWISSX630	1/2"	6.57"/166.9MM	No	6	15/16	1.31"/33.3MM	1.00"/25.4MM	1.30"/33.0MM	0.62"/15.7MM
JHWISSXT930	1/2"	9.57"/243.1MM	Yes	6	15/16	1.31"/33.3MM	1.00"/25.4MM	1.30"/33.0MM	0.62"/15.7MM
JHWISSX930	1/2"	9.57"/243.1MM	No	6	15/16	1.31"/33.3MM	1.00"/25.4MM	1.30"/33.0MM	0.62"/15.7MM
JHWISSXT1230	1/2"	12.57"/319.3MM	Yes	6	15/16	1.31"/33.3MM	1.00"/25.4MM	1.30"/33.0MM	0.62"/15.7MM
JHWISSX1230	1/2"	12.57"/319.3MM	No	6	15/16	1.31"/33.3MM	1.00"/25.4MM	1.30"/33.0MM	0.62"/15.7MM

Toll Free 1 800 563 1293



Black Industrial Finish

1/2" DRIVE SOCKET FLEXTENSIONS, METRIC







		Α				В	С	D	E
Product Code	Drive	Shank Length	Tension	Socket Points	Socket (mm)	Socket Length	Socket Diameter	Nose Diameter	Socket Hex Depth
JHWISSXTM410	1/2"	4.09"/103.9MM	Yes	6	10	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISSXM410	1/2"	4.09"/103.9MM	No	6	10	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
ISSXTMD610	1/2"	6.57"/166.9MM	Yes	12	10	1.30"/33.0MM	0.90"/22.7MM	0.59"/15.0MM	0.31"/7.9MM
JHWISSXM610	1/2"	6.57"/166.9MM	No	6	10	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISSXTM910	1/2"	9.57"/243.1MM	Yes	6	10	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISSXM910	1/2"	9.57"/243.1MM	No	6	10	1.06"/26.9MM	0.90"/22.7MM	0.63"/16.0MM	0.28"/7.1MM
JHWISSXTM412	1/2"	4.09"/103.9MM	Yes	6	12	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXM412	1/2"	4.09"/103.9MM	No	6	12	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXTM612	1/2"	6.57"/166.9MM	Yes	6	12	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXM612	1/2"	6.57"/166.9MM	No	6	12	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXTM912	1/2"	9.57"/243.1MM	Yes	6	12	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXM912	1/2"	9.57"/243.1MM	No	6	12	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXTM413	1/2"	4.09"/103.9MM	Yes	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXM413	1/2"	4.09"/103.9MM	No	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXTM613	1/2"	6.57"/166.9MM	Yes	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXM613	1/2"	6.57"/166.9MM	No	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM

- Made in the U.S.A.
- · Durable black oxide finish.
- Socket retention pin is TIG welded, providing full rotation power to the socket
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Drive end has a 7/32" cross hole & bevel for ease of use

- Up to 30 degree angle offset
- Flextensions are designed for use on hand and power tools (Impulse or Direct drive); NOT FOR IMPACT TOOL USE
- Maximum working torque values: 160 Ft. Lbs. /1920 In. Lbs. /217 Nm
- · Other lengths and socket sizes available by special order. Contact your Williams representative





1/2" DRIVE SOCKET FLEXTENSIONS

Williams Flextension are used extensively in engine and heavy equipment manufacturing, assembly and repair. They increase productivity by featuring an integrated (non-removable) design of the drive extension and socket to allow for reliable, continuous work without concern for the socket disconnecting from the extension as could happen with hand-tool type ball retained sockets.

See page 252 for 3/8" Drive Socket Flextensions.









1/2" DRIVE SOCKET FLEXTENSION, METRIC

Black Industrial Finish

		Α				В	С	D	E
				Socket	Socket	<u> </u>		Socket Nose	<u> </u>
Product Code	Drive	Shank Length	Tension	Points	(mm)	Socket Length	Socket Diameter	Diameter	Socket Hex Depth
JHWISSXTM913	1/2"	9.57"/243.1MM	Yes	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXM913	1/2"	9.57"/243.1MM	No	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISXTM1013	1/2"	10.57"/268.5MM	Yes	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSXM1013	1/2"	10.57"/268.5MM	No	6	13	1.06"/26.9MM	0.90"/22.7MM	0.76"/19.3MM	0.34"/8.6MM
JHWISSX-TM415	1/2"	4.09"/103.9MM	Yes	6	15	1.06"/26.9MM	0.90"/22.7MM	0.88"/22.4MM	0.42"/10.7MM
JHWISSXM415	1/2"	4.09"/103.9MM	No	6	15	1.06"/26.9MM	0.90"/22.7MM	0.88"/22.4MM	0.42"/10.7MM
JHWISSXTM615	1/2"	6.57"/166.9MM	Yes	6	15	1.06"/26.9MM	0.90"/22.7MM	0.88"/22.4MM	0.42"/10.7MM
JHWISSXM615	1/2"	6.57"/166.9MM	No	6	15	1.06"/26.9MM	0.90"/22.7MM	0.88"/22.4MM	0.42"/10.7MM
JHWISSX-TM915	1/2"	9.57"/243.1MM	Yes	6	15	1.06"/26.9MM	0.90"/22.7MM	0.88"/22.4MM	0.42"/10.7MM
JHWISSXM915	1/2"	9.57"/243.1MM	No	6	15	1.06"/26.9MM	0.90"/22.7MM	0.88"/22.4MM	0.42"/10.7MM
JHWISSXTM416	1/2"	4.09"/103.9MM	Yes	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISSXM416	1/2"	4.09"/103.9MM	No	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISSXMD416	1/2"	4.09"/103.9MM	No	12	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISSXTM616	1/2"	6.57"/166.9MM	Yes	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISSXM616	1/2"	6.57"/166.9MM	No	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWSPSXMD616	1/2"	6.57"/166.9MM	No	12	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.44"/11.2MM
JHWISSXTM916	1/2"	9.57"/243.1MM	Yes	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISSXM916	1/2"	9.57"/243.1MM	No	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISXTM1016	1/2"	10.57"/268.5MM	Yes	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISSXM1016	1/2"	10.57"/268.5MM	No	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISSXTM1216	1/2"	12.57"/319.3MM	Yes	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISSXM1216	1/2"	12.57"/319.3MM	No	6	16	1.06"/26.9MM	0.90"/22.7MM	0.90"/22.7MM	0.45"/11.4MM
JHWISSXTM418	1/2"	4.09"/103.9MM	Yes	6	18	1.06"/26.9MM	1.00"/25.4MM	1.00"/25.4MM	0.45"/11.4MM
JHWISSXM418	1/2"	4.09"/103.9MM	No	6	18	1.06"/26.9MM	1.00"/25.4MM	1.00"/25.4MM	0.45"/11.4MM
JHWSPSXMD418	1/2"	4.09"/103.9MM	No	12	18	0.88"/22.4MM	1.00"/25.4MM	1.00"/25.4MM	0.30"/7.6MM
JHWISSXTM618	1/2"	6.57"/166.9MM	Yes	6	18	1.06"/26.9MM	1.00"/25.4MM	1.00"/25.4MM	0.45"/11.4MM
JHWISSXM618	1/2"	6.57"/166.9MM	No	6	18	1.06"/26.9MM	1.00"/25.4MM	1.00"/25.4MM	0.45"/11.4MM
JHWSPSXMD618	1/2"	6.57"/166.9MM	No	12	18	0.88"/22.4MM	1.00"/25.4MM	1.00"/25.4MM	0.30"/7.6MM
JHWISSXTM918	1/2"	9.57"/243.1MM	Yes	6	18	1.06"/26.9MM	1.00"/25.4MM	1.00"/25.4MM	0.45"/11.4MM
JHWISSXM918	1/2"	9.57"/243.1MM	No	6	18	1.06"/26.9MM	1.00"/25.4MM	1.00"/25.4MM	0.45"/11.4MM
JHWISXTM1018	1/2"	10.57"/268.5MM	Yes	6	18	1.06"/26.9MM	1.00"/25.4MM	1.00"/25.4MM	0.45"/11.4MM
JHWISSXM1018	1/2"	10.57"/268.5MM	No	6	18	1.06"/26.9MM	1.00"/25.4MM	1.00"/25.4MM	0.45"/11.4MM

- Made in the U.S.A.
- Durable black oxide finish
- Socket retention pin is TIG welded, providing full rotation power to the socket
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Drive end has a 7/32" cross hole & bevel for ease of use



- Up to 30 degree angle offset
- Flextensions are designed for use on hand and power tools (Impulse or Direct drive); NOT FOR IMPACT TOOL USE
- Maximum working torque values: 160 Ft. Lbs. /1920 In. Lbs. /217 Nm
- Other lengths and socket sizes available by special order. Contact your Snap-on Industrial Brands representative











1/2" DRIVE IMPACT EXTENSIONS **AND ACCESSORIES**

Black Industrial Finish

Product Code	Description	Length (Inches)	Socket Retention
JHW4-102	Impact Extension	3 1/2	Lock Ring
JHW4-105A	Impact Extension	5	Spring Plunger
JHW4-110A	Impact Extension	10	Spring Plunger
JHW4-140B	Impact Universal Joint	2 ¹ / ₂	Spring Plunger
JHW4-2F	3/8" M x 1/2" F Adapter	2 1/4	Spring Plunger
JHW4-6	3/4" M x 1/2" F Adapter	1 1/4	Through Hole

Fed. Spec: ANSI B107.2

Features

- . Specially heat treated for impact use to provide long life, safety, and durability
- · Spring plunger provides secure socket retention for safety and convenience
- Suitable for use with pneumatic and electric impact wrenches





1/2" DRIVE HEX TO SQUARE SHANK **IMPACT EXTENSIONS**

Black Industrial Finish

	Hex Shank Size	Square Drive Size	Length
Product Code	(Inches)	(Inches)	Inches)
JHW4-33B	7/16	1/2	2 3/4
JHW4-35B	7/16	1/2	5
JHW4-53B	5/8	1/2	2 3/4

- . Specially heat treated for impact use to provide long life, safety, and durability
- . Spring plunger provides secure socket retention for safety and convenience
- · Suitable for use with pneumatic and electric impact wrenches





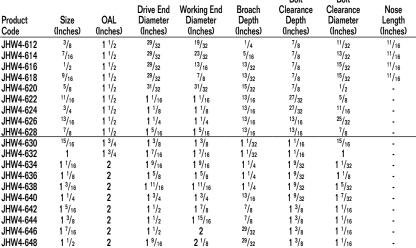
pplīfast

1/2" DRIVE SHALLOW IMPACT SOCKETS, **6 POINT, SAE**





Black Industrial Finish В C D Bolt Bolt Drive End Working End Broach Clearance Clearance Nose Product OAL Size Diameter Diameter Depth Depth Diameter Length Code (Inches) (Inches) (Inches) (Inches) (Inches) (Inches) (Inches) (Inches) 29/32 19/32 11/32 11/16 JHW4-612 $^{3}/_{8}$ 1 1/2 7/8 1/4 ²³/₃₂ 13/32 JHW4-614 7/16 1 1/2 29/32 ⁵/₁₆ 7/8 11/16 JHW4-616 1/2 1 1/2 $^{29}/_{32}$ 13/16 13/32 7/8 15/32 11/16 JHW4-618 9/16 29/32 7/8 13/32 7/8 15/32 11/16 1 1/2 JHW4-620 5/8 31/32 31/32 15/32 7/8 1 1/2 1/2 11/16 13/16 27/32 JHW4-622 1 1/2 1 1/16 1 1/16 5/8 13/16 27/32 11/16 JHW4-624 3/4 1 1/2 $1^{1/8}$ 1 1/8



Fed. Spec: ANSI B107.2

JHWWS-4-7RC

7 Piece 1/2" Drive Shallow 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW4-614	7/16	JHW4-622	11/16
JHW4-616	1/2	JHW4-624	3/4
JHW4-618	9/16	JHW4-626	13/16
JHW4-620	5/8		

JHWWS-4-11RC

11 Piece 1/2" Drive Shallow 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW4-616	1/2	JHW4-624	3/4	JHW4-632	1
JHW4-618	⁹ /16	JHW4-626	¹³ / ₁₆	JHW4-634	1 1/16
JHW4-620	5/8	JHW4-628	7/8	JHW4-636	1 1/8
JHW4-622	11/16	JHW4-630	¹⁵ / ₁₆		

JHWWS-4-14

14 Piece 1/2" Drive Shallow 6 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW4-612	3/8	JHW4-622	11/16	JHW4-632	1
JHW4-614	⁷ / ₁₆	JHW4-624	3/4	JHW4-634	1 1/16
JHW4-616	1/2	JHW4-626	¹³ / ₁₆	JHW4-636	1 1/8
JHW4-618	9/16	JHW4-628	7/8	JHW4-640	1 1/4
JHW4-620	5%	JHW4-630	15/16		

JHWWS-4-19RC

19 Piece 1/2" Drive Shallow 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW4-612	3/8	JHW4-622	11/16	JHW4-632	1	JHW4-642	1 5/16
JHW4-614	7/16	JHW4-624	3/4	JHW4-634	11/16	JHW4-644	1 ³ /8
JHW4-616	1/2	JHW4-626	13/16	JHW4-636	1 1/8	JHW4-646	1 ⁷ / ₁₆
JHW4-618	9/16	JHW4-628	7/8	JHW4-638	1 ³ / ₁₆	JHW4-648	1 1/2
JHW4-620	5/8	JHW4-630	¹⁵ / ₁₆	JHW4-640	1 ¹ / ₄		







Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets. extensions and u-joints







JHWWS-4-7RC



JHWWS-4-11RC



JHWWS-4-14



JHWWS-4-19RC

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 point fasteners
- · Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability







Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets, extensions and u-joints





JHW37923





JHW37224



JHW37918

1/2" DRIVE SHALLOW IMPACT SOCKETS,





12 POINT, SAE **Black Industrial Finish**

Toll Free 1 800 563 1293

		Α	В	С	D	Ε		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW35512	3/8	1 1/2	7/8	5/8	3/8	/	1/4	5/8
JHW35514	7/16	1 1/2	7/8	3/4	3/8	/	1/4	5/8
JHW35516	1/2	1 1/2	7/8	3/4	3/8	/	1/4	5/8
JHW35518	9/16	1 1/2	1	7/8	3/8	/	1/2	5/8
JHW35520	5/8	1 1/2	1	1	1/2	/	1/2	
JHW35522	11/16	1 1/2	1	1	1/2	/	1/2	/
JHW35524	3/4	1 1/2	1	1	1/2	/	5/8	/
JHW35526	¹³ / ₁₆	1 1/2	1 1/8	1 1/8	1/2	/	3/4	/
JHW35528	7/8	1 1/2	1 1/4	1 1/4	1/2	/	3/4	/
JHW35530	15/16	1 ½	1 1/4	1 1/4	1/2	1	7/8	/
JHW35532	1	1 1/2	1 1/4	1 1/2	1/2	/	7/8	/
JHW35534	1 1/16	1 %16	1 1/2	1 1/2	5/8	/	1	1
JHW35536	1 1/8	1 %16	1 1/2	1 1/2	3/4	/	1	9/16
JHW35538	1 3/16	1 %16	1 1/2	1 1/8	3/4	/	1	9/16
JHW35540	1 1/4	1 %16	1 1/2	1 3/4	3/4	1	1 1/8	9/16
JHW35542	1 5/16	1 %	1 1/2	1 3/4	7∕8	/	1 1/8	9/16
JHW35544	1 3/8	1 %	1 1/2	1 1/8	7∕8	/	1 1/4	9/16
JHW35546	1 1/16	1 %	1 1/2	2	7∕8	/	1 1/4	9/16
JHW35548	1 1/2	1 %	1 1/2	2	1	/	1 3/8	9/16

JHW37923

11 piece 1/2" Drive Impact Shallow 12 Point Socket Set on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW35512	3/8	JHW35520	5/8	JHW35528	7/8
JHW35514	7/16	JHW35522	11/16	JHW35530	15/16
JHW35516	1/2	JHW35524	3/4	JHW35532	1
JHW35518	9/16	JHW35526	¹³ / ₁₆		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 and 12 point fasteners
- . Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability
- · Drive end features pin retention hole and groove

1/2" DRIVE UNIVERSAL IMPACT SOCKETS, **6 POINT, SAE**





Black Industrial Finish

		Α	В	C	υ	E		Г
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW37216	1/2	2 3/4	1	3/4	3/8	9/16	7/16	1
JHW37218	9/16	2 3/4	1	3/4	3/8	9/16	7/16	1
JHW37220	5/8	2 3/4	1	3/4	3/8	9/16	9/16	1
JHW37222	11/16	2 3/4	1 1/4	1	1/2	11/16	11/16	1 1/4
JHW37224	3/4	2 3/4	1 1/4	1	1/2	11/16	11/16	1 1/4
JHW37226	13/16	3	1 1/4	1 1/4	5/8	13/16	13/16	1 1/2
JHW37228	7/8	3	1 1/4	1 1/4	5/8	13/16	13/16	1 1/2

Fed. Spec: ANSI B107.2

JHW37918

7 Piece 1/2" Drive Universal 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW37216	1/2	JHW37222	11/16	JHW37228	7∕8
JHW37218	9/16	JHW37224	3/4		
JHW37220	5/8	JHW37226	¹³ / ₁₆		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 point fasteners
- . Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability
- · Drive end features pin retention hole and groove



1/2" DRIVE UNIVERSAL IMPACT SOCKETS, **6 POINT, METRIC Black Industrial Finish**





Code (MM) (Inches) Diameter (Inches) Diameter (Inches) (Inches) Depth (Inches) Diameter (Inches) (Inches) JHW37813 13 2 ¾ 1 ¾ ¾ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾		Black maastrar i mish									
Code (MM) (Inches) Diameter (Inches) Diameter (Inches) (Inches) Depth (Inches) Diameter (Inches) (Inches) JHW37813 13 2 ¾ 1 ¾ ¾ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ ¾ ¾ ¾	F		E	D	С	В	Α				
JHW37813 13 2 ¾ 1 ¾ ¾ ½ ½ ½ JHW37814 14 2 ¾ 1 3¼ ¾ ½ ½ ½ JHW37815 15 2 ¾ 1 1 ¾ ½ ½ ½ JHW37816 16 2 ¾ 1 1 ½ ½ ½ JHW37817 17 2 ¾ 1 ¼ 1 ½ ¾ ¾ JHW37818 18 2 ¾ 1 ¼ 1 ½ ¾ ¾ JHW37820 20 3 1 ½ 1 ½ ½ ¾ ¾ JHW37821 21 3 1 ½ 1 ½ % ¾ ¾	lose Length	Bolt Clearance	Bolt Clearance	Broach Depth	Working End	Drive End	OAL	Size	Product		
JHW37814 14 2 ¾ 1 ¾ ¾ ½ ½ ½ JHW37815 15 2 ¾ 1 1 ¾ ½ ½ ½ JHW37816 16 2 ¾ 1 1 ½ ½ ½ ½ ½ ½ ½ ½ ½ ½ JHW37817 17 2 ¾ 1 ¼ 1 ½ ¾ ¾ ¾ JHW37818 18 2 ¾ 1 ¼ 1 ½ ¾ ¾ ¾ JHW37819 19 2 ½ 1 ¼ 1 ½ ¾ ¾ ¾ JHW37820 20 3 1 ¼ 1 ¼ ½ ¾ ¾ ¾ JHW37821 21 3 1 ¼ 1 ¼ ½ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾ ¾	(Inches)	Diameter (Inches)	Depth (Inches)	(Inches)	Diameter (Inches)	Diameter (Inches)	(Inches)	(MM)	Code		
JHW37815 15 2 ¾ 1 1 ¾6 ½ ½ ½ JHW37816 16 2 ¾ 1 1 ¾8 ½ ½ ½ ½ JHW37817 17 2 ¾ 1 ¼ 1 ½ ¾4 ¾4 JHW37818 18 2 ¾ 1 ¼ 1 ½ ¾4 ¾4 JHW37819 19 2 ¾ 1 ¼ 1 ½ ¾4 ¾4 JHW37820 20 3 1 ¼ 1 ¼ ½ ¾4 ¾4 JHW37821 21 3 1 ¼ 1 ¼ ½ ¾4 ¾4 ¾4 JHW37821 21 3 1 ¼ 1 ¼ ½ ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4 ¾4	1	1/2	1/2	3/8	3/4	1	2 3/4	13	JHW37813		
JHW37816 16 2 3/4 1 1 3/6 ½ ½ ½ JHW37817 17 2 3/4 1 ¼ 1 ½ 3/4 3/4 JHW37818 18 2 3/4 1 ¼ 1 ½ 3/4 3/4 JHW37819 19 2 3/4 1 ¼ 1 ½ 3/4 3/4 JHW37820 20 3 1 ¼ 1 ¼ 5/6 3/4 3/4 JHW37821 21 3 1 ¼ 1 ¼ 5/6 3/4 3/4	1	1/2	1/2	3/8	3/4	1	2 3/4	14	JHW37814		
JHW37817 17 2 3/4 1 1/4 1 1/2 3/4 3/4 JHW37818 18 2 3/4 1 1/4 1 1/2 3/4 3/4 JHW37819 19 2 3/4 1 1/4 1 1/2 3/4 3/4 JHW37820 20 3 1 1/4 1 1/4 5/6 3/4 3/4 JHW37821 21 3 1 1/4 1 1/4 5/6 3/4 3/4	1	1/2	1/2	3/8	1	1	2 3/4	15	JHW37815		
JHW37818 18 2 ¾ 1 ¼ 1 ½ ¾ ¾ JHW37819 19 2 ¾ 1 ¼ 1 ½ ¾ ¾ JHW37820 20 3 1 ¼ 1 ¼ ½ ¾ ¾ JHW37821 21 3 1 ¼ 1 ¼ ½ ¾ ¾ JHW37821 21 3 1 ¼ 1 ¼ ½ ¾ ¾	1	1/2	1/2	3/8	1	1	2 3/4	16	JHW37816		
JHW37819 19 2 ¾ 1 ¼ 1 ½ ¾ ¾ JHW37820 20 3 1 ¼ 1 ¼ ½ ¾ ¾ JHW37821 21 3 1 ¼ 1 ¼ ½ ¾ ¾ JHW37821 21 3 1 ¼ 1 ¼ ½ ¾ ¾	1 1/4	3/4	3/4	1/2	1	1 1/4	2 3/4	17	JHW37817		
JHW37820 20 3 1 1/4 1 1/4 5/6 3/4 3/4 JHW37821 21 3 1 1/4 1 1/4 5/8 3/4 3/4	1 1/4	3/4	3/4	1/2	1	1 1/4	2 3/4	18	JHW37818		
JHW37821 21 3 1 ¼ 1 ¼ 5/8 3/4 3/4	1 1/4	3/4	3/4	1/2	1	1 1/4	2 3/4	19	JHW37819		
***************************************	1 1/2	3/4	3/4	5/8	1 1/4	1 1/4	3	20	JHW37820		
HINACTORS OF A 11/ 41/ E/ 2/ 2/	1 1/2	3/4	3/4	5/8	1 1/4	1 1/4	3	21	JHW37821		
JHW3/822 22 3 1 ¹ / ₄ 1 ¹ / ₄ ⁹ / ₈ ⁹ / ₄ ⁹ / ₄	1 1/2	3/4	3/4	5/8	1 1/4	1 1/4	3	22	JHW37822		
JHW37823 23 3 1 1/4 1 1/4 5/8 3/4 3/4	1 1/2	3/4	3/4	5/8	1 1/4	1 1/4	3	23	JHW37823		

JHW37916 11 Piece 1/2" Drive Universal 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW37813	13	JHW37817	17	JHW37821	21
JHW37814	14	JHW37818	18	JHW37822	22
JHW37815	15	JHW37819	19	JHW37823	23
JHW37816	16	JHW37820	20		

1/2" DRIVE DEEP IMPACT SOCKETS, **6 POINT, SAE**





Black Industrial Finish

		Α	В	С	D	E		F
Product	Size	OAL	Drive End	Working End	Broach Depth	Bolt Clearance	Bolt Clearance	Nose Length
Code	(Inches)	(Inches)	Diameter (Inches)	Diameter (Inches)	(Inches)	Depth (Inches)	Diameter (Inches)	(Inches)
JHW14-612	3/8	3 1/4	29/32	19/32	5/16	2 %	11/32	2 ¹⁵ / ₃₂
JHW14-614	7/16	3 1/4	29/32	23/32	11/32	2 %	13/32	2 15/32
JHW14-616	1/2	3 1/4	²⁹ / ₃₂	¹³ / ₁₆	13/32	2 %	15/32	2 ¹⁵ / ₃₂
JHW14-618	9/16	3 1/4	²⁹ / ₃₂	7/8	13/32	2 %	15/32	2 ¹⁵ / ₃₂
JHW14-620	5/8	3 1/4	31/32	31/32	15/32	2 ½16	5/8	-
JHW14-622	11/16	3 1/4	1 1/16	1 1/16	1/2	2	5/8	-
JHW14-624	3/4	3 1/4	1 1/8	1 1/8	9/16	2	11/16	-
JHW14-626	¹³ / ₁₆	3 ½	1 1/4	1 1/4	5/8	2	²⁵ / ₃₂	
JHW14-628	7/8	3 1/2	1 5/16	1 ⁵ ⁄16	9/16	2 1/4	7/8	-
JHW14-630	15/16	3 1/2	1 %	1 %	3/4	2 1/4	15/16	
JHW14-632	1	3 1/2	1 7/16	1 7/16	3/4	2 1/4	1	-
JHW14-634	1 1/16	3 1/2	1 %16	1 %16	²⁵ / ₃₂	2 ½	1 1/32	-
JHW14-636	1 1/8	3 1/2	1 %	1 %	¹³ / ₁₆	2 1/4	1 1/8	-
JHW14-638	1 3/16	3 1/2	1 11/16	1 11/16	¹³ / ₁₆	2 1/4	1 3/16	-
JHW14-640	1 1/4	3 1/2	1 3/4	1 3/4	1	2 ²¹ / ₃₂	1 1/4	-
JHW14-642	1 5/16	3 1/2	1 1/2	1 1/8	¹⁵ / ₁₆	2 1/8	1 1/16	-
JHW14-644	1 %	3 1/2	1 1/2	2	29/32	2 1/8	1 1/16	-
JHW14-646	1 7/16	3 1/2	1 1/2	2	29/32	2 1/8	1 1/16	-
JHW14-648	1 1/2	3 1/2	1 %16	2 ¹ / ₈	29/32	2 1/8	1 1/16	-

Fed. Spec: ANSI B107.2

JHWWS-14-11 11 Piece 1/2" Drive Deep 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW14-612	3/8	JHW14-620	5/8	JHW14-628	7/8
JHW14-614	7/16	JHW14-622	11/16	JHW14-630	15/16
JHW14-616	1/2	JHW14-624	3/4	JHW14-632	1
JHW14-618	9/16	JHW14-626	¹³ / ₁₆		

JHWWS1414RC 14 Piece 1/2" Drive Deep 6 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW14-612	3/8	JHW14-622	11/16	JHW14-632	1
JHW14-614	⁷ / ₁₆	JHW14-624	3/4	JHW14-634	1 1/16
JHW14-616	1/2	JHW14-626	¹³ / ₁₆	JHW14-636	1 1/8
JHW14-618	9/16	JHW14-628	7/8	JHW14-640	1 1/4
JHW14-620	5/8	JHW14-630	15/16		

JHWWS-1419RC 19 Piece 1/2" Drive Deep 6 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	
JHW14-612	3/8	JHW14-622	11/16	JHW14-632	1	JHW14-642	1 5/16	
JHW14-614	7/16	JHW14-624	3/4	JHW14-634	1 1/16	JHW14-644	1 %	
JHW14-616	1/2	JHW14-626	¹³ / ₁₆	JHW14-636	1 1/8	JHW14-646	1 7/16	
JHW14-618	9/16	JHW14-628	7/8	JHW14-638	1 3/16	JHW14-648	1 ½	
JHW14-620	5/8	JHW14-630	15/16	JHW14-640	1 1/4			





JHW37819

JHW37916

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability
- · Drive end features pin retention hole and groove



JHW14-612 JHW14-624



JHWWS-14-11



JHWWS1414RC



JHWWS-1419RC

Features

* USA

Made in U.S.A.

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Designed for maximum engagement on 6 point fasteners
- · Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability









Brands Tools@Height drive tools such as ratchets, extensions and u-joints







JHWMS410HRC



JHWMS4-12HRC



JHWMS-4-16RC



JHWMS-4-23RC

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability



1/2" DRIVE SHALLOW IMPACT SOCKETS, 6 POINT, METRIC





Black Industrial Finish

		Α	В	С	D	E		F
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW4M-610	10	1 1/2	29/32	19/32	1/4	7/8	11/32	23/32
JHW4M-611	11	1 ½	29/32	23/32	5/16	7/8	13/32	23/32
JHW4M-612	12	1 1/2	29/32	25/32	3/8	7/8	7/16	23/32
JHW4M-613	13	1 1/2	29/32	27/32	13/32	7/8	15/32	23/32
JHW4M-614	14	1 1/2	29/32	7/8	7/16	7/8	15/32	23/32
JHW4M-615	15	1 1/2	¹⁵ / ₁₆	¹⁵ / ₁₆	7/16	7/8	15/32	
JHW4M-616	16	1 1/2	31/32	31/32	15/32	7/8	15/32	
JHW4M-617	17	1 ½	1	1	1/2	7/8	15/32	•
JHW4M-618	18	1 ½	1 1/16	1 ½16	²⁷ / ₃₂	²⁷ / ₃₂	21/32	-
JHW4M-619	19	1 ½	1 1/8	1 1/8	13/16	27/32	11/16	
JHW4M-620	20	1 ½	1 3/16	1 3/16	13/16	27/32	23/32	•
JHW4M-621	21	1 ½	1 1/4	1 1/4	¹³ / ₁₆	27/32	3/4	•
JHW4M-622	22	1 ½	1 ½16	1 ⁵ ⁄16	¹³ / ₁₆	27/32	13/16	•
JHW4M-623	23	1 3/4	1 5/32	1 ⁵ ⁄ ₃₂	1 1/32	1 3/32	27/32	•
JHW4M-624	24	1 3/4	1 3/8	1 3/8	1 1/16	1 3/32	7/8	•
JHW4M-625	25	1 3/4	1 7/16	1 7/16	1 1/16	1 3/32	29/32	-
JHW4M-626	26	1 31/32	1 1/2	1 ½	1 1/4	1 %2	31/32	•
JHW4M-627	27	1 31/32	1 %16	1 %16	1 1/4	1 %2	1	•
JHW4M-629	29	1 ³¹ / ₃₂	1 21/32	1 21/32	1 1/4	1 %2	1 1/16	•
JHW4M-630	30	1 31/32	1 11/16	1 11/16	1 1/4	1 %2	1 3/32	•
JHW4M-632	32	2	1 ¹³ / ₁₆	1 ¹³ / ₁₆	⁷ / ₈	1 %2	1 1/8	•
JHW4M-634	34	2 1/16	1 11/16	1 1/8	²⁹ / ₃₂	1 7/16	1 11/32	•
JHW4M-636	36	2 1/4	1 ¹³ / ₁₆	2	²⁹ / ₃₂	1 %	1 1/16	-

JHWMS410HRC

10 Piece 1/2" Drive Shallow 6 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW4M-610	10	JHW4M-614	14	JHW4M-618	18
JHW4M-611	11	JHW4M-615	15	JHW4M-619	19
JHW4M-612	12	JHW4M-616	16		
JHW4M-613	13	JHW4M-617	17		

JHWMS4-12HRC

12 Piece 1/2" Drive Shallow 6 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW4M-613	13	JHW4M-617	17	JHW4M-622	22
JHW4M-614	14	JHW4M-618	18	JHW4M-624	24
JHW4M-615	15	JHW4M-619	19	JHW4M-627	27
JHW4M-616	16	JHW4M-621	21	JHW4M-630	30

JHWMS-4-16RC

16 Piece 1/2" Drive Shallow 6 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW4M-610	10	JHW4M-614	14	JHW4M-618	18	JHW4M-622	22
JHW4M-611	11	JHW4M-615	15	JHW4M-619	19	JHW4M-623	23
JHW4M-612	12	JHW4M-616	16	JHW4M-620	20	JHW4M-624	24
JHW4M-613	13	JHW4M-617	17	JHW4M-621	21	JHW4M-627	27

JHWMS-4-23RC

23 Piece 1/2" Drive Shallow 6 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW4M-610	10	JHW4M-616	16	JHW4M-622	22	JHW4M-629	29
JHW4M-611	11	JHW4M-617	17	JHW4M-623	23	JHW4M-630	30
JHW4M-612	12	JHW4M-618	18	JHW4M-624	24	JHW4M-632	32
JHW4M-613	13	JHW4M-619	19	JHW4M-625	25	JHW4M-634	34
JHW4M-614	14	JHW4M-620	20	JHW4M-626	26	JHW4M-636	36
JHW4M-615	15	JHW4M-621	21	JHW4M-627	27		





pplīfast

1/2" DRIVE SHALLOW IMPACT SOCKETS, **12 POINT, METRIC**





		Α	В	С	D	E		
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW37610	10	1 1/2	7/8	5/8	3/8		3/8	5/8
JHW37611	11	1 1/2	7/8	3/4	3/8	1	3/8	5/8
JHW37612	12	1 1/2	7/8	3/4	3/8	/	3/8	5/8
JHW37613	13	1 1/2	15/16	13/16	3/8	/	3/8	5/8
JHW37614	14	1 1/2	¹⁵ / ₁₆	7/8	3/8	/	1/2	5/8
JHW37615	15	1 1/2	1	7/8	1/2	/	1/2	5/8
JHW37616	16	1 1/2	1	1	1/2	/	1/2	/
JHW37617	17	1 1/2	1	1	1/2	/	9/16	/
JHW37618	18	1 1/2	1	1	1/2	/	5/8	/
JHW37619	19	1 1/2	1 1/8	1 1/8	1/2	/	5/8	1
JHW37620	20	1 1/2	1 1/8	1 1/8	1/2	/	3/4	/
JHW37621	21	1 1/2	1 1/4	1 1/4	9/16	/	3/4	/
JHW37622	22	1 1/2	1 1/4	1 1/4	9/16	/	¹³ / ₁₆	/
JHW37623	23	1 %	1 1/4	1 1/4	5/8	/	¹³ / ₁₆	/
JHW37624	24	1 1/8	1 1/2	1 3/8	5/8		7/8	1
JHW37625	25	1 %	1 1/2	1 3/8	5/8	/	7∕8	/
JHW37626	26	1 1/8	1 1/2	1 1/2	5/8	/	¹⁵ / ₁₆	/
JHW37627	27	1 ¹³ / ₁₆	1 1/2	1 1/2	3/4	/	¹⁵ / ₁₆	9/16
JHW37628	28	1 ¹³ / ₁₆	1 1/2	1 1/2	3/4	/	1	9/16
JHW37629	29	1 13/16	1 1/2	1 1/8	3/4		1	9/16
JHW37630	30	1 ¹³ / ₁₆	1 1/2	1 1/8	3/4	1	1	9/16
JHW37632	32	1 ¹³ / ₁₆	1 1/2	1 3/4	¹³ / ₁₆	/	1 1/8	9/16
JHW37633	33	1 13/16	1 1/2	1 13/16	7/8	/	1 1/8	9/16
JHW37634	34	1 ¹³ / ₁₆	1 1/2	1 13/16	7/8	/	1 1/4	9/16
JHW37635	35	2	1 1/2	2	7/8	/	1 1/4	9/16
JHW37636	36	2	1 1/2	2	7/8	/	1 1/4	9/16



use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets, extensions and u-joints



JHW37624

JHW37610



JHW37925

10 piece 1/2" Drive Impact Shallow 12 Point, MM Socket Set on Clip Rails

Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW37610	10	JHW37613	13	JHW37616	16
JHW37611	11	JHW37614	14	JHW37617	17
JHW37612	12	JHW37615	15	JHW37618	18
				JHW37619	19

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 and 12 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability



JHW37925





Toll Free 1 800 563 1293

TOOLS@ Side hole in socket permits

use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets, extensions and u-joints





JHWMS1410HRC



JHWMS-1416RC



6 POINT, METRIC

Black Industrial Finish

		Α	В	С	D	E		F
Product Code	Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW14M-610	10	3 1/4	29/32	19/32	9/32	2 %16	11/32	2 ¹⁵ / ₃₂
JHW14M-611	11	3 1/4	29/32	23/32	21/64	2 %16	13/32	2 ¹⁵ / ₃₂
JHW14M-612	12	3 1/4	29/32	49/64	23/64	2 %16	⁷ / ₁₆	2 ¹⁵ / ₃₂
JHW14M-613	13	3 1/4	29/32	53/64	²⁵ / ₆₄	2 %16	15/32	2 ¹⁵ / ₃₂
JHW14M-614	14	3 1/4	29/32	7/8	13/32	2 %16	15/32	2 ¹⁵ / ₃₂
JHW14M-615	15	3 1/4	15/16	15/16	13/32	2 7/64	33/ ₆₄	
JHW14M-616	16	3 1/4	31/32	31/32	²⁹ / ₆₄	1 ³¹ / ₃₂	17/32	
JHW14M-617	17	3 1/4	1	1	²⁷ / ₆₄	1 31/32	39/64	
JHW14M-618	18	3 1/4	1 1/16	1 ½16	1/2	1 31/32	21/32	
JHW14M-619	19	3 1/4	1 1/4	1 1/4	35/64	1 ⁶¹ / ₆₄	11/16	•
JHW14M-620	20	3 1/4	1 3/16	1 3/16	35/64	1 ⁶¹ / ₆₄	23/32	•
JHW14M-621	21	3 1/4	1 1/4	1 1/4	35/64	1 ⁶¹ / ₆₄	3/4	•
JHW14M-622	22	3 ½	1 5/16	1 5/16	35/64	2 7/64	51/64	•
JHW14M-623	23	3 ½	1 11/32	1 11/32	5/8	2 7/64	53/64	•
JHW14M-624	24	3 ½	1 3/8	1 3/8	5/8	2 7/64	7/8	•
JHW14M-625	25	3 ½	1 7/16	1 7/16	5/8	2 7/64	29/32	•
JHW14M-626	26	3 ½	1 31/64	1 31/64	5/8	2 7/64	¹⁵ / ₁₆	•
JHW14M-627	27	3 ½	1 %16	1 %16	²⁵ / ₃₂	2 7/64	31/32	•
JHW14M-629	29	3 1/2	1 %	1 %	13/16	2 7/64	1 1/16	•
JHW14M-630	30	3 1/2	1 11/16	1 11/16	53/64	2 ²¹ / ₃₂	1 3/32	•
JHW14M-632	32	3 ½	1 ¹³ / ₁₆	1 13/16	7/8	2 ²¹ / ₃₂	1 1/4	•
JHW14M-634	34	3 ½	1 3/4	1 15/16	⁵⁷ / ₆₄	2 ⁵⁵ / ₆₄	1 21/64	•
JHW14M-635	35	3 ½	1 3/4	2	57/64	2 ⁵⁵ / ₆₄	1 23/64	•
JHW14M-636	36	3 ½	1 3/4	2	57/64	2 13/16	1 1/8	•

JHWMS1410HRC 10 Piece 1/2" Drive Deep 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW14M-610	10	JHW14M-614	14	JHW14M-618	18
JHW14M-611	11	JHW14M-615	15	JHW14M-619	19
JHW14M-612	12	JHW14M-616	16		
JHW14M-613	13	JHW14M-617	17		

JHWMS-1416RC 16 Piece 1/2" Drive Deep 6 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW14M-610	10	JHW14M-614	14	JHW14M-618	18	JHW14M-622	22
JHW14M-611	11	JHW14M-615	15	JHW14M-619	19	JHW14M-623	23
JHW14M-612	12	JHW14M-616	16	JHW14M-620	20	JHW14M-624	24
JHW14M-613	13	JHW14M-617	17	JHW14M-621	21	JHW14M-627	27

JHWMS-1424RC 24 Piece 1/2" Drive Deep 6 Point Impact Socket Set on Clip Rail **Contents Include:**

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW14M-610	10	JHW14M-616	16	JHW14M-622	22	JHW14M-629	29
JHW14M-611	11	JHW14M-617	17	JHW14M-623	23	JHW14M-630	30
JHW14M-612	12	JHW14M-618	18	JHW14M-624	24	JHW14M-632	32
JHW14M-613	13	JHW14M-619	19	JHW14M-625	25	JHW14M-634	34
JHW14M-614	14	JHW14M-620	20	JHW14M-626	26	JHW14M-635	35
JHW14M-615	15	JHW14M-621	21	JHW14M-627	27	JHW14M-636	36

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- · Suitable for use with pneumatic and electric impact wrenches
- · Specially heat treated for impact use to provide long life, safety, and durability







pplifast

1/2" DRIVE DEEP IMPACT SOCKETS, 12 POINT, SAE





Black Industrial Finish

		Α	В	С	D	E
Product Code	Size (Inches)	Overall Length (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)
JHW14-1216	1/2	3 1/4	7/8	13/16	3/8	2 %16
JHW14-1218	9/16	3 1/4	7/8	7/8	7/16	2 %16
JHW14-1220	5/8	3 1/4	¹⁵ / ₁₆	¹⁵ / ₁₆	7/16	2 %16
JHW14-1222	11/16	3 1/4	1 1/16	1 1/16	1/2	2 1/4
JHW14-1224	3/4	3 1/4	1 1/8	1 1/8	9/16	2 1/4
JHW14-1226	¹³ / ₁₆	3 1/4	1 1/4	1 1/4	9/16	2 1/4
JHW14-1228	7/8	3 1/2	1 5/16	1 5/16	5/8	2 1/2
JHW14-1230	15/16	3 1/2	1 3/8	1 3/8	11/16	2 1/2
JHW14-1232	1	3 1/2	1 7/16	1 7/16	3/4	2 1/2
JHW14-1234	1 1/16	3 1/2	1 %16	1 %16	3/4	2 1/2
JHW14-1236	1 1/8	3 1/2	1 %	1 %	13/16	2 1/2
JHW14-1238	1 3/16	3 1/2	1 11/16	1 11/16	¹³ / ₁₆	2 ⁷ /16
JHW14-1240	1 1/4	3 1/2	1 3/4	1 3/4	7/8	2 7/16

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6- and 12-point fasteners
- . Suitable for use with pneumatic and electric impact wrenches

1/2" DRIVE DEEP IMPACT SOCKETS,

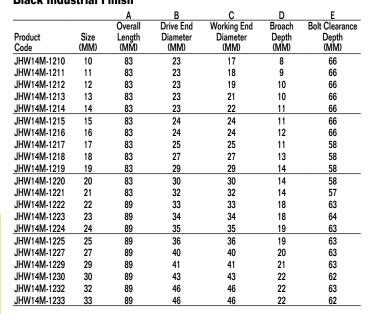
. Specially heat-treated for impact use to provide long life, safety, and durability







12 POINT, METRIC Black Industrial Finish



- SUPERTORQUE™ lobular openings for greater turning power without deforming the factorier.
- Designed for maximum engagement on 6- and 12-point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- . Specially heat-treated for impact use to provide long life, safety, and durability









JHW14-1218



JHW14M-1212









43 PIECE 3/4" DRIVE **SOCKET AND DRIVE TOOL SET**

12	Point	SAE,	with	Metal	Box
Proc	duct Code	е			

Product Code	Description
JHWWSH-43TB	43 Piece Tool Set with JHWTB-12 Metal Tool Box
JHWWSH-43	43 Piece Tool Set Only
•	

Contents Include:

Contents include:					
Drive Tools:	l	Shallow 12-Point Sockets			
Product Code	Description	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWH-20A	19" Sliding T-Handle	JHWH-1224	3/4	JHWH-1250	1 %16
JHWH-41AA	22" Flex Handle	JHWH-1226	13/16	JHWH-1252	1 %
JHWH-51B	20" Ratchet	JHWH-1228	7/8	JHWH-1254	1 11/16
JHWH-104	3" Extension	JHWH-1230	15/16	JHWH-1256	1 3/4
JHWH-110	8" Extension	JHWH-1232	1	JHWH-1258	1 ¹³ / ₁₆
JHWH-115	16" Extension	JHWH-1234	1 1/16	JHWH-1260	1 1/8
JHWH-140A	Universal Joint	JHWH-1236	1 1/8	JHWH-1264	2
		JHWH-1238	1 ³ / ₁₆	JHWH-1266	2 1/16
Deep 12-Po	int Sockets	JHWH-1240	1 1/4	JHWH-1268	2 1/8
Product Code	Size (Inches)	JHWH-1242	1 5/16	JHWH-1270	2 3/16
JHWHD-628	7/8	JHWH-1244	1 3/8	JHWH-1272	2 1/4
JHWHD-630	15/16	JHWH-1246	1 7/16	JHWH-1276	2 3/8
JHWHD-632	1	JHWH-1248	1 1/2		
JHWHD-634	1 1/16				
JHWHD-636	1 1/8				
JHWHD-640	1 1/4				
JHWHD-642	1 5/16				
JHWHD-644	1 ¾				
JHWHD-646	1 7/16				
JHWHD-648	1 1/2				
JHWHD-652	1 %				

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use





pplifast

29 PIECE 3/4" DRIVE **SOCKET AND DRIVE TOOL SET**





12 Point SAE, with Metal Box

Product Code	Description
JHWWSH-29TB	29 Piece Tool Set with JHWTB-6124B Metal Tool Box
JHWWSH-29	29 Piece Tool Set Only

Contents Include:

Drive Tools:		Shallow 12-Point	Sockets
Product Code	Description	Product Code	Size (Inches)
JHWH-20A	19" Sliding T-Handle	JHWH-1242	1 5/16
JHWH-41AA	22" Flex Handle	JHWH-1244	1 %
JHWH-51B	20" Ratchet	JHWH-1246	1 7/16
JHWH-104	3" Extension	JHWH-1248	1 ½
JHWH-110	8" Extension	JHWH-1250	1 %16
JHWH-115	16" Extension	JHWH-1252	1 %
JHWH-140A	Universal Joint	JHWH-1254	1 11/16
		JHWH-1256	1 3/4
Shallow 12-Point	t Sockets	JHWH-1258	1 ¹³ / ₁₆
Product Code	Size (Inches)	JHWH-1260	1 1/8
JHWH-1228	7/8	JHWH-1264	2
JHWH-1230	15/16	JHWH-1268	2 1/8
JHWH-1232	1	JHWH-1270	2 3/16
JHWH-1234	1 1/16	JHWH-1272	2 1/4
JHWH-1236	1 1/8	JHWH-1276	2 ¾
JHWH-1238	1 3/16		
JHWH-1240	1 1/4		

Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use









12 Point SAE, with Metal Box

Product Code	Description	
JHWWSH-22TB	22 Piece Tool Set with JHWTB-49 Metal Tool Box	
JHWWSH-22	22 Piece Tool Set Only	

Contents Include:

Contents inch	uae:		
Drive Tools:		Shallow 12-Point	Sockets
Product Code	Description	Product Code	Size (Inches)
JHWH-41AA	22" Flex Handle	JHWH-1236	1 1/8
JHWH-51B	20" Ratchet	JHWH-1240	1 1/4
JHWH-104	3" Extension	JHWH-1242	1 ½16
JHWH-110	8" Extension	JHWH-1244	1 3/8
JHWH-115	16" Extension	JHWH-1246	1 7/16
JHWH-140A	Universal Joint	JHWH-1248	1 ½
		JHWH-1252	1 %
Shallow 12-Point	Sockets	JHWH-1254	1 11/16
Product Code	Size (Inches)	JHWH-1256	1 3/4
JHWH-1228	7/8	JHWH-1258	1 ¹³ / ₁₆
JHWH-1230	15/16	JHWH-1260	1 1/8
JHWH-1232	1	JHWH-1264	2
JHWH-1234	1 1/16		

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use























12 Point SAE, with Metal Box

Product Code	Description
JHWWSH-13TB JHWWSH-13	13 Piece Tool Set with JHWTB-49 Metal Tool Box 13 Piece Tool Set Only

Contents Include:

Drive Tools:		Shallow 12-Point	Sockets
Product Code	Description	Product Code	Size (Inches)
JHWH-51B	20" Ratchet	JHWH-1234	1 1/16
JHWH-110	8" Extension	JHWH-1236	1 1/8
		JHWH-1240	1 1/4
Shallow 12-Point	Sockets	JHWH-1242	1 ⁵ ⁄16
Product Code	Size (Inches)	JHWH-1244	1 %
JHWH-1228	7/8	JHWH-1246	1 7/16
JHWH-1230	15/16	JHWH-1248	1 ½
JHWH-1232	1	JHWH-1252	1 %

Features

- All tools are professional quality, made of high-grade chrome vanadium steel
 Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use





JHWWSH-13TB

20 PIECE 3/4" DRIVE **SOCKET AND DRIVE TOOL SET**







Contents Include:

Drive Tools:		Shallow 12-Point 9	Sockets
Product Code	Description	Product Code	Size (MM)
JHWH-41AA	22" Flex Handle	JHWHM-1230	30
JHWH-51B	20" Ratchet	JHWHM-1232	32
JHWH-110	8" Extension	JHWHM-1235	35
JHWH-115	16" Extension	JHWHM-1236	36
JHWH-140A	Universal Joint	JHWHM-1238	38
		JHWHM-1241	41
Shallow 12-Point	Sockets	JHWHM-1246	46
Product Code	Size (MM)	JHWHM-1250	50
JHWHM-1219	19	JHWHM-1254	54
JHWHM-1222	22	JHWHM-1255	55
JHWHM-1224	24	JHWHM-1260	60
JHWHM-1227	27		

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use





pplīfast

3/4" DRIVE INTEGRATED HANDLE RATCHETS

Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Number of Teeth
JHWH-51B	Chrome Ratchet	20 ½	32
JHWHB-51B	Black Finish Ratchet	20 ½	32
JHWH-52EHRK	Repair Kit for JHWH-51B and JHWHB-51B		

Fed. Spec: ANSI B107.10M

Features

- · Forged one-piece ratchet provide strength and safety for industrial applications
- . Smooth comfort-grip handle permits all-day use without gloves
- 32 tooth gear with 11 degree of engagement allows engagement in tight working areas
- Single Pawl ratchet design:
 - 1) Designed for tighter tolerances between pawl and gear which reduces metal fatigue and slippage under load
- 2) Does not require as many working parts, reducing possible breakage and parts to repair
- Easy access reverse lever allows user to change working direction quickly and easily with only one hand
- Ball and Spring socket retention





3/4" DRIVE REMOVABLE-HANDLE RATCHETS

Knurled Handle, Chrome Finish					
Product Code	Description	Length (Inches)	Number of Teeth		
Complete Rate	het				
JHWH-51AB1	Ratchet with 19 1/4" Handle	24 11/16	32		
Components					
JHWH-51AB JHWH-A1	Ratchet Head Only Handle Only	6 19 1⁄4	32		
JHWH-52EHRKA	Repair Kit for JHWH-51AB1 and JHWH-51AB				

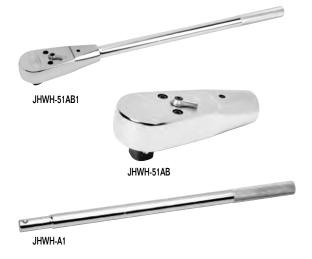
Note: Head Bore and Handle End Diameter: 13/16"

Fed. Spec: ANSI B107.10M

Features

- 32 teeth action provides an 11° ratcheting angle
- Shift lever reverses action instantly
- Ball and spring provide firm socket retention
- Removable handle makes the tool more versatile, and storage easier
- Knurled handle provides a non-slip grip
- · Chrome finish models provides increased protection from rust and corrosion
- · Our most rugged, high torque capacity ratchet





3/4" DRIVE HANDLES

Chrome and Black Industrial Finish

Om Ome and	Didek ilidastilai i illisii		
Product Code	Description	Length (Inches)	Finish
JHWH-41AA	Flex Handle Breaker Bar, Knurled Grip	22 1/8	Chrome
JHWH-20A	Sliding T-Handle	19 ½	Chrome
JHWHB-20A	Sliding T-Handle	19 1/4	Black Industrial

Fed. Spec: ANSI B107.10M

- · Chrome plating provides increased protection from rust and corrosion
- Drive handles provide extra leverage with greater strength than ratchets
- Square drive slides on T-Handles for versatility
- Flex handle flex drive swivels 110° in either direction











Drilled Hole





3/4" DRIVE EXTENSIONS

Chrome and Black Industrial Finish

Product Code	Length (Inches)
Chrome Finish	
JHWH-104	3
JHWH-110	8
JHWH-115	16
Black Industrial Finish	
JHWH-104B	3
	1
JHWH-110B	8

Fed. Spec: ANSI B107.10M

Features

- Chrome plating provides increased protection from rust and corrosion
- Ball and spring socket retention









JHWHNX-130

JHWHNX-131

JHW33008







JHWHNX-130B

JHWHNX-131B

3/4" DRIVE ADAPTERS

Chrome an	d Black	Industria	al Finish	
Product Code	Length (Inches)	Male End (Inches)	Female End (Inches)	Female End Detent
Chrome Finis	h			
JHWHNX-130	3	1	3/4	Detent on Each Wall
JHWHNX-131	3 1/16	3/4	1	Drilled Hole
JHW33008	2 ½	1/2	3/4	Drilled Hole
Black Industr	ial Finish			
JHWHNX-130B	3	1	3/4	Detent on Each Wall

JHWHNX-131B 3 ½ Fed. Spec: ANSI B107.10M

Features

- Chrome plating provides increased protection from rust and corrosion
- Ball and spring socket retention



3/4" DRIVE UNIVERSAL JOINTS

k Industrial Finish	
Description	Length (Inches)
Universal Joint	4 ¹ / ₁₆
h	
Universal Joint	4 1/16
	Universal Joint

- Chrome plating provides increased protection from rust and corrosion
- Ball and spring socket retention









JHWHB-140A



3/4" DRIVE SHALLOW 12 POINT SOCKETS, SAE





High-Polished Chrome Finish

		Α	В	С	D	Ε		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWH-1224	3/4	2	1 7/16	1 1/8	17/32	1 ½	11/16	¹³ / ₁₆
JHWH-1226	¹³ / ₁₆	2	1 7/16	1 7/32	9/16	1 ½	11/16	¹³ / ₁₆
JHWH-1228	7/8	2	1 7/16	1 5/16	19/32	1 1/4	11/16	¹³ / ₁₆
JHWH-1230	¹⁵ / ₁₆	2	1 7/16	1 %	21/32	1 1/4	11/16	13/16
JHWH-1231	31/32	2	1 7/16	1 ¹³ / ₃₂	11/16	1 1/4	11/16	13/16
JHWH-1232	1	2 1/16	1 7/16	1 ¹⁵ / ₃₂	11/16	1 5/16	11/16	25/32
JHWH-1234	1 1/16	2 1/8	1 1/2	1 %16	3/4	1 5/32	1 1/32	7/8
JHWH-1236	1 1/8	2 ³ /16	1 1/2	1 %	¹³ / ₁₆	1 7/32	1 1/8	29/32
JHWH-1238	1 3/16	2 1/4	1 1/2	1 11/16	27/32	1 %2	1 5/32	31/32
JHWH-1240	1 1/4	2 1/4	1 1/2	1 3/4	27/32	1 11/32	1 %32	15/16
JHWH-1242	1 5/16	2 5/16	1 %	1 1/8	27/32	1 ¹³ / ₃₂	1 11/32	1
JHWH-1244	1 %	2 5/16	1 %	1 ¹⁵ ⁄ ₁₆	7/8	1 3/8	1 7/16	1
JHWH-1246	1 7/16	2 %	1 1/8	2	¹⁵ / ₁₆	1 7/16	1 1/4	1
JHWH-1248	1 1/2	2 1/2	1 %	2 1/8	1	1 %16	1 1/4	1 1/8
JHWH-1250	1 %16	2 %	1 3/4	2 3/16	1 ⁵ / ₃₂	1 ¹¹ / ₁₆	1 %	1 1/4
JHWH-1252	1 %	2 %	1 ¾	2 1/4	1 ⁵ / ₃₂	1 11/16	1 ¾	1 1/4
JHWH-1254	1 11/16	2 3/4	1 ²⁵ / ₃₂	2 %	1 ³ /16	1 ¹³ / ₁₆	1 ¾	1 %
JHWH-1256	1 3/4	2 3/4	1 3/4	2 7/16	1 3/16	1 ¹³ / ₁₆	1 %	1 %
JHWH-1258	1 ¹³ / ₁₆	2 1/8	1 3/4	2 ½	1 1/4	1 ³¹ / ₃₂	1 5/16	1 7/16
JHWH-1260	1 1/8	3	1 3/4	2 %16	1 5/16	2 ½16	1 5/16	1 %16
JHWH-1264	2	3 1/8	1 3/4	2 3/4	1 5/16	2 3/16	1 5/16	1 ¹¹ / ₁₆
JHWH-1266	2 1/16	3 1/8	1 3/4	2 3/4	1 %	2 3/16	1 5/16	1 ¹¹ / ₁₆
JHWH-1268	2 1/8	3 1/4	1 3/4	2 ¹⁵ / ₁₆	1 7/16	2 5/16	1 5/16	1 ¹³ / ₁₆
JHWH-1270	2 ³ / ₁₆	3 1/4	1 3/4	2 ¹⁵ ⁄ ₁₆	1 1/2	2 5/16	1 5/16	1 ¹³ / ₁₆
JHWH-1272	2 1/4	3 %	1 3/4	3 1/8	1 1/2	2 ½16	1 1/4	1 1/8
JHWH-1274	2 1/16	3 1/2	1 3/4	3 1/4	1 %	2 %16	1 1/4	2
JHWH-1276	2 ¾	3 %	1 3/4	3 1/4	1 3/4	2 11/16	1 1/4	2 1/8





Fed. Spec: ANSI B107.110

JHWWSH-16TB

16 Piece 3/4" Drive Shallow 12-Point Socket Set with JHWTB-49 Tool Box

JHWWSH-16RC

16 Piece 3/4" Drive Shallow 12-Point Socket Set on Clip Rails

Contents Include:

JHWH-1228	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWH-1232 1 JHWH-1242 1 1/16 JHWH-1252 1 1/18 JHWH-1260 1 1/18	JHWH-1228	7/8	JHWH-1236	1 1/8	JHWH-1246	1 7/16	JHWH-1256	1 3/4
	JHWH-1230	¹⁵ / ₁₆	JHWH-1240	1 1/4	JHWH-1248	1 1/2	JHWH-1258	1 ¹³ / ₁₆
.IHWH-1234 1 1/16 LIHWH-1244 1 3% LIHWH-1254 1 11/16 LIHWH-1264 2	JHWH-1232	1	JHWH-1242	1 5/16	JHWH-1252	1 %	JHWH-1260	1 1/8
011111-1201 1710 011111-1211 170 011111-1201 1710 011111-1201 2	JHWH-1234	1 1/16	JHWH-1244	1 %	JHWH-1254	1 ¹¹ / ₁₆	JHWH-1264	2



JHWWSH-26RC

26 Piece 3/4" Drive Shallow 12-Point Socket Set on Clip Rails

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWH-1224	3/4	JHWH-1238	1 3/16	JHWH-1252	1 5/8	JHWH-1268	2 1/8
JHWH-1226	13/16	JHWH-1240	1 1/4	JHWH-1254	1 11/16	JHWH-1270	2 3/16
JHWH-1228	7/8	JHWH-1242	1 5/16	JHWH-1256	1 3/4	JHWH-1272	2 1/4
JHWH-1230	15/16	JHWH-1244	1 3/8	JHWH-1258	1 ¹³ /16	JHWH-1274	2 5/16
JHWH-1232	1	JHWH-1246	1 ⁷ /16	JHWH-1260	1 1/8	JHWH-1276	2 ¾
JHWH-1234	1 1/16	JHWH-1248	1 1/2	JHWH-1264	2		
JHWH-1236	1 1/8	JHWH-1250	1 %16	JHWH-1266	2 ½16		



- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners



306















Toll Free 1 800 563 1293



High-Polis	shed C	hrome	Finish					
		Α	В	С	D	E		F
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHWHD-628	7/8	3 ½	1 1/16	1 5/16	5/8	2 1/2	11/16	2 5/16
JHWHD-630	15/16	3 1/2	1 1/16	1 3/8	21/32	2 1/2	11/16	2 1/16
JHWHD-632	1	3 1/2	1 1/2	1 1/16	23/32	2 1/2	11/16	2 1/16
JHWHD-634	1 1/16	3 1/2	1 1/2	1 %16	3/4	2 1/2	3/4	2 7/32
JHWHD-636	1 1/8	3 1/2	1 1/2	1 1/8	13/16	2 1/2	²⁵ / ₃₂	2 7/32
JHWHD-640	1 1/4	3 1/2	1 1/2	1 3/4	1	2 1/2	7/8	2 3/16
JHWHD-642	1 1/16	3 1/2	1 5/8	1 1/8	1	2 1/2	¹⁵ / ₁₆	2 ³ /16
JHWHD-644	1 ¾	3 1/2	1 %	1 ¹⁵ / ₁₆	1	2 1/16	1 3/8	2 ³ /16
JHWHD-646	1 1/16	3 1/2	1 %	2	1	2 1/16	1 7/16	2 1/8
JHWHD-648	1 1/2	3 1/2	1 %	2 1/16	1 1/4	2 1/16	1 1/2	2 1/8
JHWHD-652	1 1/8	3 1/2	1 3/4	2 1/4	1 %	2 %16	1 1/8	2 1/8
End Coop, ANGLI	R107 110							

Fed. Spec: ANSI B107.110



JHWWSHD11HRC







JHW33932

JHWWSHD11HRC 11 Piece 3/4" Drive Deep 6 Point Socket Set on Clip Rail Contents Include:

OULLELIES HIN	Jiuuci				
Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWHD-628	7/8	JHWHD-636	1 1/8	JHWHD-646	1 7/16
JHWHD-630	¹⁵ / ₁₆	JHWHD-640	1 1/4	JHWHD-648	1 ½
JHWHD-632	1	JHWHD-642	1 5/16	JHWHD-652	1 ½
JHWHD-634	1 1/16	JHWHD-644	1 3/8		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 point fasteners

High.Polished Chrome Finish



3/4" DRIVE DEEP SOCKET, 6 POINT, METRIC





i ilgii-Polis	onca Omic	A	" В	С	D	Ε	
Product Code	Size (MM)	Overall Length (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)
JHW33719	19	3 35/64	1 19/64	1 5/32	1 1/64	1 3/16	45/64
JHW33719	22	3 35/64	1 764 1 27/64	1 17/64	1 1/64	1 3/16	45/64
JHW33723	23	3 35/64	1 27/64	1 5/16	1 1/64	1 3/16	45/64
JHW33724	24	3 35/64	1 27/64	1 11/32	1 1/64	1 3/16	45/64
JHW33727	27	3 35/64	1 27/64	1 ½	1 7/64	1 3/16	15/16
JHW33730	30	3 ³⁵ / ₆₄	1 27/64	1 21/32	1 7/64	1 ³ /16	1 1/16
JHW33732	32	3 ³⁵ / ₆₄	1 ²⁷ / ₆₄	1 47/64	1 7/64	1 ³ / ₁₆	1 %4
JHW33735	35	3 ³⁵ / ₆₄	1 ½	1 ⁵⁷ / ₆₄	1 3/16	1 ⁷ /64	1 ¹⁷ /64
JHW33736	36	3 ³⁵ / ₆₄	1 ½	1 31/32	1 3/16	1 ⁷ /64	1 ¹⁹ / ₆₄
JHW33738	38	3 ³⁵ / ₆₄	1 ½	2 1/32	1 11/32	15/16	1 3/8
JHW33741	41	3 ³⁵ / ₆₄	1 37/64	2 ¹³ / ₆₄	1 11/32	15/16	1 1/2
JHW33746	46	3 ³⁵ / ₆₄	1 21/32	2 ½16	1 11/32	¹⁵ / ₁₆	1 ²¹ / ₃₂
JHW33750	50	3 ³⁵ / ₆₄	1 21/32	2 ⁴³ / ₆₄	1 ²⁷ / ₆₄	¹⁵ / ₁₆	1 21/32
JHW33755	55	3 ¹⁵ / ₁₆	1 49/64	2 ²⁹ / ₃₂	1 ½	25/32	1 ¹¹ / ₁₆
JHW33760	60	3 ⁶¹ / ₆₄	1 49/64	3 5/32	1 ³⁷ / ₆₄	5/8	1 49/64

JHW33932 15 piece 3/4" Drive Deep 6 Point Socket Set in Clip and Rails

Contents I	nclude:						
Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHW33719	19	JHW33727	27	JHW33736	36	JHW33750	50
JHW33722	22	JHW33730	30	JHW33738	38	JHW33755	55
JHW33723	23	JHW33732	32	JHW33741	41	JHW33760	60
JHW33724	24	JHW33735	35	JHW33746	46		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners



pplīfast



3/4" DRIVE SHALLOW SOCKETS, 12 POINT, METRIC

High-Polished Chrome Finish									
	A						F		
Size (MM)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)		
19	2	7/16	1 1/8	9/16	1 1/32	11/16	13/16		
22	2	7/16	1 1/4	5/8	1 1/32	11/16	13/16		
23	2	1 7/16	1 11/32	5/8	1 1/32	3/4	9/16		
24	2	7/16	1 ¾	21/32	1 1/32	11/16	13/16		
25	2	1 7/16	1 7/16	2 3/32	1 1/32	3/4	2		
26	2	1 1/2	1 ½	2 ³ / ₃₂	1 1/32	1 1/32	2		
27	2	1 1/2			1 1/32	1 1/16	11/16		
28	2	1 1/2			1 1/32		1-7/32		
							²⁷ / ₃₂		
							7/8		
		. , .					7/8		
				²⁹ / ₃₂			7/8		
				1			1 1/16		
							1 3/16		
							1 21/32		
							1 11/16		
							1 ¹³ / ₃₂		
							1 21/32		
							1 ²¹ / ₃₂ 2 ½		
	Size (MM) 19 22 23 24 25 26	A Size OAL (Inches) 19 2 2 2 23 2 4 2 25 2 26 2 27 2 28 2 30 30 2 3/2 35 2 3/6 38 2 ½ 41 2 ½ 42 2 ½ 46 3 ½ 50 3 3 ½ 55 3 ¼	Size OAL Drive End Diameter (Inches) 19 2 7/16 22 2 7/16 24 2 1 7/16 26 2 1 1/2 27 2 1 1/2 28 2 1 1/2 28 2 1 1/2 28 2 1 1/2 28 2 1 1/2 28 2 1 1/2 28 2 1 1/2 28 2 1 1/2 30 2 7/16 1 1/2 35 2 5/16 1 1/2 35 2 5/16 1 1/2 35 2 5/16 1 1/2 36 2 1/2 1 1/2 37 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 1 1/2 38 2 1/2 38 38 38 38 38 38 38 3	Size OAL Drive End Diameter (Inches) 19	Size OAL Drive End Diameter (Inches) Depth (Inches) OH OH OH OH OH OH OH O	Size OAL Drive End Diameter (Inches) Diameter (Inches) Diameter (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Dept	Size OAL Drive End Diameter (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inches) Depth (Inc		

Fed. Spec: ANSI B107.110

JHWMSH-15RC 15 Piece 3/4" Drive Shallow 12 Point Socket Set on Clip Rail Contents Include:

Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)
JHWHM-1219	19	JHWHM-1230	30	JHWHM-1238	38	JHWHM-1254	54
JHWHM-1222	22	JHWHM-1232	32	JHWHM-1241	41	JHWHM-1255	55
JHWHM-1224	24	JHWHM-1235	35	JHWHM-1246	46	JHWHM-1260	60
JHWHM-1227	27	JHWHM-1236	36	JHWHM-1250	50		



JHWHM-1232

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners





JHWMSH-15RC











3/4" DRIVE IMPACT EXTENSIONS AND ACCESSORIES

Black Industrial Finish

		Length	Use		Socket
Product Code	Description	(Inches)	RET RING®	Use O-Ring / Pin	Retention
JHW38002	Impact Extension	7	JHW6-1XS	JHW6-1A / JHW6-2C	Through Hole and Pin
JHW38003	Impact Extension	10	JHW6-1XS	JHW6-1A / JHW6-2C	Through Hole and Pin
JHW38004	Impact Extension	13	JHW6-1XS	JHW6-1A / JHW6-2C	Through Hole and Pin
JHW38001	Impact Universal Joint	4 1/16	JHW6-1XS	JHW6-1A / JHW6-2C	Through Hole and Pin
JHW38005	½"M x ¾"F Adapter	2 ³ / ₁₆	JHW6-1XS	JHW6-1A / JHW6-2C	Ball and Spring
JHW38006	1"M x 3/4"F Adapter	2 7/16	JHW6-1XS	JHW6-1A / JHW6-2C	Through Hole and Pin

Fed. Spec: ANSI B107.2

Features

- Specially heat treated for impact use to provide long life, safety, and durability
 Pin and o-ring or RET RING® (sold separately) secure tools onto impact wrench for safety and convenience
- Suitable for use with pneumatic and electric impact wrenches
- · Drive end features pin retention hole and groove

3/4" DRIVE IMPACT RETAINING PINS AND RINGS

Black Industrial Finish

Product Code	Description	Diameter	Length	Application
JHW6-1A	Impact Retaining O-Ring	1 1/4	NA	Fits All Williams 3/4" Drive Sockets and Accessories
JHW6-2B	Impact Retaining Pin	3/16	1 1/4	Fits Williams Impact Sockets with "B" Dimension to 1 3/4"
JHW6-2C	Impact Retaining Pin	3/16	1 1/2	Fits Williams Impact Sockets with "B"
				Dimension 1 3/4" and Greater

- Specially heat treated for impact use to provide long life, safety, and durability
- Suitable for use with pneumatic and electric impact wrenches
- For 3/4" drive impact tools with pin retention hole and groove



3/4" DRIVE RET RING® ONE-PIECE IMPACT RETAINING RINGS WITH CRUSH GAUGE

Black Industrial Finish

Product Code	Inside Dia. (In.)				
JHW6-0XS	1 1/4"				
JHW6-1XS	1 7/16"				
JHW6-2XS	1 5/8"				
JHW6-3XS	1 3/4"				
JHW6-4XS	2				
JHW6-5XS	2 1/8"				
JHW6-6XS	2 1/4"				

- Fits all Williams 3/4" Drive Sockets and Accessories
- . Crush Gage on the resin pin indicates when a socket is excessively worn and should be replaced
- Securely retains sockets and accessories to square drive of impact wrench
 For 3/4" drive impact tools with pin retention hole and groove

- Made of oil resistant material
 RET RING® is a trademark of FTL Enterprises, Inc.



3/4" DRIVE BUDD® WHEEL **IMPACT SOCKET, 6 POINT, SAE**





Black Industrial Finish

		Α	В	С	D	Ε			
				Working		Bolt	Bolt		
			Drive End	End	Broach	Clearance	Clearance	Uses	Use
	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	RET RING®	O-Ring /
Product Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	Number	Pin
JHW16-648BW	13/16 Square	4	1 3/4	2 1/4	1 7/16	2 1/4	1 1/4	6-1X	6-1A /
	& 1 1/2 Hav								6-2C

Fed. Spec: ANSI B107.2

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- 13/16" square opening threads stud into wheel

- 1-1/2" hex opening engages and tightens the wheel lug nut
 Suitable for use with pneumatic and electric impact wrenches
 Specially heat treated for impact use to provide long life, safety, and durability





3/4" DRIVE SHALLOW IMPACT SOCKETS, 6 POINT, SAE





Black Industrial Finish

		A	В	c	D	E		F		
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diam- eter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)	Uses RET RING® Number	Use O-Ring / Pin
JHW6-618A	9/16	2	1 %	1	17/32	1 1/32	1/2	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-620A	5/8	2	1 %	1 3/32	17/32	1 1/32	1/2	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-622A	11/16	2	1 %	1 5/32	17/32	1 1/32	1/2	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-624A	3/4	2	1 %	1 1/4	17/32	1 1/32	11/16	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-626A	13/16	2	1 %	1 %	17/32	1 1/32	11/16	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-628A	7/8	2	1 %	1 1/2	19/32	1 1/32	11/16	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-630A	15/16	2	1 %	1 %16	21/32	1 1/32	11/16	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-632A	1	2	1 %	1 %	11/16	1 1/32	11/16		JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-634A	1 1/16	2	1 %	1 11/16	3/4	1 1/32	1 1/16	1 5/16	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-636	1 1/8	2 1/8	1 %	1 3/4	3/4	1 3/32	1 1/8	1 7/16	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-638	1 3/16	2 1/8	1 %	1 1/8	3/4	1 5/32	1 3/16	1 7/16	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6-640	1 1/4	2 1/8	1 3/4	2	13/16	1 3/32	1 1/4	1 7/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-642	1 5/16	2 1/8	1 3/4	2 1/32	7/8	1 3/32	1 5/16	1 7/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-644	1 %	2 1/4	1 3/4	2 1/8	7/8	1 %2	1 3/8	1 %16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-646	1 7/16	2 1/4	1 3/4	2 3/16	7/8	1 %2	1 7/16	1 %16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-648	1 1/2	2 1/4	1 3/4	2 1/4	15/16	1 %2	1 ½	1 %16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-650	1 %16	2 %	1 3/4	2 11/32	¹⁵ / ₁₆	1 ¹³ / ₃₂	1 %16	1 11/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-652	1 %	2 %	1 3/4	2 13/32	1	1 13/32	1 %	1 11/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-654	1 11/16	2 %16	1 3/4	2 15/32	1 1/32	1 ¹⁹ / ₃₂	1 7/16	1 1/8	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-656	1 3/4	2 %16	1 3/4	2 17/32	1 1/32	1 ¹⁹ / ₃₂	1 3/4	1 1/8	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-658	1 13/16	2 %	1 3/4	2 19/32	1 1/8	1 21/32	1 13/16	1 15/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-660	1 1/8	2 3/4	1 3/4	2 %	1 1/8	1 ¹³ / ₁₆	1 7/16	2 1/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-662	1 ¹⁵ / ₁₆	2 3/4	1 3/4	2 3/4	1 1/8	1 3/4	1 7/16	2 1/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-664	2	2 %	1 3/4	2 ¹³ / ₁₆	1 1/8	1 ¹³ / ₁₆	1 7/16	2 3/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-666	2 1/16	2 %	1 3/4	2 1/8	1 3/16	1 ¹³ / ₁₆	1 7/16	2 3/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-670	2 ³ /16	3 ³ /16	1 3/4	3 1/16	1 5/16	2 1/16	2 ³ / ₁₆	2 1/2	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-672	2 1/4	3 ³ /16	1 3/4	3 1/8	1 %	2 5/32	1 ²⁷ / ₃₂	2 1/2	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6-676	2 3/8	3 1/2	1 3/4	3 1/4	1 7/16	2 7/16	1 ²⁷ / ₃₂	2 13/16	JHW6-1XS	JHW6-1A / JHW6-2C
Fed Spec AN	SI B107 2									



JHWWS-6-10HA 10 Piece 3/4" Drive Shallow 6 Point Impact Socket Set on Clip Rail Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW6-654	1 11/16	JHW6-660	1 1/8	JHW6-666	2 1/16
JHW6-656	1 3/4	JHW6-662	1 15/16	JHW6-670	2 3/16
JHW6-658	1 13/16	JHW6-664	2	JHW6-672	2 1/4
				11 11440 070	0.2/

JHWWS-6-14HA 14 Piece 3/4" Drive Shallow 6 Point Impact Socket Set on Clip Rail

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW6-624A	3/4	JHW6-632A	1	JHW6-640	1 1/4	JHW6-648	1 ½
JHW6-626A	¹³ / ₁₆	JHW6-634A	1 1/16	JHW6-642	1 5/16	JHW6-652	1 %
JHW6-628A	7/8	JHW6-636	1 1/8	JHW6-644	1 ¾		
JHW6-630A	15/16	JHW6-638	1 3/16	JHW6-646	1 7/16		

JHWWS-6-18TB 18 Piece 3/4" Drive Shallow 6 Point Impact Socket Set packed in Tool Box Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW6-628A	7/8	JHW6-640	1 ¹ / ₄	6-656	1 3/4
JHW6-630A	15/16	JHW6-642	1 ⁵ / ₁₆	6-658	1 13/16
JHW6-632A	1"	JHW6-644	1 3/8	6-660	1 7/8
JHW6-634A	1 1/16	JHW6-646	1 ⁷ / ₁₆	6-664	2"
JHW6-636	1 ¹ /8	JHW6-648	1 1/2	6-107	7" EXT
JHW6-638	1 3/16	JHW6-652	1 5/8	6-140B	U-JOINT
				JHWTB-6119B	TOOL BOX

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- · Suitable for use with pneumatic and electric impact wrenches
- · Specially heat treated for impact use to provide long life, safety, and durability





Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets, extensions and u-joints



JHW6-620A



JHWWS-6-14HA





JHWWS-6-18TB









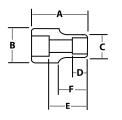






use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets, extensions and u-joints







3/4 " DRIVE SHALLOW IMPACT SOCKETS, 12 POINT, SAE

Black Industrial Finish

		Α	B	C	D	E		F
Product Code	Size (Inches)	Overall Length (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)	Nose Length (Inches)
JHW38420	5/8	2	1 ½	1 1/8	5/8	1	1/2	7/8
JHW38422	11/16	2	1 1/2	1 1/8	5/8	,	1/2	7/s
JHW38424	3/4	2	1 ½	1 1/8	5/8	,	5/8	7/8
JHW38426	13/16	2 1/16	1 1/2	1 1/4	3/4	,	3/4	15/16
JHW38428	7/8	2 1/16	1 1/2	1 5/16	3/4	,	3/4	15/16
JHW38430	15/16	2 1/16	1 1/2	1 7/16	3/4	/	7/8	15/16
JHW38432	1	2 1/16	1 1/2	1 1/2	3/4	/	7/8	/
JHW38434	1 1/16	2 1/16	1 1/2	1 1/2	3/4	/	15/16	/
JHW38436	1 1/8	2 1/16	1 5/8	1 1/8	3/4	/	1 1/16	/
JHW38438	1 3/16	2 1/16	1 3/4	1 3/4	3/4	/	1 1/16	/
JHW38440	1 1/4	2 1/16	1 3/4	1 13/16	3/4	/	1 3/16	¹⁵ / ₁₆
JHW38442	1 5/16	2 1/4	1 3/4	1 13/16	7/8	/	1 3/16	¹⁵ / ₁₆
JHW38444	1 3/8	2 1/4	1 3/4	2	7/8	/	1 1/4	¹⁵ / ₁₆
JHW38446	1 1/16	2 1/4	1 3/4	2	7∕8	/	1 3/8	¹⁵ / ₁₆
JHW38448	1 1/2	2 1/4	1 3/4	2 1/16	15/16	1	1 3/8	15/16
JHW38450	1 %16	2 1/16	1 3/4	2 1/4	¹⁵ / ₁₆	/	1 1/2	1
JHW38452	1 1/8	2 1/16	1 3/4	2 1/4	¹⁵ / ₁₆	/	/	1
JHW38454	1 11/16	2 1/16	1 3/4	2 1/2	1 1/16	/	/	1
JHW38456	1 3/4	2 1/16	1 3/4	2 1/2	1 1/16	/	/	1
JHW38458	1 13/16	2 ⅓	1 3/4	2 %	1 1/16	/	/	1
JHW38460	1 1/8	2 ⁵ /8	1 3/4	2 5/8	1 1/16	/	/	1
JHW38462	1 15/16	2 3/4	1 3/4	2 3/4	1 5/16	/	/	1
JHW38464	2	2 ¹³ / ₁₆	2 1/8	2 3/4	1 5/16	/	/	1
JHW38466	2 1/16	2 13/16	2 1/8	3	1 5/16	1	1	1
JHW38468	2 1/8	2 13/16	2 1/8	3	1 5/16	/	/	1
JHW38476	2 3/8	3	2 1/8	3 5/16	1 1/2	1	/	1 1/16

JHW38925

9 piece 3/4" Drive Impact Shallow 12 Point, SAE Socket Set on Clip Rails Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW38420	5/8	JHW38426	13/16	JHW38432	1
JHW38422	11/16	JHW38428	7/8	JHW38434	1 1/16
JHW38424	3/4	JHW38430	¹⁵ / ₁₆	JHW38436	1 1/8

JHW38926

17 piece 3/4" Drive Impact Shallow 12 Point, SAE Socket Set on Clip Rails Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW38438	1 3/16	JHW38446	1 1/16	JHW38454	1 11/16	JHW38462	1 15/16
JHW38440	1 1/4	JHW38448	1 1/2	JHW38456	1 3/4	JHW38464	2
JHW38442	1 5/16	JHW38450	1 %16	JHW38458	1 ¹³ / ₁₆	JHW38466	2 1/16
JHW38444	1 3/8	JHW38452	1 1/8	JHW38460	1 1/8	JHW38468	2 1/8
						JHW38476	2 3/8

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 or 12 point fasteners
- · Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability



3/4" DRIVE DEEP IMPACT SOCKETS, 6 POINT, SAE





Black Industrial Finish

		Α	В	С	D	E		F		
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose	Uses	
Product	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length	RET RING®	Use
Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	Number	O-Ring / Pin
JHW16-624	3/4	3	1 %	1 1/4	9/16	2 1/32	9/16	3/4	JHW6-1XS	JHW6-1A / JHW6-2B
JHW16-626	¹³ / ₁₆	3	1 5/8	1 7/16	5/8	2 ½32	9/16	3/4	JHW6-1XS	JHW6-1A / JHW6-2B
JHW16-628	7/8	3	1 5/8	1 7/16	5/8	2 ½32	5/8	3/4	JHW6-1XS	JHW6-1A / JHW6-2B
JHW16-630	¹⁵ /16	3	1 5/8	1 %	5/8	2 ½32	5/8		JHW6-1XS	JHW6-1A / JHW6-2B
JHW16-632	1	3	1 %	1 %	11/16	2 1/32	21/32		JHW6-1XS	JHW6-1A / JHW6-2B
JHW16-634	1 1/16	3	1 5/8	1 11/16	11/16	2 1/32	3/4	2 1/16	JHW6-1XS	JHW6-1A / JHW6-2B
JHW16-636	1 1/8	3	1 5/8	1 3/4	3/4	2 ½32	¹³ / ₁₆	2 ⁵ ⁄ ₁₆	JHW6-1XS	JHW6-1A / JHW6-2B
JHW16-638	1 ³ /16	3 ³ ⁄16	1 3/4	1 ¹⁵ /16	3/4	2 ⁷ / ₃₂	1 3/16	2 1/2	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-640	1 1/4	3 1/4	1 3/4	1 ¹⁵ /16	7/8	2 %32	1 1/4	2 1/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-642	1 5/16	3 1/4	1 3/4	2	7/8	2 %32	1 %2	2 1/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-644	1 %	3 1/4	1 3/4	2 1/8	7/8	2 1/32	1 %	2 1/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-646	1 7/16	3 ½	1 3/4	2 1/8	7/8	2 17/32	1 13/32	2 13/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-648	1 1/2	3 ½	1 ³ / ₄	2 1/4	¹⁵ / ₁₆	2 ¹⁷ / ₃₂	1 ½	2 ¹³ / ₁₆	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-650	1 %16	3 ½	1 ³ / ₄	2 5/16	¹⁵ / ₁₆	2 ¹⁷ / ₃₂	1 %16	2 ¹³ / ₁₆	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-652	1 %	3 ½	1 3/4	2 7/16	¹⁵ / ₁₆	2 17/32	1 %	2 ¹³ / ₁₆	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-654	1 11/16	3 ½	1 3/4	2 ½	1	2 ¹⁷ / ₃₂	1 ¹¹ / ₁₆	2 13/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-656	1 3/4	3 ½	1 3/4	2 ½	1	2 ¹⁷ / ₃₂	1 ¾	2 13/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-658	1 13/16	3 ¾	1 3/4	2 %	1 1/16	2 ¾	1 ¹³ / ₁₆	2 ²⁵ / ₃₂	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-660	1 1/8	3 ¾	1 3/4	2 11/16	1 1/8	2 ¾	1 1/8	2 ²⁵ / ₃₂	JHW6-1XS	JHW6-1A / JHW6-2C
JHW16-664	2	3 ¾	1 3/4	2 ¾16	1 1/8	2 3/4	2	2 ²⁵ / ₃₂	JHW6-1XS	JHW6-1A / JHW6-2C

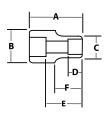
Fed. Spec: ANSI B107.2

JHWWS-16-7H

7 Piece 3/4" Drive Impact Deep 6 Point Socket Set on Clip Rail

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW16-650	1 %16	JHW16-658	1 ¹³ / ₁₆
JHW16-652	1 %	JHW16-660	1 1/8
JHW16-654	1 11/16	JHW16-664	2
JHW16-656	1 3/4		





JHWWS-16-8H

8 Piece 3/4" Drive Deep 6 Point Impact Socket Set on Clip Rail

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW16-628	7/8	JHW16-636	1 1/8
JHW16-630	¹⁵ / ₁₆	JHW16-640	1 1/4
JHW16-632	1	JHW16-642	1 5/16
JHW16-634	1 1/16	JHW16-648	1 ½

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability



JHW16-624

JHW16-632





.....













Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets, extensions and u-joints



JHW6M-1250



JHW6M-1219

3/4" DRIVE SHALLOW IMPACT SOCKETS, 12 POINT, METRIC

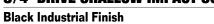
Toll Free 1 800 563 1293

Black Industrial Finish

		Α	В	С	D			Г		
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose	Uses	
	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length	RET RING®	Use
Product Code	(MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	Number	O-Ring / Pin
JHW6M-1219	19	2	1 %	1 1/4	1/2	1	2/3	1	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1220	20	2	1 %	1 3/8	1/2	1	2/3	1	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1221	21	2	1 %	1 3/8	1/2	1	2/3	1	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1222	22	2	1 %	1 1/2	1/2	1	2/3	1	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1223	23	2	1 %	1 1/2	5/8	1	2/3	1	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1224	24	2	1 %	1 1/2	5/8	1	3/4	1	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1225	25	2	1 %	1 1/2	11/16	1	3/4	1	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1226	26	2	1 %	1 1/2	11/16	1	3/4	1	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1227	27	2	1 %	1 %	11/16	1	1	-	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1228	28	2 1/4	1 %	1 3/4	11/16	1 %	1	-	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1229	29	2 1/4	1 %	1 3/4	11/16	1 %	1	-	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1230	30	2 1/4	1 %	1 3/4	3/4	1 3/8	1	-	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1231	31	2 1/4	1 %	2	3/4	1 1/4	1 1/4	-	JHW6-1XS	JHW6-1A/JHW6-2B
JHW6M-1232	32	2 1/4	1 3/4	2	¹³ / ₁₆	1 1/4	1 1/4	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1233	33	2 1/4	1 3/4	2	13/16	1 1/4	1 1/4	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1234	34	2 1/4	1 3/4	2	7/8	1 1/4	1 1/4	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1235	35	2 1/4	1 3/4	2 ½	7/8	1 1/4	1 1/4	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1236	36	2 1/4	1 3/4	2 ½	7/8	1 1/4	1 1/2	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1238	38	2 1/4	1 3/4	2 3/16	1	1 1/4	1 1/2	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1240	40	2 1/2	1 3/4	2 %	1 ½	1 7/16	1 1/2	•	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1241	41	2 1/2	1 3/4	2 %	1 1/8	1 7/16	1 1/2	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1242	42	2 1/2	1 3/4	2 %	1 1/8	1 %	1 1/2	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1243	43	2 1/2	1 3/4	2 1/2	1 1/8	1 %	1 3/4	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1244	44	2 1/2	1 3/4	2 1/2	1 1/8	1 %	1 3/4	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1246	46	2 3/4	1 3/4	2 %	1 1/8	1 1/2	1 3/4	-	JHW6-1XS	JHW6-1A/JHW6-2C
JHW6M-1250	50	2 3/4	1 3/4	2 %	1 1/8	1 1/2	2	•	JHW6-1XS	JHW6-1A/JHW6-2C

JHW6M-617A

3/4" DRIVE SHALLOW IMPACT SOCKETS, 6 POINT, METRIC



		Α	В	C	D	E		F		
	_		Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose	Uses	
	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length	RET RING®	Use
Product Code	(MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	Number	O-Ring / Pin
JHW6M-617A	17	2	1 %	1 5/32	17/32	1 1/32	1/2	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6M-619A	19	2	1 5/8	1 1/4	17/32	1 1/32	11/16	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6M-620A	20	2	1 %	1 %	35/64	1 1/32	11/16	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6M-622A	22	2	1 %	1 1/2	19/32	1 1/32	11/16	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6M-624A	24	2	1 %	1 35/64	11/32	1 1/32	11/16	1	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6M-627A	27	2	1 %	1 ¹¹ / ₁₆	3/4	1 1/32	1 1/16	1 5/16	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6M-630	30	2 3/32	1 %	1 27/32	47/64	1 1/8	47/64	1 ¹³ / ₃₂	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6M-631	31	2 1/8	1 %	1 15/16	3/4	1 3/16	1 7/32	1 7/16	JHW6-1XS	JHW6-1A / JHW6-2B
JHW6M-632	32	2 1/8	1 3/4	2	13/16	1 3/16	1 1/4	1 7/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6M-634	34	2 1/8	1 3/4	2	7/8	1 ³ ⁄16	1 ²¹ / ₆₄	1 7/16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6M-635	35	2 1/4	1 3/4	2 1/8	7/8	1 5/16	1 %	1 %16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6M-636	36	2 1/4	1 3/4	2 1/8	7/8	1 ⁵ ⁄16	1 ¹³ / ₃₂	1 %16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6M-638	38	2 1/4	1 3/4	2 1/4	¹⁵ / ₁₆	1 5/16	1 ½	1 %16	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6M-641	41	2 %	1 3/4	2 ¹³ / ₃₂	1 1/8	1 11/16	1 39/64	1 ¹⁵ / ₁₆	JHW6-1XS	JHW6-1A / JHW6-2C
JHW6M-646	46	2 %	1 3/4	2 19/32	1 1/8	1 21/32	1 ¹³ /16	1 ¹⁵ / ₁₆	JHW6-1XS	JHW6-1A / JHW6-2C

JHWMS-6-8H 8 Piece 3/4" Drive Shallow 6 Point Impact Socket Set on Clip Rail Contents Include:

••••••••						
Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	
JHW6M-619A	19	JHW6M-627A	27	JHW6M-636	36	
JHW6M-622A	22	JHW6M-630	30	JHW6M-641	41	
.IHW6M-624A	24	JHW6M-632	32			



- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 and 12 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability
- Drive end features pin retention hole and groove

TOOLS@

Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets, extensions and u-joints



pplifast

3/4" DRIVE ONE PIECE IMPACT HEX BIT DRIVER, SAE





Black Industrial Finish

		Α	В	F		
	Hex Size		Drive End		Uses RET RING®	Use
Product Code	(Inches)	OAL	Diameter	Nose Length	Number	O-Ring / Pin
JHW38216	1/2	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A / JHW6-2C
JHW38218	9/16	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A / JHW6-2C
JHW38220	5/8	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A / JHW6-2C
JHW38224	3/4	3 1/2	1 ¾	3/4	JHW6-1XS	JHW6-1A / JHW6-2C
JHW38226	¹³ / ₁₆	3 1/2	1 ¾	3/4	JHW6-1XS	JHW6-1A / JHW6-2C
JHW38228	7/8	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A / JHW6-2C
JHW38232	1	3 1/2	1 ¾	3/4	JHW6-1XS	JHW6-1A / JHW6-2C
JHW38236	1 1/8	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A / JHW6-2C
JHW38240	1 1/4	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A / JHW6-2C



5 Piece 3/4" Drive Hex-Driver Impact Socket Set on Clip Rail

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW38220	5/8	JHW38228	7/8
JHW38224	3/4	JHW38232	1
.IHW38226	13/16		



JHW38216

JHW38903

9 Piece 3/4" Drive Hex-Driver Impact Socket Set with 50085 Metal Box

Contents Include:

Product Code	Size (Inches)	Product Code	Size (Inches)
JHW38216	1/2	JHW38228	7/8
JHW38218	⁹ /16	JHW38232	1
JHW38220	5/8	JHW38236	1 1/8
JHW38224	3/4	JHW38240	1 1/4
JHW38226	13/16		

- . One-piece design maximizes strength and reduces breakage
- Chamfered ends provide easy engagement of the drive tool and fastener
- Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability
- Drive end features pin retention hole and groove



JHW38932





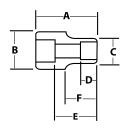






Applifast

Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets, extensions and u-joints



3/4" DRIVE ONE PIECE IMPACT HEX BIT DRIVER, METRIC **Black Industrial Finish**

Product Code	Hex Size (MM)	Overall Length (Inches)	Drive End Diameter (Inches)	Nose Length	Uses RET Ring Number	use O-Ring/Pin
JHW35810	10	3 ½	1 3/4	3/4	JHW6-1XS	JHW6-1A/JHW6-2C
JHW35812	12	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A/JHW6-2C
JHW35814	14	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A/JHW6-2C
JHW35817	17	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A/JHW6-2C
JHW35819	19	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A/JHW6-2C
JHW35821	21	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A/JHW6-2C
JHW35824	24	3 ½	1 3/4	3/4	JHW6-1XS	JHW6-1A/JHW6-2C
JHW35827	27	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A/JHW6-2C
JHW35830	30	3 ½	1 3/4	3/4	JHW6-1XS	JHW6-1A/JHW6-2C
JHW35832	32	3 1/2	1 3/4	3/4	JHW6-1XS	JHW6-1A/JHW6-2C

Fed. Spec: ANSI B107.2

JHW38936

10 Piece 3/4" Drive One Piece Impact Hex Bit Drivers, Metric

Contents Include:

•••••••••						
Product Code	Size (MM)	Product Code	Size (MM)	Product Code	Size (MM)	
JHW35810	10	JHW35819	19	JHW35830	30	
JHW35812	12	JHW35821	21	JHW35832	32	
JHW35814	14	JHW35824	24			
JHW35817	17	JHW35827	27			



JHW35812





pplīfast

27 PIECE 1" DRIVE SOCKET AND DRIVE TOOL SET





12 Point SAE, with Metal Box

Product Code	Description
JHWWSX-28TB	27 Piece Tool Set with JHWTB-12 Metal Tool Box
JHWWSX-28	27 Piece Tool Set Only

Contents Include:

Drive Tools:		Shallow 12-Poin	t Sockets
Product Code	Description	Product Code	Size (Inches)
JHWX-20	20" Sliding T-Handle/Head	JHWX-1252	1 %
JHWX-41C	34 3/16" Flex Handle	JHWX-1258	1 ¹³ / ₁₆
JHWX-51B	20" Ratchet	JHWX-1260	1 7/8
JHWX-110	8" Extension	JHWX-1264	2
JHWX-115	16" Extension	JHWX-1268	2 1//8
		JHWX-1270	2 ³ / ₁₆
Shallow 12-Po	oint Sockets	JHWX-1272	2 1/4
Product Code	Size (Inches)	JHWX-1276	2 %
JHWX-1234	1 1/16	JHWX-1280	2 ½
JHWX-1236	1 1/8	JHWX-1282	2 %16
JHWX-1240	1 1/4	JHWX-1284	2 %
JHWX-1242	1 5/16	JHWX-1288	2 ¾
JHWX-1244	1 %	JHWX-1294	2 ¹⁵ / ₁₆
JHWX-1246	1 7/16	JHWX-1296	3
JHWX-1248	1 ½	JHWX-12100	3 1/8

Features

- · All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use







JHWWSX-28TB

19 PIECE 1" DRIVE **SOCKET AND DRIVE TOOL SET**





12 Point SAE, with Metal Box

Product Code	Description
JHWWSX-21TB	19 Piece Tool Set with JHWTB-12 Metal Tool Box
JHWWSX-21	19 Piece Tool Set Only

Contents Include:

Drive Tools:		Shallow 12-Poin	t Sockets
Product Code	Description	Product Code	Size (Inches)
JHWX-20	20" Sliding T-Handle / Head	JHWX-1260	1 1/8
JHWX-41C	34 3/16" Flex Handle	JHWX-1264	2
JHWX-51B	20" Ratchet	JHWX-1270	2 3/16
JHWX-110	8" Extension	JHWX-1272	2 ¹ / ₄
JHWX-115	16" Extension	JHWX-1276	2 %
		JHWX-1280	2 1/2
Shallow 12-F	oint Sockets	JHWX-1282	2 %16
Product Code	Size (Inches)	JHWX-1284	2 %
JHWX-1248	1 ½	JHWX-1288	2 ³ / ₄
JHWX-1252	1 %	JHWX-1294	2 ¹⁵ / ₁₆
JHWX-1258	1 ¹³ / ₁₆	JHWX-1296	3

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Metal tool box made for years of rugged use





JHWWSX-21TB

















12 Point SAE, with Metal Box

Product Code	Description
JHWWSX-20TB	19 Piece Tool Set with JHWTB-12 Metal Tool Box
JHWWSX-20	19 Piece Tool Set Only

Contents Include:

Drive Tools:		Shallow 12-Poin	t Sockets
Product Code	Description	Product Code	Size (Inches)
JHWX-20	20" Sliding T-Handle/Head	JHWX-1242	1 5/16
JHWX-41C	34 3/16" Flex Handle	JHWX-1244	1 %
JHWX-51B	20" Ratchet	JHWX-1246	1 7/16
JHWX-110	8" Extension	JHWX-1248	1 1/2
JHWX-115	16" Extension	JHWX-1252	1 %
		JHWX-1258	1 ¹³ / ₁₆
Shallow 12-P	oint Sockets	JHWX-1260	1 1/8
Product Code	Size (Inches)	JHWX-1264	2
JHWX-1234	1 1/16	JHWX-1270	2 ³ ⁄16
JHWX-1236	1 1/8	JHWX-1272	2 1/4
JHWX-1240	1 1/4	JHWX-1276	2 ¾

Features

- All tools are professional quality, made of high-grade chrome vanadium steel
- Sockets feature SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- · Metal tool box made for years of rugged use





JHWWSX-20TB

NILLIAMS

1" DRIVE RATCHETS

Integrated Handle, Chrome Finish

Product Code	Description	Length (Inches)	Number of Teeth
JHWX-51B	Chrome Ratchet	20 1/8	24
JHWX-52EHRK	Repair Kit for JHWX-51B		

Fed. Spec: ANSI B107.10M

- · Forged one-piece ratchet provide strength and safety for industrial applications
- . Smooth comfort-grip handle permits all-day use without gloves
- · 24 tooth gear with 15 degree of engagement allows engagement in tight working areas
- Chrome finish with mirror-like exterior can be easily cleaned after each use
- Single Pawl ratchet design:
 - 1) Designed for tighter tolerances between pawl and gear which reduces metal fatigue and slippage under load
 - 2) Does not require as many working parts, reducing possible breakage and parts to repair
- · Easy access reverse lever allows user to change working direction quickly and easily with only one hand
- . Spring and plunger socket retention





1" DRIVE REMOVABLE-HANDLE RATCHETS

Knurled Handle, Chrome Finish

Complete Ratchet

4pplifast

Product Code	Description	Length (Inches)	Number of Teeth
JHWX-52A1	Ratchet with 36" Handle	41	24

Components

Product Code	Description	Length (Inches)	Number of Teeth
JHWX-52	Ratchet Head Only	7 13/16	24
JHWX-52H36	Handle Only	36	24
JHWX-52RK	Repair Kit		

Note: Head Bore and Handle End Diameter: 1-7/64"

Fed. Spec: ANSI B107.10M

Features

- 24 teeth action provides an 15° ratcheting angle
- Shift lever reverses action instantly
- . Dual socket retention, with both ball and plunger on male drive for versatility
- · Removable handle makes the tool more versatile, and storage easier
- Knurled handle provides a non-slip grip
- Chrome finish models provides increased protection from rust and corrosion
- Our most rugged, high torque capacity ratchet



1" DRIVE HANDLES

Chrome and Black Industrial Finish

Product Code	Description	Length (Inches)	Finish
JHWX-41C	Flex Handle Breaker Bar, Knurled Grip	34 ³ ⁄16	Chrome
JHWX-41CB	Flex Handle Breaker Bar, Knurled Grip	34 ¾16	Black Industrial
JHWX-20	Sliding T-Handle	20	Chrome

Sliding T-Handle Components

Product Code	Description	Length (Inches)	Finish
JHWX-20B	Handle	20	Chrome
JHWX-20C	Sliding Head	1 ¹⁵ / ₁₆	Chrome

Fed. Spec: ANSI B107.10M

Features

- Chrome plating provides increased protection from rust and corrosion
- Drive handles provide extra leverage with greater strength than ratchets
- Square drive slides on T-Handles for versatility
- Flex handle flex drive swivels 110° in either direction
- · Spring and plunger socket retention



1" DRIVE EXTENSIONS

Chrome Finish

Product Code	Length (Inches)
JHWX-110	8
JHWX-115	16

Fed. Spec: ANSI B107.10M

- . Chrome plating provides increased protection from rust and corrosion
- Ball and spring socket retention
- Hole in wall of drive end accommodates plunger for firm tool retention













JHWX-1234 JHWX-1244



High-Polished Chrome Finish

1" DRIVE SHALLOW 12 POINT SOCKETS, SAE

Toll Free 1 800 563 1293

		Α	В	С	D	E		F
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose
	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length
Product Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)
JHWX-1234	1 1/16	2 1/4	2	1 %	3/4	1 1/16	13/16	7/8
JHWX-1236	1 1/8	2 1/4	2	1 3/4	3/4	1 1/16	13/16	7/8
JHWX-1240	1 1/4	2 ¾	2	1 1/8	3/4	1 ½	¹³ / ₁₆	7/8
JHWX-1242	1 ⁵ /16	2 1/2	2	2 ½16	¹³ / ₁₆	1 %2	¹⁵ /16	1 %16
JHWX-1244	1 3/8	2 1/2	2	2 1/8	7/8	1 11/32	1 13/32	1 %16
JHWX-1246	1 7/16	2 3/4	2	2 3/16	1	1 ¹⁵ / ₃₂	1 1/2	1 11/16
JHWX-1248	1 1/2	2 3/4	2	2 1/4	1	1 19/32	1 %16	1 ¹³ / ₁₆
JHWX-1252	1 %	2 1/8	2	2 %	1 1/8	1 3/4	1 11/16	1 15/16
JHWX-1254	1 11/16	2 1/8	2	2 %	1 ³ /16	1 %16	1 3/4	1 15/16
JHWX-1256	1 3/4	3	2	2 %16	1 1/4	1 ²⁷ /32	1 ¹³ / ₁₆	2 1/16
JHWX-1258	1 ¹³ / ₁₆	3 1/8	2 1/8	2 %	1 1/4	1 ³¹ / ₃₂	1 7/16	2 3/16
JHWX-1260	1 1/8	3 1/4	2 1/8	2 ¾	1 1/16	2 3/32	1 7/16	2 5/16
JHWX-1264	2	3 %	2 1/8	2 ¹⁵ / ₁₆	1 1/2	2 1/4	1 7/16	2 7/16
JHWX-1268	2 1/8	3 1/2	2 1/4	3 1/8	1 1/2	2 11/32	1 7/16	2 %16
JHWX-1270	2 ¾16	3 %	2 1/4	3 1/8	1 17/32	2 15/32	2 1/4	2 11/16
JHWX-1272	2 1/4	3 3/4	2 1/4	3 1/4	1 %	2 %	2 11/32	2 ²³ / ₃₂
JHWX-1276	2 %	3 1/8	2 1/4	3 %	1 %	2 ³ / ₄	2 %	2 ¹³ ⁄ ₁₆
JHWX-1280	2 1/2	4 1/8	2 1/4	3 ½	1 3/4	2 ³¹ / ₃₂	2 1/2	3 ½16
JHWX-1282	2 %16	4 1/8	2 1/4	3 %16	1 ¹³ / ₁₆	2 ³¹ / ₃₂	2 %16	3 ¾16
JHWX-1284	2 %	4 1/4	2 1/4	3 %	1 1/8	3 3/32	2 %	3 1/8
JHWX-1288	2 3/4	4 1/2	2 1/4	3 ¾	2	3 %	2 3/4	3 %16
JHWX-1294	2 ¹⁵ / ₁₆	4 ²⁷ / ₃₂	2 1/4	4	2 1/8	3 ²³ / ₃₂	2 ¹⁵ / ₁₆	3 ²⁵ / ₃₂
JHWX-1296	3	4 ⁷ /8	2 1/4	4 1/8	2 1/8	3 ¾	3	3 ²⁷ / ₃₂
JHWX-12100	3 1/8	4 31/32	2 1/4	4 1/4	2 1/8	3 ²⁷ / ₃₂	3 1/8	3 ²⁹ / ₃₂

Fed. Spec: ANSI B107.1

JHWWSX-17 17 Piece 1" Drive Shallow 12-Point Socket Set **Contents Include:**

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHWX-1234	1 1/16	JHWX-1248	1 1/2	JHWX-1264	2
JHWX-1236	1 1/8	JHWX-1252	1 %	JHWX-1268	2 1/8
JHWX-1240	1 1/4	JHWX-1254	1 ¹¹ / ₁₆	JHWX-1270	2 3/16
JHWX-1242	1 5/16	JHWX-1256	1 3/4	JHWX-1272	2 1/4
JHWX-1244	1 %	JHWX-1258	1 ¹³ / ₁₆	JHWX-1276	2 %
JHWX-1246	1 7/16	JHWX-1260	1 1/8		

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for quick engagement on both 6 and 12 point fasteners



1" DRIVE IMPACT EXTENSIONS AND ACCESSORIES

Black Industrial Finish

Product Code	Description	Length (Inches)	Use RET RING®	Use O-Ring / Pin	Socket Retention
JHW7-107	Impact Extension	7 1/4	JHW7-2XS	JHW7-1B / JHW7-2D	Through Hole and Pin
JHW7-113	Impact Extension	13	JHW7-2XS	JHW7-1B / JHW7-2D	Through Hole and Pin
JHW7-140B	Impact Universal Joint	4 1/2	JHW7-3XS	JHW7-1B / JHW7-2D	Through Hole and Pin
JHW7-6	3/4"M x 1"F Adapter	3	JHW7-2XS	JHW7-1B / JHW7-2D	Through Hole and Pin
JHW7-8	1 ½"M x 1"F Adapter	3 %	JHW7-2XS	JHW7-1B / JHW7-2D	Through Hole and Pin

Fed. Spec: ANSI B107.2

- · Specially heat treated for impact use to provide long life, safety, and durability
- Pin and o-ring or RET RING® (sold separately) secure tools onto impact wrench for safety and convenience
- Universal joint provides 55° range of motion
- · Suitable for use with pneumatic and electric impact wrenches
- Drive end features pin retention hole and groove









pplīfast

1" DRIVE IMPACT RETAINING PINS AND RINGS

Product Code	Description	Diameter	Length	Application
JHW7-1B	Impact Retaining O-Ring	2	NA	Fits Williams Impact Tools with "B" Dimension to 2 3/8"
JHW7-2D	Impact Retaining Pin	3/16	1 3/4	Fits Williams Impact Tools with "B" Dimension to 2 3/8"
JHW7-1C	Impact Retaining O-Ring	3 1/4	NA	Fits Williams Impact Tools with "B" Dimension of 3 1/4"
JHW7-2F	Impact Retaining Pin	3/16	2 1/8	Fits Williams Impact Tools with "B" Dimension of 3 1/4"

Features

- Specially heat treated for impact use to provide long life, safety, and durability
 Suitable for use with pneumatic and electric impact wrenches
- . For 1" Drive impact tools with pin retention hole and groove

1" DRIVE RET RING® ONE-PIECE **IMPACT RETAINING RINGS WITH CRUSH GAUGE**

Product Code	Groove Diameter (Inches)	Application
JHW7-1XS	1 3/4	Fits Competitive Impact Sockets
JHW7-2XS	2	Fits Williams 1" Drive Tools with "B" Dimension of 2 1/8" and 2 1/4"
JHW7-3XS	2 1/8	Fits Williams 1" Drive Tools with "B" Dimension of 2 %"
JHW7-4XS	2 1/4	Fits Competitive Impact Sockets
JHW7-5XS	2 1/2	Fits Competitive Impact Sockets
JHW7-6XS	2 5/8	Fits Competitive Impact Sockets

Features

- Fits all Williams 1" Drive Sockets and Accessories
- Crush Gage on the resin pin indicates when a socket is excessively worn and should be replaced
- Securely retains sockets and accessories to square drive of impact wrench
- For 1" drive impact tools with pin retention hole and groove
- Made of oil resistant material
- RET RING® is a trademark of FTL Enterprises, Inc.



1" DRIVE BUDD® WHEEL IMPACT SOCKET, **6 POINT, SAE**





* AUSA

Diack indus	รเทลา คากเรก								
		Α	В	С	D	E			
Product Code	Size (Inches)	OAL (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Broach Depth (Inches)	Bolt Clearance Depth (Inches)	Bolt Clearance Diameter (Inches)		
JHW17-648BW	13/16 Square / 1 1/2 Hex	4	1 3/4	2 1/4	1 7/16	2 1/4	1 1/4		
Fed. Spec: ANSI B107.2									

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- 13/16" square opening threads stud into wheel
- . 1-1/2" hex opening engages and tightens the wheel lug nut
- Suitable for use with pneumatic and electric impact wrenches
 Specially heat treated for impact use to provide long life, safety, and durability



19 PIECE 1" DRIVE IMPACT SOCKET SET

6 Point Shallow SAE Set in Tool Box

Product Code				Descripti	ion				
JHWWS-7-1	NWS-7-19TB 19 Piece 1" Drive Shallow 6 Point Impact Socket Set in Tool Box								
Contents	Include:				•				
Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)		
IHW7-648	1 1/2	IHW7-668	2 1/0	IHW7-684	25/0	IHW7-6104	3 1/4		

Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)	Product Code	Size (Inches)
JHW7-648	1 1/2	JHW7-668	2 1/8	JHW7-684	2 ⁵ /8	JHW7-6104	3 1/4
JHW7-652	1 ⁵ /8	JHW7-672	2 1/4	JHW7-688	2 3/4	JHW7-6112	3 1/2
JHW7-656	1 3/4	JHW7-676	2 3/8	JHW7-692	2 7/8	JHW7-107	7 3/8" EXT
JHW7-660	1 ⁷ /8	JHW7-680	2 1/2	JHW7-696	3	JHW7-140B	U-Joint
JHW7-664	2	JHW7-682	2 9/16	JHW7-6100	3 ¹ / ₈	JHWTB-6124B	Tool Box

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability







JHW17-648BW



JHWWS-7-19TB



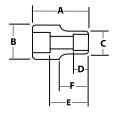




Applifast



JHW7-654



1" DRIVE SHALLOW IMPACT SOCKETS, 6 POINT, SAE

Black Industrial Finish

Product Size OLA	DIACK III	uusiila			^	-	-		-		
Product Size Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept Dept			A				<u></u>			Lless	
Code	Product	Siza	ΟΔΙ				Rolt Clearance	Rolt Clearance			Hea
JHMT-626											O-Ring / Pin
JHMT-566											
JHWT-682											
JHMP7-680											
JHMY-632	JHW7-630										
JHWT-658											
JHWT-636 1 1/6 2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1/2 1											
JHWT-680 1½ 2½ 2½ 2½ 2½ 2½ 2½ 2½											
JHWT-640	JHW7-638							¹³ / ₁₆			
JHM7-862											
JHWT-664 1 % 2 ½ 2 ½ 2 ½ 2 ½ 2 ½ 2 ½ 2 ½ 2 ½ 2 ½ 2	JHW7-642										
JHWT-666 1 7/6 2 1/6 2 1/6 2 1/7 17/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/6 1 1/									-		
JHWT-680 1 1 1 2 2 4 2 1 2 1 2 1 2 1 2 1 2 1 2 1	JHW7-646										
JHWY-650 1 9% 2 9% 2 1% 2 1% 2 1% 1 1% 1 19% 1 19% 1 19% 1 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-180 JHWY-18	JHW7-648								1 5/8	JHW7-2XS	
JHWT-652 1 % 2 ½ 2 ½ 2 ½ 2 ½ 1½ 1½ 1½ 1 ½ 1 ½ JHWT-32S JHWT-18 JHWT-20 JHWT-656 1 ¼ 2 ½ 2 ½ 2 ½ 1 ½ 1 ½ 1 ½ 1 ½ 1 ½ JHWT-3SS JHWT-18 JHWT-20 JHWT-656 1 ¼ 2 ½ 2 ½ 2 ½ 1 ½ 1 ½ 1 ½ 1 ½ 1 ½ JHWT-3SS JHWT-18 JHWT-20 JHWT-656 1 ½ 2 ½ 2 ½ 1 ½ 1 ½ 1 ½ 1 ½ 1 ½ 1 ½ JHWT-3SS JHWT-18 JHWT-20 JHWT-650 1 ½ 2 ½ 2 ½ 1 ½ 1 ½ 1 ½ 1 ½ 1 ½ 1 ½ 1 ½											
JHWT-656 1 11% 2 2% 2 3% 2 2% 1 5%2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1											
JHWT-656 1 ½ 2 ½ 2 ½ 2 ½ 1 ½ 2 ½ 1 ½ 1 ½ 1 ½ 1 ½											
JHWY-668 1 1% 2 1% 2 2% 2% 1 3% 1 1% 1 1% 1 1% 1											
JHWY-660 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1											
JHWT-6662 1 1% 2 1% 2 1% 2 2% 2 34 1 1% 1 1% 1 1 1% 1 1 1% 1 1 1% 1 1 1% 2 1 1 1% 2 1 1 1% 2 1 1 1% 2 1 1 1% 2 1 1 1 1											
JHWT-666 2 1/6 3 3/6 2 3/6 3 1 1/6 1 11/6 1 11/6 2 11/6 1 11/6 2 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1 11/6 1							1 23/32				
JHW7-666											
JHWT-668 2 ½ 3 ¼ 2 ¾ 3 ½ 1 ½ 2 ½ 1 ½ 2 ½ 2 ½ JHWT-3KS JHWT-1B JHWT-2D JHWT-677 2 ½ 3 ½ 3 ½ 2 ½ 3 ¼ 1 ½ 2 ½ 2 ½ 1 ½ 2 ½ 1 ½ 2 ½ JHWT-3KS JHWT-1B JHWT-2D JHWT-677 2 ½ 3 ½ 3 ½ 2 ½ 3 ½ 1 ½ 2 ½ 1 ½ 2 ½ JHWT-3KS JHWT-1B JHWT-2D JHWT-678 2 ½ 3 ½ 2 ¾ 3 ½ 1 ½ 2 ½ 1 ½ 2 ½ 1 ¼ 2 ½ JHWT-3KS JHWT-1B JHWT-2D JHWT-678 2 ½ 3 ½ 2 ¾ 3 ½ 1 ½ 2 ½ 1 ½ 1 ¼ 2 ½ JHWT-3KS JHWT-1B JHWT-2D JHWT-678 2 ½ 3 ½ 2 ¾ 3 ½ 1 ½ 2 ½ 1 ½ 1 ¼ 2 ½ JHWT-3KS JHWT-1B JHWT-2D JHWT-678 2 ½ 3 ¾ 2 ½ 3 ¼ 1 ½ 2 ½ 1 ½ 1 ¼ 2 ½ JHWT-3KS JHWT-1B JHWT-2D JHWT-680 2 ½ 3 ¾ 2 ½ 3 ¾ 1 ½ 2 ½ 2 ½ 2 ½ 2 ½ 2 ½ JHWT-3KS JHWT-1B JHWT-2D JHWT-680 2 ½ 3 ¾ 2 ½ 3 ¾ 1 ½ 2 ½ 2 ½ 2 ½ 2 ½ 2 ½ JHWT-3KS JHWT-1B JHWT-2D JHWT-680 2 ½ 3 ¾ 2 ½ 3 ¾ 1 ½ 2 ½ 2 ½ 2 ½ 2 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-680 2 ½ 3 ¾ 2 ½ 3 ¾ 1 ½ 2 ½ 2 ½ 2 ½ 2 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-680 2 ½ 3 ¾ 2 ½ 3 ¾ 1 ¼ 2 ½ 2 ½ 2 ½ 2 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-684 2 ½ 3 ¾ 2 ¼ 3 ¾ 1 ¼ 6 2 ½ 2 ½ 2 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-684 2 ½ 3 ¾ 3 ¼ 1 ¼ 6 2 ½ 2 ½ 2 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-684 2 ½ 3 3 ¼ 1 ¼ 6 2 ½ 2 ½ 2 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-689 2 ½ ¼ 3 ¼ 2 ¼ 4 ¼ 1 ½ 6 2 ½ 2 ½ 2 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-699 2 ½ ¼ 4 ¼ 2 ¼ 4 ¼ 1 ½ 6 2 ½ 2 ½ 2 ½ 2 ¾ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-699 2 ½ ¼ 4 ¼ 6 2 ¼ 4 ¼ 2 ½ ½ 2 ½ 2 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-699 3 ¼ 4 ½ 2 ¼ 4 ¼ 2 ½ 6 3 ¾ 3 ½ 2 ½ 6 3 ¾ JHWT-3KS JHWT-1B JHWT-2D JHWT-691 3 ¼ 4 ¼ 6 2 ¼ 4 ¼ 2 ½ 6 3 ¾ 5 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-610 3 ¾ 4 ¼ 2 ¼ 4 ¼ 2 ½ 6 3 ¾ 5 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-610 3 ¾ 4 ¼ 2 ¼ 4 ¼ 2 ½ 6 3 ¾ 5 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-610 3 ¾ 4 ¼ 2 ½ 4 ¼ 5 ½ 6 3 ¾ 5 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-610 3 ¾ 4 ¼ 2 ¼ 4 ½ 4 ¼ 2 ½ 6 3 ¾ 5 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-610 3 ¾ 4 ¼ 2 ¼ 4 ½ 2 ¼ 6 3 ¾ 5 ½ 2 ½ 3 JHWT-3KS JHWT-1B JHWT-2D JHWT-610 3 ¾ 4 ½ 2 ¼ 4 ½ 2 ¼ 6 3 ¾ 5 ½ 2 ½ 6 3 ¾ 5 ½ 2 ½ 6 3 ¾ 5 ½ 2 ½ 6 3 ¾ 5 ½ 2 ½ 6 3 ¾ 5 ½ 3 JHWT-1B JHWT-2D JHWT-610 3 ¾ 6 ½ 6 ½ 6 ½ 6 ½ 6 ½ 6 ½ 6 ½ 6 ½ 6 3 ¾ 6 ½ 2 ½ 6 3 ¾ 5 ½ 2 ½ 6 3 ¾ 5 ½ 2 ½ 6 3 ¾ 5 ½ 2 ½ 6 3 ¾ 5 ½ 3											
JHWY-670											
JHW7-672											
JHW7-676											
JHW7-676											
JHW7-678											
JHW7-680											
JHW7-682											
JHW7-686											
JHW7-686 2 11/16 3 76 2 96 3 34 1 13/16 2 15/52 2 2 76 JHW7-3KS JHW7-1B JHW7-2D JHW7-688 2 24 3 76 2 96 3 34 1 13/16 2 11/16 2 2 13 JHW7-3KS JHW7-1B JHW7-2D JHW7-692 2 76 4 2 96 4 1 13/16 2 11/16 2 3 JHW7-3KS JHW7-1B JHW7-2D JHW7-692 2 76 4 2 96 4 1 13/16 2 11/16 2 3 JHW7-3KS JHW7-1B JHW7-2D JHW7-694 2 15/16 4 96 2 26 4 4 1 13/16 2 11/16 2 15/16 3 16 JHW7-3XS JHW7-1B JHW7-2D JHW7-696 3 4 4 8 2 96 4 1/4 2 1/16 3 3/16 2 19/16 3 16 JHW7-3XS JHW7-1B JHW7-2D JHW7-6100 3 1/4 4 1/4 2 1/16 3 3/16 2 19/16 3 1/4 JHW7-3XS JHW7-1B JHW7-2D JHW7-6104 3 1/4 4 1/4 2 1/16 3 1/4 2 1/16 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 2 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3 1/4 3											
JHW7-688											
JHW7-6902 2 ¹³ / ₁₆ 4 2 ³ / ₆ 4 1 ¹³ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 4 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 2 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹ / ₁₆ 3 ¹¹											
JHW7-692											
JHW7-694 2 15/6 4 3/6 2 3/6 4 1/8 2 1/5/2 2 11/6 2 15/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-696 3 4 3/8 2 3/8 4 1/4 2 1/6 3 5/6 2 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6100 3 3/6 4 3/6 2 3/6 4 1/4 2 1/6 3 5/6 2 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6104 3 3/4 4 3/6 2 3/6 4 1/2 2 1/6 3 3/6 2 2/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6108 3 3/6 4 23/2 2 3/6 4 5/6 2 1/2 2 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6112 3 1/2 4 3/4 2 3/6 5 2 5/6 3 11/32 2 1/2 2 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6116 3 3/6 4 3/4 2 3/6 5 2 5/6 3 11/32 2 5/6 2 1/32 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6116 3 3/6 4 3/4 2 3/6 5 1/6 2 3/6 3 11/32 2 5/6 2 1/32 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6110 3 3/6 4 3/4 2 3/6 5 1/6 2 3/6 3 11/32 2 5/6 2 1/32 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6120 3 3/4 5 1/6 2 3/6 5 1/6 2 3/6 3 11/32 2 3/6 2 5/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6122 3 15/6 5 3/6 2 3/6 5 1/6 2 3/6 3 2/6 2 3/6 3 2/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6124 3 3/6 5 3/6 2 3/6 5 1/2 2 3/6 3 3/6 2 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6124 3 3/6 5 3/6 2 3/6 5 1/2 2 3/6 3 3/6 2 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6126 3 15/6 5 3/6 2 3/6 5 1/2 2 3/6 3 3/6 2 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6124 3 3/6 5 3/6 2 3/6 5 1/2 2 3/6 3 3/6 2 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6126 3 15/6 5 3/6 2 3/6 5 1/2 2 3/6 3 3/6 2 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6130 4 1/6 5 3/6 2 3/6 5 1/2 2 3/6 3 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6130 4 1/6 5 3/6 2 3/6 5 3/6 2 3/6 5 3/6 2 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6136 4 1/6 5 3/6 2 3/6 5 3/6 2 3/6 5 3/6 2 3/6 3 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6136 4 1/6 5 3/6 2 3/6 5 3/6 2 3/6 3 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6136 4 1/6 5 5/6 2 3/6 5 3/6 2 3/6 3 3/6 3 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6136 4 1/6 5 5/6 2 3/6 6 2 3/6 3 3/6 3 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6144 4 1/6 5 5/6 2 3/6 6 2 3/6 3 3/6 3 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6140 4 3/6 5 5/6 2 3/6 6 2 3/6 3 3/6 3 3/6 3 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6144 4 1/6 5 5/6 3 3/6 6 2 3/6 6 2 3/6 3											
JHW7-696 3 4 4% 2 3% 4 4¼ 2 1/16 3 5/16 2 3% 3 3% JHW7-3XS JHW7-1B / JHW7-2D JHW7-6100 3 1/8 4 3/6 2 3/8 4 1/2 2 1/16 3 5/16 2 3/8 3 3/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6104 3 1/4 4 3/8 2 3/8 4 1/2 2 1/16 3 1/2 2 3/8 3 3/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6108 3 3/8 4 23/2 2 3/8 4 3/4 2 1/16 3 1/2 2 3/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6112 3 1/2 4 3/4 2 3/8 4 3/4 2 1/4 3 1/32 2 1/2 2 3/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6116 3 3/8 4 3/4 2 3/8 5 5/16 2 3/16 3 1/32 2 5/6 2 1/32 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6116 3 3/8 4 3/4 2 3/8 5 5/16 2 3/16 3 1/32 2 5/6 2 1/32 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6118 3 1/16 4 3/4 2 3/8 5 5/16 2 3/8 3 1/32 2 5/6 2 1/32 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6118 3 1/16 4 3/4 2 3/8 5 5/16 2 3/8 3 1/32 2 5/6 3 3/22 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6120 3 3/4 5 5/16 2 3/8 5 3/8 2 1/32 3 3/16 2 5/8 3 3/26 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6122 3 1/3/16 5 3/16 2 3/8 5 3/8 2 1/32 3 3/16 2 5/8 3 2/24 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6124 3 7/6 5 3/4 2 3/8 5 1/4 2 9/16 3 28/32 2 3/4 3 1/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6126 3 1/3/16 5 5/16 2 3/8 5 1/2 2 9/16 3 28/32 2 3/4 3 1/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6126 3 1/3/16 5 5/16 2 3/8 5 1/2 2 9/16 3 28/32 2 3/4 3 1/6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6128 4 5 5/8 2 3/8 5 1/2 2 9/16 3 28/32 2 3/8 3 3/16 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6132 4 1/6 5 5/2 2 3/8 5 1/2 2 3/16 3 28/32 2 3/8 3 3/16 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6134 4 1/6 5 5/2 2 3/8 5 3/4 2 5/16 3 28/32 2 3/8 3 3/16 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6134 4 1/6 5 5/2 2 3/8 5 3/4 2 5/16 2 3/16 3 3 3/16 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6134 4 1/6 5 5/2 2 3/8 5 3/4 2 5/8 3 28/32 3 3/8 3 3/16 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6134 4 1/6 5 5/2 2 3/8 5 3/4 2 5/8 3 28/32 3 3/8 3 3/16 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6134 4 1/6 5 5/2 2 3/8 5 3/4 2 5/8 3 28/32 3 3/8 3 3/16 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6134 4 1/6 5 5/2 2 3/8 5 3/4 2 5/8 3 28/32 3 3/8 3 3/4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6144 4 1/2 5 5/8 2 3/8 5 3/4 2 3/4 3 3/2 3 3/8 3 3/4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6144 4 1/2 5 5/8 6 3 3/4 6 3 3/4											
JHW7-6100 3 1/8 4 1/8 2 1/8 4 1/4 2 1/16 3 5/16 2 9/8 3 1/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6104 3 1/4 4 1/8 2 1/8 4 1/8 2 1/16 3 1/32 2 1/8 3 1/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6108 3 1/8 4 1/8 2 1/8 4 1/8 2 1/4 3 1/16 2 1/2 2 1/8 3 1/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6112 3 1/2 4 1/4 2 1/8 5 1/8 2 1/8 3 1/32 2 1/2 2 1/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6116 3 1/8 4 1/8 2 1/8 5 1/8 2 1/8 3 1/32 2 1/8 2 1/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6118 3 1/16 4 1/8 2 1/8 5 1/8 2 1/8 3 1/32 2 1/8 2 1/8 2 1/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6118 3 1/16 4 1/8 2 1/8 5 1/8 2 1/8 3 1/8 2 1/8 2 1/8 3 1/8 2 1/8 3 1/8 3 1/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6120 3 1/8 5 1/6 5 1/8 2 1/8 5 1/8 2 1/8 3 1/8 2 1/8 4 2 1/8 3 1/8 3 1/8 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6122 3 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 5 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8 2 1/8											
JHW7-6104 3 ½ 4 ¾ 2 ½ 2 ½ 4 ¾ 2 ½ 2 ½ 3 ¾ 3 ½ 2 ½ 3 ¾ JHW7-3XS JHW7-1B / JHW7-2D JHW7-6112 3 ½ 4 ¾ 2 ½ 4 ¾ 2 ½ 5 ½ 2 ¾ 3 ½ 2 ½ 2 ½ 2 ½ 2 ¾ JHW7-3XS JHW7-1B / JHW7-2D JHW7-6116 3 ¾ 4 ¼ 2 ½ 5 ½ 5 ½ 6 3 1½ 2 2 ½ 2 ½ 2 ½ 3 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6116 3 ½ 4 ¾ 2 ½ 5 ½ 5 ½ 6 3 1½ 2 2 ½ 2 ½ 2 ½ JHW7-3XS JHW7-1B / JHW7-2D JHW7-6118 3 1½ 6 4 ¾ 2 ½ 5 ½ 5 ½ 6 3 1½ 2 2 ½ 2 ½ 2 ½ JHW7-3XS JHW7-1B / JHW7-2D JHW7-6120 3 ¾ 5 ½ 6 ½ 5 ½ 5 ½ 2 ¾ 3 ½ 3 ½ 4 2 ½ 3 3 ½ 3 JHW7-1B / JHW7-2D JHW7-6120 3 ¾ 5 ½ 6 2 ½ 5 ½ 5 ½ 2 ½ 3 3 ½ 4 2 ½ 3 3 ½ 3 JHW7-1B / JHW7-2D JHW7-6124 3 ½ 5 ½ 2 ½ 5 ½ 5 ½ 2 ½ 5 3 2 ½ 3 3 ½ 3 ½ 3 ½ JHW7-3XS JHW7-1B / JHW7-2D JHW7-6124 3 ½ 5 ½ 2 ½ 5 5 ½ 2 ½ 6 3 2 ½ 5 3 2 ½ 2 ¾ 3 ½ JHW7-3XS JHW7-1B / JHW7-2D JHW7-6126 3 1½ 6 5 ½ 2 ½ 5 5 ½ 2 ½ 6 3 2 ½ 5 3 2 ½ 2 3 3 3 ½ 6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6126 3 1½ 6 5 ½ 2 ½ 5 5 ½ 2 ½ 6 3 2 ½ 5 2 ½ 3 3 3 3 ½ 4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6130 4 ½ 6 5 ½ 2 ½ 6 5 ½ 2 1½ 2 2 ½ 6 3 2 ½ 2 1½ 2 3 3 3 3 ½ 4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6132 4 ½ 5 5 ½ 2 ½ 6 6 2 3 ½ 6 5 ½ 2 1½ 2 1½ 2 3 3 3 3 ½ 4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6134 4 ¾ 6 5 ½ 2 ½ 6 6 2 3 ½ 6 5 ½ 2 1½ 2 1½ 2 3 3 2 5 ½ 2 1 ½ 3 3 3 3 ½ 4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6134 4 3 ½ 5 ½ 2 ½ 6 6 2 3 ½ 6 3 2 ½ 2 ½ 6 3 3 2 5 ½ 2 1 ½ 3 3 3 3 ½ 4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6134 4 3 ½ 5 ½ 2 ½ 6 6 2 3 ½ 6 3 2 ½ 2 ½ 6 3 3 2 5 ½ 2 3 ½ 5 3 3 3 3 ½ 3 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6140 4 ¾ 6 5 ½ 2 ½ 6 5 3 ¼ 6 3 2 5 ½ 2 3 2 5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3											
JHW7-6108 3 % 4 2 %s2 2 % 4 % 2 ¼ 3 %16 2 ½ 2 3%64 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6112 3 ½ 4 ¾4 2 %6 5 %6 3 ½32 2 ½ 2 %6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6118 3 ½6 4 ¾4 2 %6 5 ½6 3 ½32 2 ½6 2 ½32 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6118 3 ½6 4 ¾4 2 ¾6 5 ½6 2 ½6 3 ½32 2 ¾4 2 ½6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6118 3 ½6 5 ½6 2 ½6 3 ½6 2 ½6 3 ½42 2 ½6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6120 3 ¾6 5 ½6 2 ½6 3 ½52 2 ¾4 3 ½6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6124 3 ½6 5 ½6 2 ½6 3 ½52 2 ¾4 3 ½6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6124 3 ½6 5 ½6 2 ½6 3 ½52 2 ¾4 3 ½6 JHW7-3XS JHW7											
JHW7-6112 3 ½ 4 ¾ 2 ¾ 4 ¾ 2 ½ 5 4 ¾ 2 ½ 3 1½ 2 ½ 2 ½ 1HW7-3XS JHW7-1B / JHW7-2D JHW7-6116 3 ¾ 4 ¼ 2 ¾ 5 5 2 ½ 6 3 1½ 2 ½ 2 ½ 1½ 2 ½ JHW7-3XS JHW7-1B / JHW7-2D JHW7-6118 3 1¼ 5 5 ¼ 6 2 ¾ 5 ½ 5 ½ 2 ¾ 3 1½ 2 3 ¼ 2 1½ 5 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6120 3 ¾ 5 ½ 5 ¼ 6 5 ½ 2 ¾ 5 ½ 2 ¾ 3 1½ 2 ½ 6 3 1½ 2 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6120 3 1¼ 6 5 ¾ 6 2 ¾ 5 ½ 2 ½ 6 3 2½ 2 3 4 3 ½ 3 1½ 3 1½ 3 1½ 3 1½ 3 1½ 3 1½ 3											
JHW7-6116 3 5% 4 3⁄4 2 3⁄8 5 5/6 2 5⁄16 3 11/32 2 5/8 2 19/32 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6120 3 3⁄4 5 1/6 2 3⁄8 5 5⁄8 2 3⁄8 3 21/64 2 5⁄8 3 5/32 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6122 3 13/16 5 3⁄16 2 3⁄8 5 3⁄8 2 17/32 3 8/16 2 5⁄8 3 23/4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6124 3 7⁄6 5 1/4 2 3⁄8 5 1/4 2 9⁄16 3 25/32 2 3⁄4 3 1/4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6126 3 15/16 5 5⁄16 2 3⁄8 5 1/4 2 9⁄16 3 25/32 2 3⁄4 3 1/4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6126 3 15/16 5 5⁄16 2 3⁄8 5 1/4 2 9⁄16 3 25/32 2 3/4 3 1/4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6126 3 15/16 5 5⁄16 2 3⁄8 5 1/4 2 2 9⁄16 3 25/32 2 3/4 3 1/4 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6130 4 1/6 5 3⁄8 2 3⁄8 5 1/2 2 1/5/32 2 19/32 3 3 3/46 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6132 4 1/6 5 3⁄8 2 3⁄8 5 1/2 2 15/32 2 19/32 3 3 3/46 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6134 4 3/16 5 1/2 2 3⁄8 5 3/4 2 5/16 3 25/32 2 1/8 3 15/44 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6136 4 1/4 5 1/2 2 3⁄8 5 3/4 2 5⁄16 3 25/32 2 1/8 3 1/4 3 1/4 5 1/2 2 3⁄8 5 1/4 2 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1/4 5 1											
JHW7-6118 3 1½6 4 ¾ 2 ¾ 5 № 5 ½ 2 ¾ 5 ½ 2 ½ 6 3 ½ 3 ½ 3 ½ 2 ¾ 2 1½6 JHW7-3XS JHW7-1B / JHW7-2D JHW7-6120 3 ¾ 5 ½ 6 2 ¾ 5 ½ 2 ½ 8 5 ½ 2 ½ 6 3 2½ 2 ½ 3 3 ½ 6 2 ¾ 3 ½ 3 ½ 3 ½ 3 ½ 3 ½ 3 ½ 3 ½ 3 ½ 3 ½ 3											
JHW7-6120 3 \(\frac{3}{4} \) 5 \(\frac{1}{6} \) 6 2 \(\frac{3}{6} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{8} \) 5 \(\frac{1}{1} \) 2 \(\frac{1}{9} \) 16 \\ 3 \(\frac{1}{9} \) 5 \(\frac{1}{9} \) 16 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \(\frac{1}{9} \) 18 \\ 3 \\ 3 \\ 6 \\ 5 \\ 8 \\ 2 \\ 8 \\ 6 \\ 2 \\ 3 \\ 6 \\ 5 \\ 16 \\ 2 \\ 3 \\ 6 \\ 5 \\ 16 \\ 2 \\ 3 \\ 6 \\ 5 \\ 16 \\ 2 \\ 3 \\ 6 \\ 5 \\ 16 \\ 2 \\ 3 \\ 6 \\ 5 \\ 16 \\ 2 \\ 3 \\ 6 \\ 5 \\ 16 \\ 2 \\ 3 \\ 6 \\ 5 \\ 16 \\ 2 \\ 3 \\ 6 \\ 5 \\ 16 \\ 2 \\ 3 \\ 6 \\ 5 \\ 3 \\ 6 \\ 5 \\ 18 \\ 3 \\ 6 \\ 5 \\ 3 \\ 6 \\ 5 \\ 18 \\ 6 \\ 2 \\ 3 \\ 6 \\ 5 \\ 3 \\ 6 \\ 3 \\ 5 \\ 6 \\ 3 \\ 3											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
JHW7-6124 3 \(\begin{array}{cccccccccccccccccccccccccccccccccccc											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
JHW7-6184 5 34 6 1/2 3 1/4 8 1/4 3 9/16 4 17/32 4 4 9/32 JHW8-1XS JHW7-1C - JHW7-2F											
		-	6 ½	3 1/4	8 1/4	3 1/16	4 17/32	4	4 1/32	JHW8-1XS	JHW7-1C - JHW7-2F

Fed. Spec: ANSI B107.2









1 " DRIVE SHALLOW IMPACT SOCKETS, 12 POINT, SAE

Black Industrial Finish

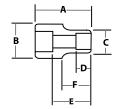
A B CO	king	E Bolt	Bolt	F		
Drive End Fr	nd Broach					
		Clearance		Nose	Uses	
	neter Depth	Depth	Diameter	Length	RET RING®	Use O B: / B: .
Product Code (MM) (Inches) (Inches) (Inches) JHW7-1224 3/4" 2 2 ½ 1			(Inches) 3/4	(Inches)	Number JHW7-2XS	O-Ring / Pin JHW7-1B/JHW7-2D
		7⁄8 1 ¹⁄8	⁹ / ₄		JHW7-2XS JHW7-2XS	
		1 1/8	⁹ / ₄	1	JHW7-2XS	JHW7-1B/JHW7-2D
				1		JHW7-1B/JHW7-2D
JHW7-1230 15/16" 2 1/4 2 1/8 1 JHW7-1232 1" 2 1/4 2 1/8 1		1 ½ 1 ½	1	1	JHW7-2XS	JHW7-1B/JHW7-2D JHW7-1B/JHW7-2D
			<u>1</u>	1 1/	JHW7-2XS	JHW7-1B/JHW7-2D
		1 1/3	1	1 ¼ 1 ¼	JHW7-2XS JHW7-2XS	JHW7-1B/JHW7-2D
		1 ⅓ 1 ⅓	1 ½	1 1/4	JHW7-2XS	JHW7-1B/JHW7-2D
					JHW7-2XS JHW7-2XS	
JHW7-1240 1 ½" 2 ½ 2 ½ 2 ½ 5 ½ JHW7-1242 1 5/16" 2 ¾ 2 ½ 2 ½ 2		1 ⅓ 1 %	1 1/4	1 1/4	-	JHW7-1B/JHW7-2D
			1 1/4	•	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1244 1 %" 2 ¾ 2 ½ 2		1 5/8	1 1/3	-	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1246 1 7/16" 2 3/4 2 1/8 2		1 5/8	1 7/16	-	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1248 1 ½" 2 ¾ 2 ¼ 2		1 5/8	1 7/16	-	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1250 1 %16" 2 3/4 2 1/4 2		1 %	1 7/16	•	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1252 1 5%" 2 3/4 2 1/4 2		1 5/8	1 %6	•	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1254 1 11/16" 2 3/4 2 1/4 2		1 ⁵ / ₈	1 7/16	•	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1256 1 ³ / ₄ " 3 2 ¹ / ₄ 2		1 1/8	1 7/16	•	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1258 1 ¹³ / ₁₆ " 3 2 ¹ / ₄ 2		1 1/8	1 7/16	-	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1260 1 7/8" 3 2 1/4 2		1 1/8	1 7/16	•	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1262 1 15/16" 3 1/4 2 1/4 2		2	1 1/8	•	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1264 2" 3 ½ 2 ½ 2		2	2	•	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1266 2 ½6" 3 ½ 2 ¼		2 1/8	2	-	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1268 2 1/8" 3 1/2 2 1/4 3		2 1/8	2	•	JHW7-2XS	JHW7-1B/JHW7-2D
JHW7-1270 2 ¾16" 3 ½ 2 ¾ 3		2 1/8	2 1/8	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1272 2 ½" 3 ½ 2 ½ 3		2 1/8	2 1/4	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1274 2 5/16" 3 3/4 2 3/8 3		2 %	2 1/4	-	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1276 2 %" 3 ¾ 2 % 3		2 %	2 1/3	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1278 2 7/16" 3 3/4 2 % 3		2 1/4	2 ½	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1280 2 ½" 3 ¾ 2 ¾ 3		2 1/4	2 ½	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1282 2 % 4 2 % 3		2 1/2	2 ½	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1284 2 %" 4 2 % 3		2 1/2	2 ½	-	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1286 2 11/16" 4 2 % 3		2 1/2	2 3/3	-	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1288 2 ¾" 4 ¼ 2 ¾ 3		2 3/4	2 3/4	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1290 2 ¹³ / ₁₆ " 4 ¹ / ₄ 2 ³ / ₆ 3		2 11/16	2 3/4	•	JHW7-3XS	JHW7-1B/JHW7-2D
	1 1 3/4	2 11/16	2 3/4	-	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1294 2 15/16" 4 1/4 2 3/8 4		2 %	3	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-1296 3" 4 ½ 2 ½ 4		2 %	3	•	JHW7-3XS	JHW7-1B/JHW7-2D
	1/4 2	2 1/8	3	•	JHW7-3XS	JHW7-1B/JHW7-2D
	1/4 2	2 1/8	3	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-12104 3 ¼" 4 ½ 2 ¾ 4		2 13/16	3 1/4	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-12108 3 %" 5 2 % 4		3 1/4	3 1/4	-	JHW7-3XS	JHW7-1B/JHW7-2D
	5 2 1/4	3 1/4	3 ½	•	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-12116 3 5%" 5 2 % 4		3 3/16	3 %	-	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-12120 3 ¾" 5 2 ¾ 5		3 3/16	3 ¾	•	JHW7-3XS	JHW7-1B/JHW7-2D
	1/4 2 1/2	3 %	3 %	-	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-12128 4" 5 ½ 2 % 5		3 %	4	-	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-12132 4 1/8" 5 1/2 2 3/8 5		3 ½	4	-	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-12136 4 ¼" 5 ½ 2 % 5		3 1/2	4 1/4	-	JHW7-3XS	JHW7-1B/JHW7-2D
JHW7-12144 4 ½" 5 ¾ 2 %	3 2 ½	3 3/3	4 ½	-	JHW7-3XS	JHW7-1B/JHW7-2D



Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets, extensions and u-joints



JHW7-1296



- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 and 12 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability







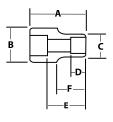




Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets, extensions and u-joints



JHW17-660



1" DRIVE DEEP IMPACT SOCKETS, 6 POINT, SAE

Toll Free 1 800 563 1293

Black Industrial Finish

		Α	В	С	D	Ε		F		
				Working		Bolt	Bolt			
	٥.	0.41	Drive End	End	Broach	Clearance	Clearance	Nose	Uses	
Product Code	Size (Inches)	OAL (Inches)	Diameter (Inches)	Diameter	Depth	Depth (Inches)	Diameter (Inches)	Length	RET RING® Number	Use O-Ring / Pin
JHW17-632	1	3	2 1/8	(Inches) 1 19/32	(Inches)	(Inches) 1 13/16	11/16	(Inches)	JHW7-2XS	JHW7-1B / JHW7-2D
JHW17-632 JHW17-634	1 ¹ /16	3 3¾	2 1/8	1 3/4	1 ²³ / ₃₂	2 ¹⁹ / ₃₂	3/ ₄	7/8	JHW7-2XS	JHW7-1B / JHW7-2D
JHW17-636	1 1/8	3 3/4	2 1/8	1 ¹³ / ₁₆	1 25/32	2 19/32	74 7/8	78 7/8	JHW7-2XS	JHW7-1B / JHW7-2D
JHW17-638	1 3/16	3	2 1/8	1 13/16	3/4	1 13/16	13/ ₁₆	7/8	JHW7-2XS	JHW7-1B / JHW7-2D
JHW17-640	1 1/4	3 3/4	2 1/8	1 31/32	1 15/16	2 19/32	7/8	1	JHW7-2XS	JHW7-1B / JHW7-2D
JHW17-642	1 5/16	3 3/4	2 1/8	2 1/16	2 1/32	2 27/32	1	1	JHW7-2XS	JHW7-1B / JHW7-2D
JHW17-644	1 %	4	2 1/8	2 1/16	2 1/8	2 27/32	1	1	JHW7-2XS	JHW7-1B / JHW7-2D
JHW17-646	1 7/16	4	2 1/8	2 1/4	2 3/16	2 ²⁷ / ₃₂	1	2 1/4	JHW7-2XS	JHW7-1B / JHW7-2D
JHW17-648	1 1/2	4	2 1/4	2 3/8	2 1/4	2 27/32	1 1/8	2 1/2	JHW7-2XS	JHW7-1B / JHW7-2D
JHW17-650	1%16	3 ½	2 1/4	2 %	1 12/	2 11/32	1 17/32	2 ½	JHW7-2XS	JHW7-1B / JHW7-2D
JHW17-652	1 %	3 ⁵ / ₈	2 1/4	2 7/16	2 13/32	3 3/32	1 1/8	2 % 2 5/	JHW7-2XS	JHW7-1B / JHW7-2D JHW7-1B / JHW7-2D
JHW17-654 JHW17-656	1 ¹ / ₁₆ 1 ³ / ₄	4 1/4 4 1/4	2 ¼ 2 ¼	2 ¹⁷ / ₃₂ 2 ¹⁹ / ₃₂	2 ½ 2 %	3 ³ / ₃₂ 3 ¹ / ₃₂	1 ¼ 1 ¼	2 % 2 %	JHW7-3XS JHW7-3XS	JHW7-1B / JHW7-2D JHW7-1B / JHW7-2D
JHW17-658	1 13/16	4 1/2	2 1/4	2 ¹¹ / ₁₆	2 ²¹ / ₃₂	3 %32	1 1/4	2 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-660	1 1/8	4 1/2	2 1/4	2 3/4	2 3/4	3 1/4	1 3/8	2 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-662	1 15/16	4 1/2	2 1/4	2 27/32	2 13/16	3 1/4	1 3/8	3 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-664	2	4 1/2	2 1/4	2 29/32	2 1/8	3 7/32	1 3/8	3 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-666	2 1/16	4 3/4	2 1/4	3	2 31/32	3 15/32	1 1/2	3 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-668	2 1/8	4 3/8	2 %	3 1/4	1 1/16	3 3/16	1 %	3 3/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-670	2 ³ / ₁₆	4 3/4	2 13/32	3 1/32	3 1/8	3 1/16	1 ½	3 3%	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-672	2 1/4	4 3/4	2 13/32	3 1/32	3 3/16	3 13/32	1 %	3 3/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-674	2 ⁵ / ₁₆	5	2 13/32	3 5/16	3 1/32	3 21/32	1 5/8	3 ½	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-676 JHW17-678	2 %	5 4.1/	2 ¹³ / ₃₂ 2 ³ / ₈	3 %	3 %	3 ⁵ / ₈	1 3/4	3 ½	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-678 JHW17-680	2 ⁷ / ₁₆ 2 ¹ / ₂	4 ½ 4 ½	2 % 2 %	3 ½ 3 ½	1 ½ 1 %	3 ⁷ ⁄ ₃₂ 3	1 ³ / ₄ 2 ¹ / ₂	3 ½ 3 ½	JHW7-3XS JHW7-3XS	JHW7-1B / JHW7-2D JHW7-1B / JHW7-2D
JHW17-682	2 %16	4 1/8	2 %	3 1/2	1 1/8	3 ½	2	3 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-684	2 %	4 11/16	2 %	3 3/4	1 5/8	3 11/32	2	3 11/16	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-686	2 11/16	4 11/16	2 %	3 3/4	1 13/16	2 1/2	2	3 11/16	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-688	2 3/4	5 ½	2 %	3 3/4	1 3/4	3 %	2	4 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-690	2 ¹³ / ₁₆	5 1/8	2 %	4	1 ¹³ / ₁₆	2 ²⁷ / ₃₂	2	4 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-692	2 1/8	4 1/8	2 %	4	1 13/16	3 %16	2	3 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-694	2 ¹⁵ / ₁₆	4 1/8	2 %	4 1/8	2 1/32	2 11/16	2	3 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-696	3	5 1/8	2 %	4 1/4	2 1/32	3 %	2 %	4 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6100	3 1/8	5 ½	2 %	4 %	2 ¹ / ₃₂	3 1/32	2 %	4 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6104 JHW17-6108	3 1/4	5 ³ / ₈	2 ³ / ₈	4 ½ 4 %	2 ¹ / ₃₂ 2 ¹ / ₄	3 ½2 3 ½6	2 ³ / ₈ 2 ¹ / ₂	4 ³ / ₈	JHW7-3XS JHW7-3XS	JHW7-1B / JHW7-2D JHW7-1B / JHW7-2D
JHW17-6112	3 1/2	5 ½ 5 ½	2 %	4 3/4	2 1/4	4 3/32	2 1/2	4 ½ 4 ½	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6116	3 ½ 3 %	5 ½	2 %	5	2 ⁵ / ₁₆	4 3/32	2 %	4 ½ 4 ½	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6118	3 11/16	5 17/32	2 %	5 ⁵ ⁄16	2 7/16	3 %	2 3/4	4 17/32	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6120	3 3/4	5 %16	2 %	5 ½	2 1/4	3 19/32	2 13/16	4 %16	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6122	3 ¹³ / ₁₆	5 ³¹ / ₃₂	2 %	5 ¾	2 17/32	4 11/32	2 %	4 31/32	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6124	3 1/8	5 %16	2 %	5 1/4	2 1/16	3 %	3	4 1/16	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6126	3 ¹⁵ / ₁₆	6 1/16	2 %	5 ½	2 13/32	4 13/32	3	5 ½16	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6128	4	6 1/8	2 %	5 ½	2 17/32	4 3/32	2 1/8	5 ½	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6130	4 1/16	6 1/8	2 %	5 ½	2 15/32	4 1/2	3	5 1/	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6132	4 1/8	6 1/8 6 7/	2 %	5 ¹⁷ / ₃₂	2 ¹⁷ / ₃₂	4 3/32	2 %	5 1/8 5 7/4-	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6134 JHW17-6136	4 ³ / ₁₆ 4 ¹ / ₄	6 ⁷ / ₃₂ 6 ⁹ / ₃₂	2 ¾ 2 ¾	6 5¾	2 ½ 2 %	4 %16 4 %16	3 3	5 ⁷ / ₃₂ 5 ⁹ / ₃₂	JHW7-3XS JHW7-3XS	JHW7-1B / JHW7-2D JHW7-1B / JHW7-2D
JHW17-6138	4 ⁵ / ₁₆	6 11/32	2 %	5 ¹³ / ₁₆	2 ²¹ / ₃₂	4 %	3 %	5 11/32	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6140	4 3/8	6 13/32	2 %	5 ²⁷ / ₃₂	2 5/8	4 %16	3 1/8	5 ¹³ / ₃₂	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6142	4 7/16	6 13/32	2 %	6	2 21/32	4 %16	2 %	5 ¹³ / ₃₂	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6144	4 1/2	7	2 %	6	2 3/4	5	3 1/8	6	JHW7-3XS	JHW7-1B / JHW7-2D
JHW17-6146	4 %16	7 1/8	3 1/4	6 1/2	2 3/4	4 19/32	3 %	6 ¹ / ₈	JHW8-1XS	JHW7-1C - JHW7-2F
JHW17-6148	4 %	7 1/8	3 1/4	6 13/16	2 13/16	4 3/32	3 1/2	6 1/8	JHW8-1XS	JHW7-1C - JHW7-2F
JHW17-6152	4 3/4	6 3/4	3 1/4	6 %	2 29/32	4 29/32	3 ½	5 3/4	JHW8-1XS	JHW7-1C - JHW7-2F
JHW17-6156	4 1/8	7 1/4	3 1/4	7	3	5 ⁵ / ₃₂	3 ½	6 1/4	JHW8-1XS	JHW7-1C - JHW7-2F
JHW17-6160	5 - 3/	7 3/4	3 1/4	7	3	5 ²¹ / ₃₂	3 ½	6 ¾	JHW8-1XS	JHW7-1C - JHW7-2F
JHW17-6172	5 % = 3/.	8	3 1/4 2 1/4	7 ½ 9 1/	3 %16 3 %4	5 ²⁵ / ₃₂	3 ²¹ / ₃₂	7	JHW8-1XS	JHW7-1C - JHW7-2F
JHW17-6184	5 3/4	8	3 1/4	8 1/4	3 %16	6 1/32	4	7	JHW8-1XS	JHW7-1C - JHW7-2F

Fed. Spec: ANSI B107.2



- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability



1" DRIVE SHALLOW IMPACT SOCKETS, 6 POINT, METRIC





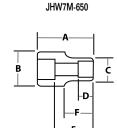
Black Industrial Finish

		Α	В	C	ט	Ŀ		F		
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose	Uses	
	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length	RET RING®	Use
Product Code	(MM)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	Number	O-Ring / Pin
JHW7M-627	27	2 1/4	21/8	1 3/4	11/16	1 ½16	3/4	7/8	JHW7-2XS	JHW7-1B /JHW 7-2D
JHW7M-630	30	2 1/4	2 1/8	1 1/8	11/16	1 1/16	¹³ / ₁₆	7/8	JHW7-2XS	JHW7-1B / JHW7-2D
JHW7M-632	32	2 %	2 1/8	2	3/4	1 3/16	¹⁵ / ₁₆	7/8	JHW7-2XS	JHW7-1B / JHW7-2D
JHW7M-635	35	2 1/2	2 1/8	2 1/8	7/8	1 5/16	1 3/8		JHW7-2XS	JHW7-1B / JHW7-2D
JHW7M-638	38	2 %	2 1/4	2 ¹¹ / ₃₂	¹⁵ / ₁₆	1 ¹⁵ / ₃₂	1 ½	1 %	JHW7-2XS	JHW7-1B / JHW7-2D
JHW7M-641	41	2 3/4	2 1/4	2 %	1 1/16	1 %	1 19/32	1 3/4	JHW7-2XS	JHW7-1B / JHW7-2D
JHW7M-646	46	2 ¹⁵ / ₁₆	2 %	2 ¾	1 3/16	1 ²³ / ₃₂	1 ¹³ / ₁₆	1 ¹⁵ / ₁₆	JHW7-3XS	JHW7-1B / JHW7-2D
JHW7M-650	50	3	2 ¾	2 ³ / ₄	1 1/4	1 ²⁷ / ₃₂	1 ⁶¹ / ₆₄	2	JHW7-3XS	JHW7-1B / JHW7-2D
JHW7M-660	60	3 1/2	2 %	3 1/2	1 1/2	2 11/32	1 3/4	2 1/2	JHW7-3XS	JHW7-1B / JHW7-2D
JHW7M-665	65	3 %	2 %	3 %	1 %	2 1/8	2 1/4	2 %	JHW7-3XS	JHW7-1B / JHW7-2D
JHW7M-670	70	3 1/8	2 ¾	3 3/4	1 ¹³ / ₁₆	2 ²¹ / ₃₂	2 ¾	2 1/8	JHW7-3XS	JHW7-1B / JHW7-2D
JHW7M-675	75	4 3/16	2 %	4 1/8	2 ¹ / ₃₂	2 11/16	2 ¹⁵ / ₁₆	3 1/8	JHW7-3XS	JHW7-1B / JHW7-2D

Features

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener Designed for maximum engagement on 6 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability
- Drive end features pin retention hole and groove
- Dual marked with corresponding SAE size





TOOLS@

Side hole in socket permits use with Snap-on Industrial Brands Tools@Height drive tools such as ratchets. extensions and u-joints

1-1/2" DRIVE IMPACT EXTENSIONS AND ACCESSORIES

Black Industrial Finish

		Length	Use	Use	Socket
Product Code	Description	(Inches)	RET RING®	O-Ring / Pin	Retention
JHW8-108	Impact Extension	8	JHW8-1XS	JHW7-1C /JHW8-2E	Through Hole and Pin
JHW8-115	Impact Extension	15	JHW8-1XS	JHW7-1C / JHW8-2E	Through Hole and Pin
JHW8-140B	Impact Universal Joint	6 1/16	JHW8-1XS	JHW7-1C / JHW8-2E	Through Hole and Pin
JHW8-7	1 M x 1 1/2 F Adapter	4 1/4	JHW8-1XS	JHW7-1C / JHW8-2E	Through Hole and Pin
JHW8-8	1 1/2"M x 2 1/2"F Adapter	6 ¾	JHW8-4XS	JHW9-1D / JHW9-2G	Through Hole and Pin

Fed. Spec: ANSI B107.2

Features

- Specially heat treated for impact use to provide long life, safety, and durability.
- Pin and o-ring or RET RING® (sold separately) secure tools onto impact wrench for safety and convenience.
- Universal joint provides 55° range of motion.
- Suitable for use with pneumatic and electric impact wrenches.
- Drive end features pin retention hole and groove.





1-1/2" SLIDING T-HANDLE

Black Industrial Finish

Product Code	Length (Inches)	Shaft Diameter (Inches)	Socket Retention
JHW8-20	36	2 ½	Plunger and Spring

- · Drive end slides on bar for additional flexibility.
- Ideal for turning 1-1/2" drive sockets when impact wrench is not available.





JHW8-20



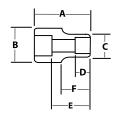




JHW7-1C

JHW8-1XS







1-1/2" DRIVE IMPACT RETAINING PINS AND RINGS

Product Code	Description	Dia. (Inches)	Length (Inches)	Application
JHW7-1C	Impact Retaining O-Ring	3 1/4	NA	Fits All Williams 1 1/2" Drive Sockets & Accessories
JHW8-2E	Impact Retaining Pin	1/4	2 %	Fits All Williams 1 1/2" Drive Sockets & Accessories
JHW9-1D	Impact Retaining O-Ring	4 ½	NA	
JHW9-2G	Impact Retaining Pin	5/16	2 %	

Features

- . Specially heat treated for impact use to provide long life, safety, and durability
- · Suitable for use with pneumatic and electric impact wrenches

Toll Free 1 800 563 1293

• For 1-1/2" Drive impact tools with pin retention hole and groove



1-1/2" DRIVE RET RING® ONE-PIECE IMPACT **RETAINING RINGS WITH CRUSH GAUGE**

Product Code	Diameter (Inches)	Application
JHW8-1XS	2 1/8	Fits Williams 1 1/2" Drive Tools with "B" Dimension of 3 1/4"
JHW8-2XS	3 %	Fits Competitive Impact Sockets
JHW8-3XS	3 1/8	Fits Competitive Impact Sockets
JHW8-4XS	4 %	Fits Competitive Impact Sockets

Features

- Fits all Williams 1-1/2" Drive Sockets and Accessories
- · Crush Gage on the resin pin indicates when a socket is excessively worn and should be replaced
- · Securely retains sockets and accessories to square drive of impact wrench
- For 1-1/2" drive impact tools with pin retention hole and groove
- Made of oil resistant material

Black Industrial Finish

• RET RING® is a trademark of FTL Enterprises, Inc.



1-1/2" DRIVE SHALLOW IMPACT SOCKETS, 12 POINT, SAE

		A	В	С	D	E		F
		Overall		Working End	Broach	Bolt	Bolt Clearance	Nose
Product	Size	Length	Drive End Diam-	Diameter	Depth	Clearance	Diameter	Length
Code	(Inches)	(Inches)	eter (Inches)	(Inches)	(Inches)	Depth (Inches)	(Inches)	(Inches)
JHW41144	1 3/8	3 1/8	3 3/8	2 1/2	1		1 3/16	1 3/8
JHW41146	1 7/16	3 1/8	3 3/8	2 1/2	1	,	1 1/4	1 3/8
JHW41148	1 1/2	3 1/8	3 3/8	2 5/8	1	/	1 1/4	1 3/8
JHW41150	1 1/16	3 1/8	3 3/8	2 5/8	1	/	1 3/8	1 3/8
JHW41152	1 5/8	3 1/8	3 3/8	2 3/4	1	/	1 3/8	1 3/8
JHW41154	1 11/16	3 1/4	3 %	2 3/4	1 1/16	/	1 1/2	1 1/2
JHW41156	1 3/4	3 1/4	3 3/8	2 ¹⁵ / ₁₆	1 1/16	/	1 ½	1 1/2
JHW41158	1 13/16	3 1/4	3 ¾	2 ¹⁵ / ₁₆	1 1/16	/	1 1/8	1 1/2
JHW41160	1 1/8	3 1/16	3 ¾	3 1/8	1 3/16	/	1 1/8	1 1/8
JHW41162	1 15/16	3 1/16	3 %	3 1/8	1 3/16	/	1 3/4	1 1/8
JHW41164	2	3 1/16	3 ¾	3 1/4	1 3/16	/	1 3/4	1 1/8
JHW41166	2 1/16	3 1/16	3 3/8	3 1/4	1 3/16	/	1 1/8	1 1/8
JHW41168	2 1/8	3 1/2	3 3/8	3 ¾	1 1/2	/	1 1/8	/
JHW41170	2 3/16	3 1/2	3 3/8	3 ¾	1 ½	/	1 1/8	/
JHW41172	2 1/4	3 1/2	3 %	3 1/8	1 ½	/	2 1/16	1 3/4
JHW41174	2 5/16	3 ½	3 3/8	3 5/8	1 1/2	/	2 1/16	1 3/4
JHW41176	2 3/8	3 ½	3 3/8	3 5/8	1 1/2	/	2 1/16	1 3/4
JHW41178	2 1/16	3 3/4	3 3/8	3 1/8	1 1/8	/	2/14	1 3/4
JHW41180	2 1/2	3 3/4	3 3/8	3 1/8	1 1/8	/	2/14	1 3/4
JHW41182	2 %16	3 3/4	3 %	3 1/8	1 1/8	/	2/14	1 3/4
JHW41184	2 5/8	3 3/4	3 %	4 3/16	1 1/8	/	2 1/16	1 3/4
JHW41186	2 11/16	3 3/4	3 3/8	4 3/16	1 5/8	/	2 7/16	1 3/4
JHW41188	2 3/4	3 3/4	3 ¾	4 3/16	1 1/8	/	2 1/2	1 3/4
JHW41190	2 13/16	4 1/16	3 3/8	4 1/4	1 3/4	/	2 1/2	1 3/4
JHW41192	2 1/8	4 1/16	3 %	4 1/4	1 3/4		2 5/8	1 3/4
JHW41194	2 15/16	4 1/16	3 3/8	4 1/4	1 3/4	/	2 5/8	1 3/4
JHW41196	3	4 1/4	3 ¾	4 1/8	2	/	2 3/4	1 3/4
JHW41200	3 1/8	4 1/4	3 ¾	4 1/8	2	/	2 3/4	1 3/4
JHW41204	3 1/4	4 1/4	3 ¾	4 ¹⁵ / ₁₆	2	/	3	1 3/4
JHW41208	3 %	4 1/4	3 %	4 15/16	2	/	3	1 3/4
JHW41212	3 ½	4 1/8	3 3/8	5	2 3/16	/	3 1/4	1 3/4
JHW41220	3 3/4	4 5/8	3 3/4	5 1/4	2 3/16	/	3 ½	2
JHW41224	3 1/8	4 15/16	3 3/4	5 1/16	2 1/4	/	3 5/8	2
JHW41226	3 ¹⁵ / ₁₆	4 15/16	3 3/4	5 1/16	2 1/4	/	3 5/8	2
JHW41228	4	4 15/16	3 3/4	5 1/16	2 1/4	/	3 3/4	2

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- . Designed for maximum engagement on 6 and 12 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- . Specially heat treated for impact use to provide long life, safety, and durability





1-1/2" DRIVE SHALLOW IMPACT SOCKETS, 6 POINT, SAE



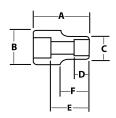


Black Industrial Finish

		Α	В	С	D	E		F		
			Drive End	Working End	Broach	Bolt Clearance	Bolt Clearance	Nose	Uses	
Product	Size	OAL	Diameter	Diameter	Depth	Depth	Diameter	Length	RET RING®	Use
Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	Number	O-Ring / Pin
JHW8-646	1 7/16	3 1/32	3 1/4	2 1/8	57/64	1 ²⁵ / ₆₄	1 7/16	1 7/32	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-648	1 1/2	3 3/32	3 1/4	2 1/8	29/32	1 7/16	1 ³¹ / ₆₄	1 17/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-652	1 5/8	3 ³ / ₁₆	3 1/4	2 29/32	1 1/32	1 %16	1 %	1 21/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-654	1 11/16	3 1/4	3 1/4	2 31/32	1 1/16	1 %16	1 11/16	1 39/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-656	1 3/4	3 %2	3 1/4	3 1/32	1 1/32	1 21/32	1 21/32	1 %16	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-658	1 13/16	3 21/64	3 1/4	3 3/32	1 5/32	1 11/64	1 ¹³ / ₁₆	1 %	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-660	1 7/8	3 %	3 1/4	3 5/32	1 7/32	1 3/4	1 1/8	1 23/32	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-664	2	3 7/16	3 1/4	3 1/2	1 %32	1 13/16	2	1 51/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-666	2 1/16	3 1/2	3 1/4	3 1/2	1 13/32	1 ⁵⁵ / ₆₄	2 1/16	1 ⁵⁵ / ₆₄	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-668	2 1/8	3 %16	3 1/4	3 1/2	1 27/64	1 59/64	2 1/8	1 59/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-670	2 3/16	3 21/32	3 1/4	3 1/2	1 7/16	2	2 3/16	2 1/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-672	2 1/4	3 3/4	3 1/4	3 %16	1 17/32	2 1/8	2 1/4	2 1/8	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-676	2 3/8	3 1/8	3 1/4	3 ²⁵ / ₃₂	1 %16	2 1/4	2 %	2 17/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-678	2 7/16	3 15/16	3 1/4	3 ²⁵ / ₃₂	1 %16	2 ¹⁹ / ₆₄	2 7/16	2 5/16	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-680	2 1/2	4	3 1/4	3 1/32	1 19/32	2 %	2 31/64	2 1/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-682	2 %	4 ¹ / ₃₂	3 1/4	3 ²⁹ / ₃₂	1 5/8	2 ¹³ / ₃₂	2 %16	2 3/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-684	2 5/8	4 ³ / ₃₂	3 1/4	4	1 11/16	2 /32 2 ¹⁵ / ₃₂	2 5%	2 7/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-688	2 3/4	4 ⁷ /32	3 1/4	4 ⁵ / ₃₂	1 13/16	2 7/16	2 3/4	2 /64 2 ¹⁵ /64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-692	2 7/4	4 ⁵ / ₁₆	3 1/4	4 732 4 5/16	1 7/8	2 /16 2 ¹¹ /16	2 1/4	2 %2	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-694	2 /8 2 15/16	4 3/8	3 1/4	4 3/8	1 /8 1 ²⁹ / ₃₂	2 3/4	2 /8 2 %	2 732 2 23/64	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-696	3	4 7/16	3 1/4	4 7/16	1 5/16	2 ⁷⁴	2 %	2 13/32	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-698	3 ½16	4 1/2	3 1/4	4 %16	1 31/32	2 ⁻ / ₃₂	2 ⁷⁸ 2 ⁵ / ₈	2 15/32 2 15/32	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6100	3 1/8	4 % 16	3 1/4	4 5/8	2	3	2 78 2 5%	2 1/2	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6104	3 1/4	4 ⁷ /16 4 ²¹ / ₃₂	3 1/4	4 78 4 ²⁵ /32	2 1/8	3	2 ⁷⁸ 2 ⁵ /8	2 ¹⁹ / ₃₂	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6108	3 ³ / ₄	4 ⁻ / ₃₂ 4 ³ / ₄	3 1/4	4 -732 4 ¹⁵ / ₁₆	2 7/8 2 7/32	3 ½	2 % 2 %	2 ⁴³ / ₆₄	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6110	3 7/8 3 7/16	4 74 4 ²⁷ / ₃₂	3 1/4	4 · 7/16 5	2 ⁹ / ₃₂	3 7/8 3 7/32	2 % 2 %	2 3/4	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6112	3 1/2	4 ⁻¹ /32 4 ²⁹ /32	3 1/4	5 ½ 5 ½	2 ⁵ / ₁₆	3 1/4	2 % 2 %	2 74 2 13/16	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6116	3 ½ 3 %	5 ½	3 1/4	5 1/4	2 13/32	3 7/16	2 % 2 %	3	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6120	3 % 3 ¾	5 1/8	3 1/4	5 ⁷ /4	2 15/32 2 15/32	3 1/2	2 % 2 %	3 ½2	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6122	3 ¹³ / ₁₆	5 ^{7/8}	3 1/4	5 % 5 %	2 17/32 2 17/32	3 ½ 3 ½	2 ⁷⁸ 2 ⁵ /8	3 ³ / ₃₂	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6124	3 7/8	5 1/4	3 1/4	5 ¹⁷ /32	2 %16	3 %	2 %	3 ⁵ / ₃₂	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6128	3 78 4	5 13/32	3 1/4	5 1/32 5 21/32	2 ⁵ /16 2 ⁵ /8	3 ⁷⁸ 3 ²⁵ / ₃₂	2 % 2 %	3 ⁷³² 3 ⁹ 32	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6132	4 4 1/8	5 % ₁₆	3 1/4	5 ⁻⁷ /32 5 ¹³ / ₁₆	2 3/4	3 ⁻⁷ / ₃₂ 3 ⁵⁹ / ₆₄	2 % 2 %	3 7/32 3 7/16	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6136	4 1/4	5 11/16	3 1/4	5 ³¹ / ₃₂	2 ¹³ / ₁₆	4 1/16	2 % 2 %	3 %16	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6138	4 1/4 4 5/16	5 25/32	3 1/4	6 1/32	2 ⁷ /8	4 716 4 5/32	2 % 2 %	3 ⁹ 16 3 ²¹ / ₃₂	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6140	4 716 4 3/8	5 ^{-7/32} 5 ²⁷ /32	3 1/4	6 ³ / ₃₂	2 ^{7/8} 2 ²⁹ / ₃₂	4 732 4 7/32	2 % 2 %	3 ² / ₃₂	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6144			3 1/4	6 ¹ / ₄		4 732 4 3/8				
	4 ½	6		6 ¹³ / ₁₆	3 1/32		2 %	3 ¹⁵ / ₁₆	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6148	4	6 ½6	3 ½ 3 ½	6 %16	3 ½6	4 ⁷ / ₁₆ 4 ¹ / ₂	3 ½ 2 %	4 3/32	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6152		6 ½	3 1/4 3 1/4		3 1/8			4 19/	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6156	4 1/8	6 3/4	3 1/4	7 1/8	3 1/8	5 7/64	3 ½	4 19/32	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6160	5	6 3/4	3 1/4	7 ½8 7 ½6	3 1/16	5 7/64	3 ½	4 %16 4 ²⁹ /32	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6172	5 ¾	7			3 1/4	5 ½	4		JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6184	5 ³ / ₄	7	3 1/4	7 %	3 1/2	5 ½	3 3/4	4 ⁷ / ₈	JHW8-1XS	JHW7-1C / JHW8-2E
JHW8-6196	6 ½	7 1/4	5	8 ½	3 11/16	5 %	4 ½	5 ½16	JHW8-4XS	JHW9-1D / JHW8-2E
JHW8-6208	6 ½	7 ½ 7 7/2	5	9 1/4	3 1/2	5 %	5 4.3/.	5 %4 E 33/-	JHW8-4XS	JHW9-1D / JHW8-2E
JHW8-6220	6 %	7 %	5	9 1/4	3 %	6	4 3/4	5 33/64 E 49/	JHW8-4XS	JHW9-1D / JHW8-2E
JHW8-6232	7 1/4	8 1/8	5	10	4 1/2	6 1/4	5 ½	5 ⁴⁹ / ₆₄	JHW8-4XS	JHW9-1D / JHW8-2E
JHW8-6244	7 %	8 ¹ / ₄	5	10 3/4	4 ¹³ / ₁₆	6 ³ %	6 ½	5 ⁵⁷ / ₆₄	JHW8-4XS	JHW9-1D / JHW8-2E
JHW8-6256	8	83/8	5	11	51/16	61/2	7	61/64	JHW8-4XS	JHW9-1D / JHW8-2E



JHW8-696



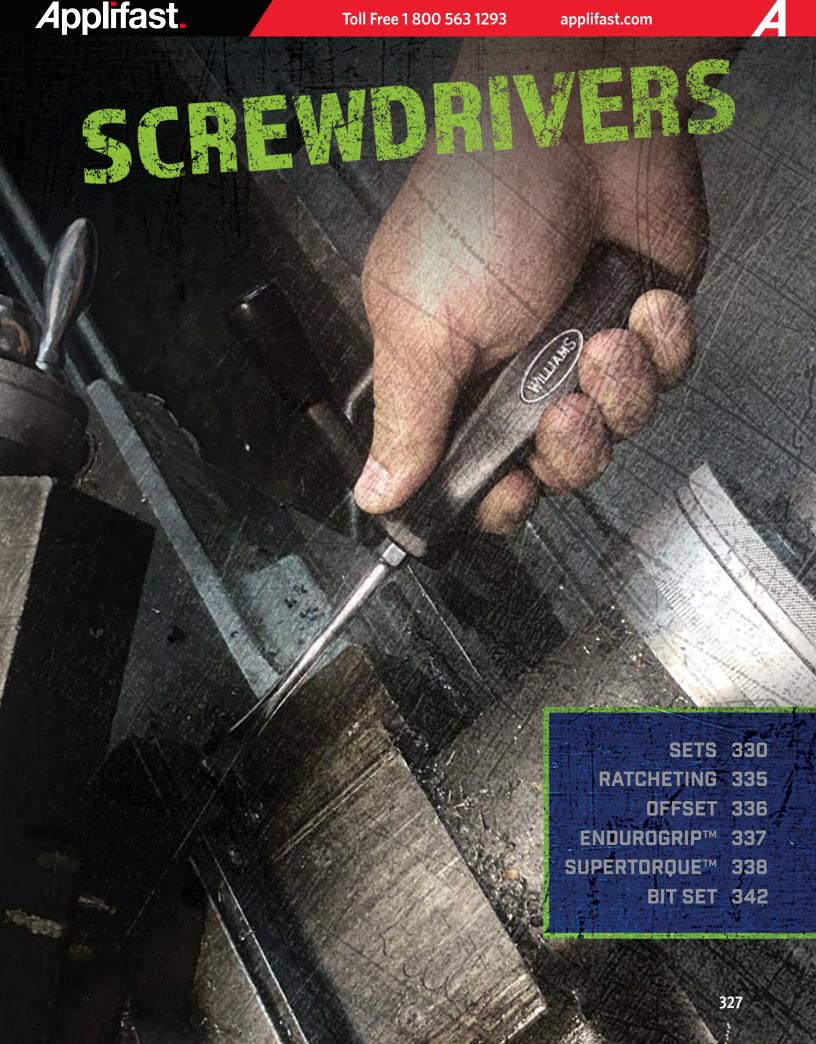
Fed. Spec: ANSI B107.2

- SUPERTORQUE™ lobular openings for greater turning power without deforming the fastener
- Designed for maximum engagement on 6 point fasteners
- Suitable for use with pneumatic and electric impact wrenches
- Specially heat treated for impact use to provide long life, safety, and durability











SUPERTORQUE™ SCREWDRIVERS

Hanging hole in the handle also permits T-bar insertion for transmission of additional force

3 component handle for maximum user comfort and force transmission

Double-shaped handle for use with both hands. Heavy duty design for maximum torque power

High performance, chrome plated alloy steel blade for high corrosion resistance

Laser marking on the blade (Size & COO)

Indelible tip symbol by overflow for easy identification of the tip

Flat face prevents rolling

JHWSPR-K-56-7

8 Different Tip Styles Available



Keystone

Slotted

C Cabinet

Slotted

Pł

P Phillips **T** Torx X Tamper-Torx

er- Square/ x Robertson

Nutdriver Hex Pozidriv

Sand blasted tip for greater screw-tip adherence

SCREWDRIVERS

COMFORT, POWER AND VERSATILITY



ENDUROGRIP™

handle with thumb stop allow for added turning power without discomfort or slippage



Hex bolsters on shafts allow a wrench to be used for extra turning power

Chrome blades prevent — corrosion and can be easily cleaned

Blades are made from **special alloy steel** for extra strength

Vapor-blasted tips grip fasteners and prevent chipping, extending tool life

3 Different Tip Styles Available







Flat face prevents rolling

K Keystone

Keystone Cabinet
Slotted Slotted

Phillips



19 PIECE ENDUROGRIP™ AND SUPERTORQUE™ COMBINATION SCREWDRIVER SET



Premium Comfort Grip & Three Component handle with Black Oxide Tips

Product Code	Description
JHW100P-19MD	19 Piece ENDUROGRIP™ Combination Screwdriver Set

Contents Include:

Contents Include:				
Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip	
JHWSDE-43	6 11/16	3	Cabinet Slotted 3/16"	
JHWSDE-46	9 11/16	6	Cabinet Slotted 3/16"	
JHWSPR-C-18-3	6	3	Cabinet Slotted 1/8"	
JHWSPR-C-18-4	9	4	Cabinet Slotted 1/8"	
JHWSPR-C-52-6	11 3/4	6	Cabinet Slotted 5/32"	
JHWSDR-22	6 1/8	3	Keystone Slotted 3/16"	
JHWSDS-62	3 ½	1 3/4	Keystone Slotted 1/4" Stubby	
JHWSDR-24	7 1/8	4	Keystone Slotted 1/4"	
JHWSDR-26	10 11/16	6	Keystone Slotted 5/16"	
JHWSDR-28	12 ¹¹ / ₁₆	8	Keystone Slotted %"	
JHWSDS-33	17 ¹³ / ₁₆	12	Keystone Slotted %"	
JHWSPR-P-0-3	6 ½	3	Phillips® #0	
JHWSPR-P-1-3	7 3/4	3	Phillips® #1	
JHWSDP-1-3	6 1/4	3	Phillips® #1	
JHWSDP-2-4	7 ¹⁵ / ₁₆	4	Phillips® #2	
JHWSDP-2-8	12	8	Phillips® #2	
JHWSDP-3-6	10 ½	6	Phillips® #3	
JHWSDP-4-6	10 ¾	8	Phillips® #4	
JHWSDP-2-ST	3 ½	1 ½	Phillips [®] #2 Stubby	



- . Set contains a comprehensive assortment of screwdrivers to get the job done
- Williams comfort grip handle with thumb stop allow for added turning power without discomfort or slippage



8 PIECE ENDUROGRIP™ MIXED SCREWDRIVER SET



Comfort-Grip Handle With Round Blade

Product Code	Description
JHW100P-8MD	8 Piece ENDUROGRIP™ Screwdriver Set

Contents Include:

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSDR-24	7 7/8	4	Keystone Slotted 1/4"
JHWSDR-26	10 11/16	6	Keystone Slotted 5/16"
JHWSDR-28	12 ³ / ₄	8	Keystone Slotted 3/8"
JHWSDP-1-3	6 1/4	3	Phillips®#1
JHWSDP-2-4	7 15/16	4	Phillips®#2
JHWSDP-3-6	10 ¹ / ₂	6	Phillips®#3
JHWSDE-43	6 11/16	3	Cabinet Slotted 3/16"
JHWSDE-46	9 11/16	6	Cabinet Slotted 3/16"

- Contains 3 keystone slotted, 3 Phillips®, and 2 Cabinet Tip screwdrivers
- Comfort-grip handle with thumb stop allow for added turning power without discomfort or slippage
- Chrome blades prevent corrosion and can be easily cleaned
- Blades are made from special alloy steel for extra strength
- · Vapor-blasted tips grip fasteners and prevent chipping, extending tool life
- · Hex bolsters on shafts allow a wrench to be used for extra turning power





JHW100P-8MD









Comfort-Grip Handle With Round Blade

Product Code	Description
	5 Piece ENDUROGRIP™ Screwdriver Set
JHW100P-5MD	Phillips® / Keystone Slotted Tips

Contents Include:

	Overall Length	Blade Length	
Product Code	(Inches)	(Inches)	Tip
JHWSDR-22	6 ¹ / ₈	3	Keystone Slotted 3/16"
JHWSDR-24	7 ⁷ / ₈	4	Keystone Slotted 1/4"
JHWSDR-26	10 11/16	6	Keystone Slotted 5/16"
JHWSDP-1-3	6 ¹ / ₄	3	Phillips®#1
JHWSDP-2-4	7 15/16	4	Phillips® #2





Product Code

Comfort-Grip Handle

6 PIECE ENDUROGRIP™



KEYSTONE SLOTTED SCREWDRIVER SET

Contents Include:

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSDR-22	6 1/8	3	Keystone Slotted 3/16"
JHWSDR-24	7 1/8	4	Keystone Slotted 1/4"
JHWSDR-26	10 ¹¹ / ₁₆	6	Keystone Slotted 5/16"
JHWSDR-28	12 ¹¹ / ₁₆	8	Keystone Slotted 3/8"
JHWSDR-30	14 ¾	10	Keystone Slotted 7/16"
JHWSDS-33	17 ¹³ / ₁₆	12	Keystone Slotted 3/8"





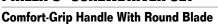
JHW100P-6SD

JHW100P-5MD



JHW100P-6PD

6 PIECE ENDUROGRIP™ **PHILLIPS® SCREWDRIVER SET**



Product Code	Description
JHW100P-6PD	6 Piece ENDUROGRIP™ Phillips® Screwdriver Set

Contents Include:

Duadwat Cada	Overall Length	Blade Length	т.,
Product Code	(Inches)	(Inches)	Tip
JHWSDP-1-3	6 ¹ / ₄	3	Phillips [®] #1
JHWSDP-2-4	7 15/16	4	Phillips® #2
JHWSDP-2-8	12	8	Phillips® #2
JHWSDP-3-6	10 ¹ / ₂	6	Phillips®#3
JHWSDP-4-6	10 ³ / ₄	6	Phillips®#4
JHWSDP-2-ST	3 ¹ / ₂	1 1/2	Phillips® #2 Stubby



ENDUROGRIP™ Screwdrivers Feature

- . Comfort-grip handle with thumb stop allow for added turning power without discomfort or slippage
- Chrome blades prevent corrosion and can be easily cleaned
- Blades are made from special alloy steel for extra strength
- Vapor-blasted tips grip fasteners and prevent chipping, extending tool life
- · Hex bolsters on shafts allow a wrench to be used for extra turning power

331



12 PIECE SUPERTORQUE™ COMBINATION SCREWDRIVER SET



Three Component Comfort Grip Handles

Product Code Description

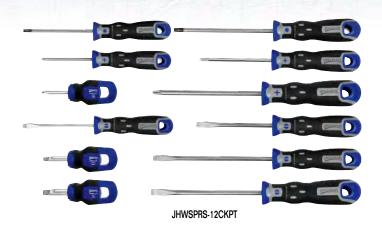
JHWSPRS-12CKPT 12 Piece SUPERTORQUE™ Combination Screwdriver Set

Contents Include:

	Overall Length	Blade Length	
Product Code	(Inches)	(Inches)	Tip
JHWSPR-C-36-1	3 7/8	1 1/2	Cabinet Slotted 3/16"
JHWSPR-C-14-1	3 7/8	1 1/2	Cabinet Slotted 1/4"
JHWSPR-K-36-4	7 3/4	4	Keystone Slotted 3/16"
JHWSPR-K-14-4	8 1/4	4	Keystone Slotted 1/4"
JHWSPR-K-14-6	10 ³ / ₁₆	6	Keystone Slotted 1/4"
JHWSPR-K-56-6	10 9/16	6	Keystone Slotted 5/16"
JHWSPR-P-1-3	5 11/16	3	Phillips® #1
JHWSPR-P-2-1	3 7/8	1 1/2	Phillips® #2
JHWSPR-P-2-4	8 1/4	4	Phillips® #2
JHWSPR-P-3-6	10 9/16	6	Phillips® #3
JHWSPR-T-15-4	7 3/4	4	Torx® T15
JHWSPR-T-25-5	8 1/4	5	Torx® T25



- Contains 2 cabinet slotted, 4 keystone slotted, 4 Phillips® and 2 TORX® screwdrivers
- 3 component handles provides a maximum comfort grip
- · Size is shown on blade and tip style is shown on handle for easy identification
- . Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion



8 PIECE SUPERTORQUE™ COMBINATION SCREWDRIVER SET



Three Component Comfort Grip Handles

Product Code Description

JHWSPRS-8CKP 8 Piece SUPERTORQUE™ Combination Screwdriver Set

Contents Include:

	Overall Length	Blade Length	
Product Code	(Inches)	(Inches)	Tip
JHWSPR-C-14-1	3 7/8	1 1/2	Cabinet Slotted 1/4"
JHWSPR-K-36-4	7 ³ / ₄	4	Keystone Slotted 3/16"
JHWSPR-K-14-4	8 ¹ / ₄	4	Keystone Slotted 1/4"
JHWSPR-K-56-6	10 9/16	6	Keystone Slotted 5/16"
JHWSPR-K-38-8	12 9/16	8	Keystone Slotted 3/8"
JHWSPR-P-1-3	5 ¹¹ / ₁₆	3	Phillips® #1
JHWSPR-P-2-1	3 ⁷ /8	1 1/2	Phillips® #2
JHWSPR-P-2-4	8 ¹ / ₄	4	Phillips® #2

- Contains 1 cabinet slotted, 4 keystone slotted and 3 Phillips® screwdrivers
- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- . Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion



JHWSPRS-8CKP

6 PIECE SUPERTORQUE™ COMBINATION SCREWDRIVER SET



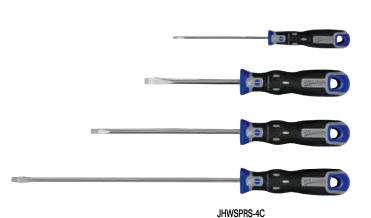
Product Code	Description
JHWSPRS-6CK	6 Piece SUPERTORQUE [™] Combination Screwdriver Set

Contents Include:

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSPR-C-36-1	3 7/8	1 1/2	Cabinet Slotted 3/16"
JHWSPR-C-14-1	3 7/8	1 ¹ / ₂	Cabinet Slotted 1/4"
JHWSPR-K-14-4	8 1/4	4	Keystone Slotted 1/4"
JHWSPR-K-36-4	7 3/4	4	Keystone Slotted 3/16"
JHWSPR-K-56-6	10 ⁹ / ₁₆	6	Keystone Slotted 5/16"
JHWSPR-K-38-8	12 ⁹ /16	8	Keystone Slotted 3/8"

Features

- . Contains 2 cabinet slotted and 4 keystone slotted screwdrivers
- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion



JHWSPRS-6CK

4 PIECE SUPERTORQUE™ CABINET SLOTTED SCREWDRIVER SET



Three Component Comfort Grip Handles

Product Code	Description
.IHWSPRS-4C	4 Piece SUPERTOROUE™ Cabinet Tin Screwdriver Set

Contents Include:

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSPR-C-18-4	6 11/16	4	Cabinet Slotted 1/8"
JHWSPR-C-36-4	6 ¹³ / ₁₆	4	Cabinet Slotted 3/16"
JHWSPR-C-36-6	9 3/4	6	Cabinet Slotted 3/16"
JHWSPR-C-36-10	13 11/16	10	Cabinet Slotted 3/16"

- · 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion



6 PIECE SUPERTORQUE™ PHILLIPS® SCREWDRIVERS SET



Three Component Comfort Grip Handles

Product Code	Description
JHWSPRS-6P	6 Piece SUPERTORQUE™ Phillips® Screwdrivers Set

Contents Include:

	Overall Length	Blade Length	
Product Code	(Inches)	(Inches)	Tip
JHWSPR-P-1-1	3 1/8	1 1/2	Phillips® #1
JHWSPR-P-1-3	5 ¹ 1/ ₁₆	3	Phillips® #1
JHWSPR-P-2-1	3 1/8	1 ½	Phillips® #2
JHWSPR-P-2-4	8 1/4	4	Phillips® #2
JHWSPR-P-2-8	12 1/8	8	Phillips® #2
JHWSPR-P-3-6	10 %16	6	Phillips® #3

Features

- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- . Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion



JHWSPRS-6P

6 PIECE SUPERTORQUE™ TORX® SCREWDRIVER SET



Three Component Comfort Grip Handles

Product Code	- Description	
JHWSPRS-6T	6 Piece SUPERTORQUE™ TORX® Screwdriver Set	

Contents Include:

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSPR-T-10-3	7 1/4	3	Torx® T10
JHWSPR-T-15-4	7 1/4	4	Torx® T15
JHWSPR-T-20-4	7 3/4	4	Torx® T20
JHWSPR-T-25-5	8 ¹ / ₄	5	Torx® T25
JHWSPR-T-27-5	8 1/4	5	Torx® T27
JHWSPR-T-30-6	8 1/4	6	Torx® T30

- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion



JHWSPRS-6T







Comfort Grip Handle

Product Code	Overall Length (Inches)	Blade Length (Inches)	
JHWWRS-1	9	4	

Features

- Includes 5 bits: 2 slotted, #1 Phillips®, #2 Phillips®, and T-15 TORX®
- . Ergonomically designed handle for greater user comfort and control
- . Hi-impact plastic handle for durability and flexibility in all types of work applications
- . Heavy-duty 3-way on-off-locked ratcheting mechanism allows consistent and smooth operation
- · Powerful magnetic shank securely holds bit in place before, during and after the job application
- . Stainless steel shank eliminates problems of chrome chipping or rust.
- Easy bit storage in handle
- Accepts all standard 1/4" hex shank bits





T-HANDLE RATCHETING **SCREWDRIVERS**



Comfort Grip T-Handles

Product Code	Overall Length (Inches)	Blade Length (Inches)
JHWWRST1	3 7/8	2
JHWWRST4	5 ¹³ / ₁₆	3 7/8
JHWWRST8	9 13/16	7 7/8

- Includes #2 Phillips® bit
- Ergonomically designed T-Handle fits the palm and provides extra leverage
- . Hi-impact plastic handle for durability and flexibility in all types of work applications
- Heavy-duty 3-way On-Off-Locked ratcheting mechanism allows consistent and smooth operation
- Stainless steel shank eliminates problems of chrome chipping or rust
- Accept all standard 1/4" hex shank bits





1/4" HEX SHANK BIT HOLDER

3-Component Handle

Overall Length (Inches)	Bits Included
9 29/64	No
	(Inches)

Features

• 3 component handle provides a maximum comfort grip

MINI RATCHETING SCREWDRIVER



Satin Chrome Finish

Product Code	Overall Length (Inches)	
807SXUSA	4	

Features

- · Smooth and consistent reverse ratcheting mechanism
- Perfect size for working in tight spaces and for hard to reach fasteners
- Tips are precision machined to fit precisely to fasteners

OFFSET SCREWDRIVERS



Cushion Grip Handle Overall Length (Inches) Product Code (Inches) JHW24101 4

Product Code	(Inches)	Tip
JHW24101	4	Slotted 3/16" x PH1
JHW24102	4	Slotted 1/4" x PH2
JHW24103	6	Slotted 5/16" x PH3
JHW24104	4	Phillips® # 1 x # 2
JHW24105	8	Phillips® # 3 x # 4

- . Blades are made from special alloy steel for extra strength
- · One piece tool steel construction
- Tips are 90 degree angled









ENDUROGRIP™ Comfort Grip Handles and Blades

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSDE-4	7 ¹⁵ /16	4	Cabinet Slotted 1/4"
JHWSDE-8	11 ¹⁵ / ₁₆	12	Cabinet Slotted 1/4"
JHWSDE-43	6 ¹¹ / ₁₆	3	Cabinet Slotted 3/16"
JHWSDE-46	9 11/16	6	Cabinet Slotted 3/16"
JHWSDE-50	13 ¾	10	Cabinet Slotted 3/16"
JHWSDE-53	6 ¹³ / ₆₄	3	Cabinet Slotted 1/8"

Features

JHWSDE-46

JHWSDR-24

JHWSDP-2-4

- Comfort-grip handle with thumb stop allow for added turning power without discomfort or slippage
- . Hi-polish chrome blades prevent corrosion and can be easily cleaned
- · Vapor-blasted tips grip fasteners and prevent chipping, extending tool life
- · Blades are made from special alloy steel for extra strength



ENDUROGRIP™ KEYSTONE SLOTTED SCREWDRIVERS



ENDUROGRIP™ Comfort Grip Handles and Blades

Product Code	Overall Length (Inches)	(Inches)	Tip
JHWSDS-62	3 ½	1 3/4	Keystone Slotted 1/4"
JHWSDR-22	6 1/8	3	Keystone Slotted 3/16"
JHWSDR-24	7 1/8	4	Keystone Slotted 1/4"
JHWSDR-26	10 11/16	6	Keystone Slotted 5/16"
JHWSDR-28	12 11/16	8	Keystone Slotted %"
JHWSDR-30	14 ¾	10	Keystone Slotted 7/16"
JHWSDS-33	17 13/16	12	Keystone Slotted 3/8"

Features

- Comfort-grip handle with thumb stop allow for added turning power without discomfort or slippage.
- Hi-polish chrome blades prevent corrosion and can be easily cleaned.
- Vapor-blasted tips grip fasteners and prevent chipping, extending tool life.
- Blades are made from special alloy steel for extra strength.
- *SDS-33 features 3/8" heavy-duty square shank



ENDUROGRIP™ PHILLIPS® SCREWDRIVERS



ENDUROGRIP™ Comfort Grip Handles and Blades

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSDP-1-3	6 1/4	3	Phillips® #1
JHWSDP-2-4	7 ¹⁵ / ₁₆	4	Phillips® #2
JHWSDP-2-8	12	8	Phillips® #2
JHWSDP-3-6	10 ¹ / ₂	6	Phillips® #3
JHWSDP-4-6	10 ³ / ₄	6	Phillips® #4
JHWSDP-2-ST	3 3/8	1 1/2	Phillips® #2 Stubby

- Comfort-grip handle with thumb stop allow for added turning power without discomfort or slippage
- Hi-polish chrome blades prevent corrosion and can be easily cleaned
- · Vapor-blasted tips grip fasteners and prevent chipping, extending tool life
- Blades are made from special alloy steel for extra strength
- . Hex bolsters on shafts allow a wrench to be used for extra turning power





SUPERTORQUE™ KEYSTONE SLOTTED SCREWDRIVERS



Three Component Comfort Grip Handles

	Overall Length	Blade Length	
Product Code	(Inches)	(Inches)	Tip
JHWSPR-K-14-4	8 1/4	4	Keystone Slotted 1/4"
JHWSPR-K-14-5	9 ³ / ₄	5	Keystone Slotted 1/4"
JHWSPR-K-14-6	10 ³ / ₁₆	6	Keystone Slotted 1/4"
JHWSPR-K-36-4	7 3/4	4	Keystone Slotted 3/16"
JHWSPR-K-36-6	9 3/4	6	Keystone Slotted 3/16"
JHWSPR-K-36-9	12 11/16	9	Keystone Slotted 3/16"
JHWSPR-K-38-12	16 ¹ / ₂	12	Keystone Slotted 3/8"
JHWSPR-K-38-8	12 ⁹ / ₁₆	8	Keystone Slotted 3/8"
JHWSPR-K-56-6	10 ⁹ / ₁₆	6	Keystone Slotted 5/16"
JHWSPR-K-56-7	12 ⁹ / ₁₆	8	Keystone Slotted 5/16"
JHWSPR-K-72-4	8 3/4	4	Keystone Slotted 7/32"
JHWSPR-K-72-6	10 ³ / ₄	6	Keystone Slotted 7/32"

Features

- · 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- . Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion

SUPERTORQUE™ CABINET SLOTTED SCREWDRIVERS



Three Component Comfort Grip Handles

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSPR-C-14-1	3 1/4	1	Cabinet Slotted 1/4"
JHWSPR-C-36-1	3 7/8	1 1/2	Cabinet Slotted 3/16"
JHWSPR-C-18-3	6	3	Cabinet Slotted 1/8"
JHWSPR-C-36-4	6 13/16	4	Cabinet Slotted 3/16"
JHWSPR-C-32-3	7	3	Cabinet Slotted 3/32"
JHWSPR-C-94-3	7 3/4	3	Cabinet Slotted 9/64"
JHWSPR-C-52-4	8 3/4	4	Cabinet Slotted 5/32"
JHWSPR-C-18-4	9	4	Cabinet Slotted 1/8"
JHWSPR-C-94-5	9 3/4	5	Cabinet Slotted 9/64"
JHWSPR-C-36-6	9 3/4	6	Cabinet Slotted 3/16"
JHWSPR-C-14-6	10 ³ / ₄	6	Cabinet Slotted 1/4"
JHWSPR-C-52-6	11 ³ / ₄	6	Cabinet Slotted 5/32"
JHWSPR-C-18-8	12 1/2	8	Cabinet Slotted 1/8"
JHWSPR-C-36-10	13 11/16	10	Cabinet Slotted 3/16"

- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion







SUPERTORQUE™ PHILLIPS® SCREWDRIVERS



Three Component Comfort Grip Handles

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSPR-P-1-1	3 7/8	1 1/2	Phillips® #1
JHWSPR-P-2-1	3 7/8	1 1/2	Phillips [®] #2
JHWSPR-P-1-3	5 ¹¹ / ₁₆	3	Phillips [®] #1
JHWSPR-P-2-4	8 1/4	4	Phillips [®] #2
JHWSPR-P-0-3	6 ¹ / ₂	3	Phillips [®] #0
JHWSPR-P-2-6	10 ³ / ₁₆	6	Phillips® #2
JHWSPR-P-3-6	10 ⁹ / ₁₆	6	Phillips [®] #3
JHWSPR-P-2-8	12 ¹ / ₈	8	Phillips [®] #2
JHWSPR-P-1-8	12 ³ / ₄	8	Phillips [®] #2

Features

- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion

SUPERTORQUE™ POZIDRIV® SCREWDRIVERS



Three Component Comfort Grip Handles

	Overall Length	Blade Length	_
Product Code	(Inches)	(Inches)	Tip
JHWSPR-Z-0-3	7 1/4	3	Pozidriv® #0
JHWSPR-Z-1-3	7 3/4	3	Pozidriv® #1
JHWSPR-Z-2-4	8 ³ / ₄	4	Pozidriv® #2
JHWSPR-Z-3-6	10 ³ / ₄	6	Pozidriv® #3

- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion



oplifast

SUPERTORQUE™ TAMPER-RESISTANT TORX® SCREWDRIVERS



Three Component Comfort Grip Handles

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSPR-X-10-3	7 3/8	3	Tamper Resist Torx® T10
JHWSPR-X-15-4	7 1/2	4	Tamper Resist Torx® T15
JHWSPR-X-20-4	8	4	Tamper Resist Torx® T20
JHWSPR-X-25-5	8	5	Tamper Resist Torx® T25
JHWSPR-X-27-5	8 3/4	5	Tamper Resist Torx® T27
JHWSPR-X-30-6	8 3/4	6	Tamper Resist Torx® T30
JHWSPR-X-40-6	11 5/8	6	Tamper Resist Torx® T40

Features

- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- Chrome blades prevent corrosion and can be easily cleaned
- · Sand blasted tip for greater screw-tip adherence and high resistance against corrosion

SUPERTORQUE™ TORX® SCREWDRIVERS



Three Component Comfort Grip Handles

	Overall Length	Blade Length	
Product Code	(Inches)	(Inches)	Tip
JHWSPR-T-6-3	6	3	Torx® T6
JHWSPR-T-7-3	6 ¹ / ₄	3	Torx® T7
JHWSPR-T-8-3	6 ³ / ₈	3	Torx® T8
JHWSPR-T-9-3	7 1/4	3	Torx® T9
JHWSPR-T-10-3	7 ³ / ₈	3	Torx® T10
JHWSPR-T-15-4	7 1/2	4	Torx® T15
JHWSPR-T-20-4	8	4	Torx® T20
JHWSPR-T-25-5	8	5	Torx® T25
JHWSPR-T-27-5	8 ³ / ₄	5	Torx® T27
JHWSPR-T-30-6	8 3/4	6	Torx® T30
JHWSPR-T-40-6	11 ¹ / ₂	6	Torx® T40
JHWSPR-T-45-6	11 ¹ / ₂	6	Torx® T45

- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion







0

Three Component Comfort Grip Handles

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip
JHWSPR-R-1-4	8	4	Robertson® #1 (5, 6, 7)
JHWSPR-R-2-5	8	5	Robertson® #2 (8, 9, 10)
JHWSPR-R-3-6	8 3/4	6	Robertson® #3 (12, 14)

Features

- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corresion.





Three Component Comfort Grip Handles

Product Code	Overall Length (Inches)	Blade Length (Inches)	Point Size
JHWSPR-N-5-6	10	6	5
JHWSPR-N-6-6	10	6	6
JHWSPR-N-7-6	10	6	7
JHWSPR-N-8-6	10	6	8
JHWSPR-N-9-6	10	6	9

- 3 component handles provides a maximum comfort grip
- Size is shown on blade and tip style is shown on handle for easy identification
- · Chrome blades prevent corrosion and can be easily cleaned
- Sand blasted tip for greater screw-tip adherence and high resistance against corrosion





72 PIECE BIT SET

Product Code	Description
JHW24900	72 Piece Bit Set

Contents Include:

Hex (10)
Q:	∩TV

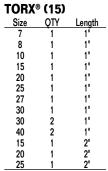
Size	QTY	Length
1/4	2	1"
3/16	2	1"
3/16 5/16 5/32 7/32	2	1"
5/32	2	1"
7/32	2	1"

Phillip	s® (13	3)
Size	QTY	Length
1	3	1"
2	4	1"
3	2	1"
1	1	2"
2	2	2"
3	1	2"

	Pozid	riv® (7)
47	Size	QTY	Length
•	2	3	1"
	3	2	1"
	2	1	2"
	3	1	2"
	Squar	re (6)	

Square (6)			
Size	QTY	Length	
2	2	1"	
3	2	1"	
2	2	2"	
CI_H_	J T:	(40)	

	Slotte	d Tip	(12)
_	Size	QΤŸ	Length
	6-8	3	1"
	8-10	2	1"
	10-12	2	1"
	12-14	1	1"
	8-10	2	2"
	10-12	1	2"
	12-14	1	2"



Nut Driver (8)			
Size	QTY	Length	
1/4	1	1"	
11/32	1	1"	
3/16	1	1"	
3/8	1	1"	
5/16	1	1"	
5/32	1	1"	
7/16	1	1"	
9/32	11	1"	

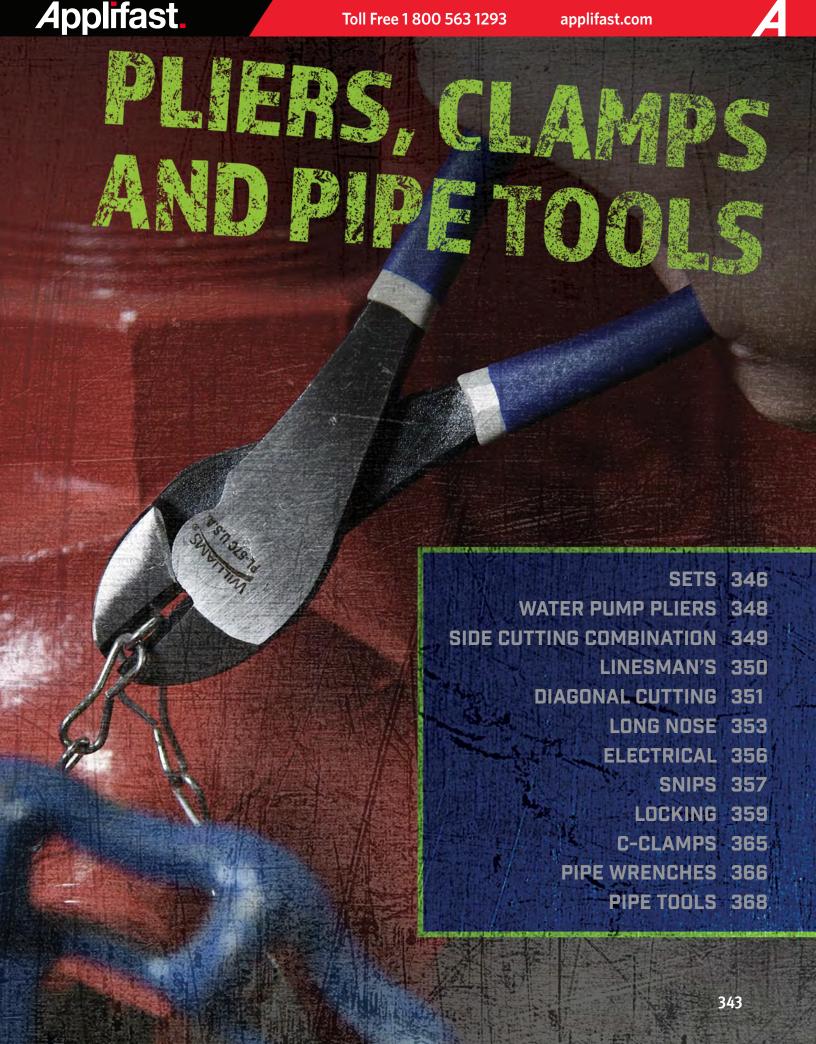
Hex Magnetic Holder (1)

Descri	ption		
Hex M	agnetic	Holder	



JHW24900

- S2 material for higher torque, optimum durability and performance
- All parts are engineered and produced according to ANSI standard
- The set also includes a magnetic bit holder allowing for quick change of driving bits
- Folding case design is compact and robust with pivoting dual bit holders that allow for easy and quick access to the accessories
- Industrial case is made from a highly durable, plastic material





corrosion, extending the tool life





17 PIECE COMBINATION PLIER SET

Product Code		Description
JHWPLS-17	17 Pi	ece Combination Plier Set
Contents Inc	clude:	
Product Code	Description	Handle Type
JHWPL-8C	8" Slip Joint	Double Dipped Plastic Handles
JHWPL-1520C	9 ¾" Groove Joint	Double Dipped Plastic Handles
JHWPL-1524C	15 3/4" Groove Joint	Double Dipped Plastic Handles
JHWPL-47C	7" Heavy Duty Diagonal Cutting	Double Dipped Plastic Handles
JHWPL-126C	6 1/4" Curved Chain Nose	Double Dipped Plastic Handles
JHWPL-98C	8" long nose	Double Dipped Plastic Handles
JHW23503	8 1/4" Multi-Purpose Wire Cutter	Double Dipped Plastic Handles with Curved Wire Cutter
JHW23542	5 ½" Mini Wire Cutter	Double Dipped Plastic Handles with Curved Wire Cutter
JHWPL-209X	9" Heavy Duty Linesman	Double Dipped Plastic and Bi-Mold Comfort Grip Handles
JHW2628G-7	7" Side Cutting Combination	Ergonomically Designed Handles
JHW6224	10" Water Pump	Double Dipped Plastic Handles
JHW2979D-7	7" Nut Gripping	Heavy Duty Design with PVC Grips
JHWPL-146C	6 1/2" Duck Bill	Double Dipped Plastic Handles
JHWPL-167	7 1/2" End Cutting	Double Dipped Plastic Handles
JHWPL-211BC	11" Bent Nose	Double Dipped Plastic Handles
JHWPL-211C	11" Long Reach Chain Nose	Double Dipped Plastic Handles
JHWPL-411C	11" Extra Long Diagonal	Double Dipped Plastic Handles

Features

- Double-dipped plastic handle grips are comfortable yet durable
- Ergo handles provide maximum gripping comfort



JHWPLS-17

6 PIECE GENERAL SERVICE PLIERS SET

Double-Dipped Plastic HandlesProduct Code

Product Code	Description	
JHWPLS-6A	6 Piece General Service Pliers Set	
Contents Include:		
Product Code	Description	
JHWPL-1519C	5" utility superjoint	
JHWPL-1520C	10" utility superjoint	
JHWPL-46C	6" diagonal cutting	
JHWPL76C	6 1/2" chain nose side cutters	
JHW2628G-6	6" side cutting combination	
.IHW23503	8 1/4" front-end stripper	

- Combines Williams' most popular pliers in to a single set
- 6 piece set packaged in a pouch







4 PIECE COMBINATION PLIERS SET

Product Code Description JHWPLS-4SG 4 Piece Combination Pliers Set Contents Include: Product Code Description JHWPL-8C 8" Combination Slip Joint Pliers JHWPL-1520C 10" Utility Superjoint Pliers JHWPL-47C 7" Industrial Grade Diagonal Cutting Pliers JHWPL116C 7" Long Nose Needle Pliers

- Double-dipped plastic handle grips are comfortable yet durable
- Jaws are polished with rust-protective coating
- Packaged in a bag





pplīfast

UTILITY SUPERJOINT PLIERS

Double-Dipped Plastic Handles

Features	Overall Length (Inches)	Maximum Opening (Inches)	Tip Width (Inches)
JHWPL-1519C	5	1/2	3/16
JHWPL-1520C	10	1 1/2	5/16
JHWPL-1523C	12	2 ⁵ / ₈	1/2
JHWPL-1524C	16	4	1/2

Features

- Multiple parallel jaw positions are locked in to proper groove for superior non-slip performance
- · Serrated jaws for maximum gripping power
- · Polished heads resist rust and corrosion, extending the tool life



WATER PUMP PLIERS

Product Code	Overall Length (Inches)	Maximum Jaw Opening (Inches)	Tip Width (Inches)
JHW6223	8	1 3/4	1/2
JHW6224	10	2 ³ / ₈	1/2
JHW6225	12	2 ⁵ / ₈	1/2

Features

- · Hardened jaws and teeth for exceptionally tough gripping surface
- Comfortable two-component handles combines durability and a secure non-slip grip
- Wide, deep opening jaws have flat and pipe grip jaw so one pair of pliers can be used for more jobs

UNIVERSAL PLIERS WRENCHES

With Comfort Grip

Product Code	Overall Length (Inches)	Maximum Jaw Opening (Inches)	Pipe Maximum Diameter (Inches)
JHW140	8 7/16	1 3/16	3/4
JHW141	11	1 ³ / ₈	1
JHW142	14 ¹ / ₂	2 ¹ / ₁₆	1 1/2
JHW143	21 ⁷ /8	3 ¹ / ₁₆	2 1/2
JHW144	28 ³ / ₈	4 ³ / ₈	3 1/2

- Black oxide and anti-rust treated high alloy steel provide long life and durability
- Precision induction hardened jaws are designed with inwardly angled aggressive teeth
- Outer part of jaw is large toothed and used for maximum grip on large diameter pipes
- Inner part of jaw is fine toothed and used for maximum grip on small diameter pipes
- Commonly called a "Swedish Pipe Wrench", the small head makes them ideal for working in confined areas









Double-Dipped Plastic Handles

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Tip Width (Inches)
JHWPL-6C	6	1 5/32	3/8
JHWPL-8C	8	1 13/32	3/8
JHWPL-10C	10	1 13/32	1/2

Features

Toll Free 1 800 563 1293

- . Multiple parallel jaw positions are locked in to proper groove for superior non-slip performance
- Serrated jaws for maximum gripping power
- · Polished heads resist rust and corrosion, extending the tool life
- . Shear type wire cutter extends tool use





JHWPL-8C

SIDE CUTTING COMBINATION PLIERS

Handles with Bi-Molded Grips and On/Off Return Spring

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Maximum Cutting Capacity (Inches)
JHW2628G-6	6 1/4	1 ⁵ / ₁₆	1/16 Hard Steel
JHW2628G-7	7	1 7/16	5/64 Hard Steel
JHW2628G-8	8	1 1/2	7/64 Hard Steel

Features

- On/off return spring for higher comfort and higher frequency cutting may be turned off when tool is kept in belt or pocket
- · High-leverage joint placement to reduce the cutting force. Joint design ensures a smooth joint action
- Heavy-duty design high performance tool steel construction adds extra strength
- Comfortable two-component handles which combines durability and a secure non-slip grip



NUT GRIPPING PLIERS

Heavy-Duty Design with PVC Grips

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Tip Width (Inches)
JHW2979D-7	7	1/2	7/16

- . Conical jaws with teeth facing inward provide maximum gripping power
- · Heavy-duty design combined with high performance tool steel construction adds extra strength



Applifast

END CUTTING NIPPERS

Double-Dipped Plastic Handles

Product Code	Overall Length (Inches)	Cutting Blade Length (Inches)
JHWPLM-2C	4 1/2	15/32
JHWPL-167	7 1/2	13/16
JHW527D-6	6 1/4	1/4

Features

- · Ideal for cutting wire or nails that are close to the work
- · Polished heads resist rust and corrosion, extending the tool life
- The wide throat clearance, width of blades and angles of the cutting edges along with the handle leverage provide for easy, clean cutting or nipping



INDUSTRIAL GRADE LINESMAN'S PLIERS

Double-Dipped Plastic Handles

Product Code	Description	Overall Length (Inches)	Jaw Length (Inches)
JHWPL-204C	Electrician's	7	1/2
JHWPL205C	Electrician's	8 1/2	17/32
JHWPL-209X	New England	9 1/2	3/4

Features

- Designed for wiring, electrical equipment installation and maintenance for utility linemen
- · Polished faces look good and resist corrosion
- Induction hardened cutting edges stay sharp longer
- . Diamond serrated jaws provide solid grip on wire
- . Double-dipped plastic handle grips are comfortable yet durable



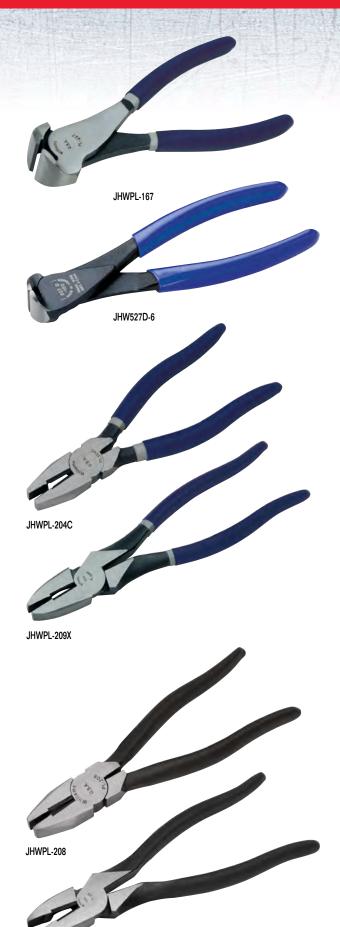
INDUSTRIAL GRADE LINESMAN'S PLIERS

Supplied Without Grips

Product Code	Description	Overall Length (Inches)	Jaw Length (Inches)
JHWPL-208	Linesman's	8 1/2	17/32
JHWPL-209	New England	9 1/2	3/4

- Designed for wiring, electrical equipment installation and maintenance for utility linemen
- · Polished heads resist rust and corrosion, extending the tool life
- · Induction hardened cutting edges stay sharp longer
- · Diamond serrated jaws provide solid grip on wire
- Supplied without grips handles are bare steel





JHWPL-209









HIGH LEVERAGE DIAGONAL CUTTING PLIERS

Double-Dipped Plastic Handles

Product Code	Description	Overall Length (Inches)	Cutting Blade Length (Inches)	
JHWPL-57C	High Leverage Head	7 1/4	¹⁵ / ₁₆	
JHWPL-411C	Extra Long Handle, Offset Head	11	1	

Features

- · Handles are designed to cut wire with ease
- · Polished heads resist rust and corrosion, extending the tool life
- · Induction hardened cutting edges



INDUSTRIAL GRADE DIAGONAL CUTTING PLIERS

Double-Dipped Plastic Handles

Product Code	Overall Length (Inches)	Cutting Blade Length (Inches)
JHWPL-44C	4	17/32
JHWPL-45C	5	11/16
JHWPL-46C	6	3/4
JHWPL-47C	7	11/16

Features

- · Handles are designed to cut wire with ease
- · Polished heads resist rust and corrosion, extending the tool life
- · Induction hardened cutting edges
- · Regular flush cutters are used for cutting hard wire



FLUSH CUT DIAGONAL CUTTING PLIERS WITH SPRING

Double-Dipped Plastic Handles

Product Code	Overall Length (Inches)	Cutting Blade Length (Inches)
JHWPLM-1CS	4 1/4	17/32
JHWPL-40CS	5	11/16

Features

- · Handles are designed to cut wire with ease
- · Polished heads resist rust and corrosion, extending the tool life
- · Induction hardened cutting edges
- . Flush cutters are used for close cutting of medium wire



HEAVY DUTY SIDE CUTTING PLIERS

Handles with Bi-Molded Grips and On/Off Return Spring

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Maximum Cutting Capacity (Inches)
JHW21HDG-5.5	5 ¹ / ₂	5/8	5/64 Piano Wire
JHW21HDG-6	6 1/4	3/4	3/32 Piano Wire
JHW21HDG-7	7	13/16	1/8 Piano Wire
JHW21HDG-8	7 3/4	13/16	1/8 Piano Wire

- . Distance from joint to center of cutting edges is reduced for greater leverage and increased cutting capacity
- Equipped with a patented return spring featuring an on/off function; turn on to reduce handle fatique, off to store in tool belt or pocket
- · Phosphate finish, anti-corrosion treated
- · Heavy-duty cutting edge
- Screw joint that provides excellent running and accurate alignment of the cutting edges
- . Distance from the joint to the center of the cutting edges is reduced: giving greater leverage and increased cutting capacity
- . Metal frame designed to enhance accessibility in confined spaces
- · Equipped with a patented return spring featuring an on/off function
- · Induction hardened cutting edges
- Maximum comfort with minimum effort due to the handle design
- Comfortable two-component handles giving an excellent grip
- · Self-opening handles when spring activated



pplifast

FLAT NOSE PLIERS

Handles with Bi-Molded Grips and On/Off Return Spring

Product Code	(Inches)	Jaw Length (Inches)	(Inches)
JHW2420G-5	5	7/8	5/8

Features

- Comfortable two-component handles which combines durability and a secure non-slip grip
- Unique on-off return spring: turn on to reduce hand fatigue, off to store in tool belt or pocket
- · High performance tool steel construction adds extra strength
- Saw-toothed shaped, serrated jaws provide maximum gripping surface



LONG NOSE PLIERS

Handles with Bi-Molded Grips and On/Off Return Spring

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Maximum Cutting Capacity (Inches)
JHW2430G-5.5	5 1/2	1 1/2	3/64 Hard Steel
JHW2430G-6 JHW2430G-8	6 ¹ / ₄ 8	1 ¹⁵ / ₁₆ 1 ¹⁵ / ₁₆	1/16 Hard Steel 1/16 Hard Steel

Features

- Comfortable two-component handles which combines durability and a secure non-slip grip
- Unique on-off return spring: turn on to reduce hand fatigue, off to store in tool belt or pocket
- High performance tool steel construction adds extra strength



PLASTIC CUTTING DIAGONAL PLIERS

Double-Dipped Plastic Handles

Product Code	Overall Length (Inches)	Cutting Blade Length (Inches)
JHWPL-48C	6 ³ / ₈	7/8
JHWPL-49C	7 ¹ / ₂	1 ¹/8

Features

- · Polished heads resist rust and corrosion, extending the tool life
- Induction hardened cutting edges



SIDE CUTTING PLIERS FOR PLASTIC

Handles with Bi-Molded Grips and On/Off Return Spring

			Maximum Cutting
Product Code	Overall Length (Inches)	Jaw Length	Capacity
JHW2101PG-7	6 1/4	3/4	1 1/2

- Full flush cutting edge without beveling which is designed to smoothly cut all kinds of plastic parts such as the flash of plastic components
- · Suitable for bridle cutting
- Comfortable two-component handles which combines durability and a secure non-slip grip
- Extra wide handle two-component material reduces stress ans strain, and to increase comfort
- · Lacquer finish protects against rust
- High Frequency hardened cutting edges hold their precision-sharpened cutting surfaces.
- Unique on-off return spring: turn on to reduce handle fatigue, off to store in tool belt or pocket











60° CURVED NOSE PLIERS

Handles with Bi-Molded Grips and On/Off Return Spring

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Maximum Cutting Capacity (Inches)
JHW2427G-6 JHW2427G-8	6 ¹ / ₄ 7	1 ¹³ / ₁₆ 2 ³ / ₄	5/64 Hard Steel 5/64 Hard Steel

Features

- Comfortable two-component handles which combines durability and a secure non-slip grip
- Unique on-off return spring: turn on to reduce hand fatigue, off to store in tool belt or pocket
- High performance tool steel construction adds extra strength



LONG NOSE PLIERS

Handles with Bi-Molded Grips and On/Off Return Spring

Product Code	Overall Length (Inches)	Jaw Length (Inches)
JHW2521G-6	6 ¹ / ₄	1 1/4

Features

- Comfortable two-component handles which combine durability and a secure non-slip grip
- Unique on-off return spring: turn on to reduce handle fatigue, off to store in tool belt or pocket
- · Perfect for wire bending



JHWPL-98C

EXTRA LONG REACH CHAIN NOSE PLIERS

Double-Dipped Plastic Handles

Product Code	Description	Overall Length (Inches)	Jaw Length (Inches)
JHWPL-211C	Straight Jaw	11	2 13/16
JHWPL-211BC	45° Bent Nose	11	2 9/16

Features

- · Polished heads resist rust and corrosion, extending the tool life
- Extra long handles provide access into confined areas and greater holding power at the tip
- · Bent nose model provides access to obstructed areas





Double-Dipped Plastic Handles

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Width at Tip (Inches)
JHWPL-98C	8	1 7/32	3/32

- · Polished heads resist rust and corrosion, extending the tool life
- Longer handles for more convenient use and greater jaw gripping power





pplifast

CHAIN NOSE PLIERS

Double-Dipped Plastic Handles

Product Code	Description	Overall Length (Inches)	Jaw Length (Inches)
JHWPL-95C	Short Nose w/cutter	5 ¹ / ₂	1 5/32
JHWPL-75C	Long Nose	6 ³ / ₄	2 ⁵ /16
JHWPL76C	Long Nose w/cutter	6 ¹ / ₂	1 ⁵ / ₁₆
JHWPL-77C	Extra Long Nose w/cutter	7 1/2	1 29/32

Features

- · Polished heads resist rust and corrosion, extending the tool life
- . Diamond serrated jaws with industrial hardened cutting edges





THIN BENT CHAIN NOSE PLIERS

Double-Dipped Plastic Handles

Product Code	Description	Overall Length (Inches)	Jaw Length (Inches)
JHWPL-126C	73° Bent Thin Nose	6 1/4	1 1/4

Features

- · Polished heads resist rust and corrosion, extending the tool life
- Serrated jaws for extra gripping power
- 73° bent nose model featured thin jaws angled to reach around obstacles and hard-to-reach spaces





NEEDLE NOSE PLIERS

Double-Dipped Plastic Handles

Product Code	Description	Overall Length (Inches)	Jaw Length (Inches)
JHWPL-114CS	Short Nose	4 1/2	1
JHWPL116C	Long Nose	7	2 ³ / ₁₆

- Polished heads resist rust and corrosion, extending the tool life
- Serrated jaws provide extra gripping power
- The JHWPL-114CS short nose model is supplied with a spring and is designed for close, fine electrical and mechanical work
- The JHWPL116C long nose model provides excellent gripping ability for use in tight, narrow places











JHWPL-146C

JHWPL-149C

JHW23503

JHW23524





DUCK BILL PLIERS

Double-Dipped Plastic Handles

Product Code	Description	Overall Length (Inches)	Jaw Length (Inches)
JHWPL-146C	Standard Jaw	6 1/2	2 1/16
JHWPL-149C	High Leverage	8	1 1/4

Features

- · Jaws are polished with rust-protective coating
- Flat wide nose provides a better grip than the regular needle nose models





MULTI-PURPOSE COMBINATION WIRE TOOLS

Double-Dipped Plastic Handles with Curved Wire Cutter

Product Code	Description	Overall Length (Inches)	Nose Style
JHW23503	Front-end Stripper	8 1/4	Serrated Pliers
JHW23524	Front-end Crimper	8 3/4	Anvil Cutter

Features

- Crimp and strip wire sizes 10-22 AWG
- Double-dipped handles with air cushion pockets provide comfortable grip, reducing hand fatigue
- 23503 cuts 6 bolt sizes: 4-40 / 5-40 / 6-32 / 8-32 / 10-32 / 10-24
- 23524 cuts 5 bolt sizes: 4-40 / 6-32 / 8-32 / 10-32 / 10-24



355



Applifast

ELECTRICAL MINI PLIERS

Double-Dipped Plastic Handles

Product Code	Description	(Inches)	(AWG)
JHW23541	Mini Cutter	5 1/2	8
JHW23542	Mini Stripper	5 ¹ / ₂	8-18 Solid/10-22 Stranded
JHW23543	Mini Crimper	5 ¹ / ₂	10-22

JHW23080 3 Piece Electrical Mini Pliers Set in Pouch Contents Include:

Product Code	Description	Product Code	Description
JHW23541	Mini Cutter	JHW23543	Mini Crimper
JHW23542	Mini Stripper		

Features

- Double-dipped handles with air cushion pockets provide comfortable grip, reducing hand fatigue
- Cutter is hardened and precision-ground for cutting stranded and solid copper and aluminum wire
- Stripper features up-front precision-ground stripping stations for exacting results in tight spaces
- Crimper features front-end crimp pockets guaranteed to be free from burrs and sharp edges



HEAVY DUTY FRONT END WIRE STRIPPERS

Double-Dipped Plastic Handles

	Overall Length	Capacity	Capacity
Product Code	(Inches)	(AWG-solid wire)	(stranded wire)
JHW23506	6 1/4	10-20	12-20
JHW23518	6 ¹ / ₄	14-24	16-26
JHW23521	6 1/4	22-30	24-32

Features

- Double-dipped handles with air cushion pockets provide comfortable grip, reducing hand fatigue
- . Spring-loaded handles speed work and reduce hand effort
- Serrated gripping jaws in nose for use as pliers
- 2-piece hardened steel pivot for long life service
- Lock protects cutting edges in storage



SUPER-DUTY FRONT END WIRE STRIPPERS WITH BOLT CUTTERS

Double-Dipped Plastic Handles with Curved Wire Cutter

Product Code	Overall Length (Inches)	Capacity (AWG-solid wire)	Capacity (stranded wire)
JHW23533	7 1/4	10-18	12-20
JHW23535	7 1/4	20-30	22-32

- Double-dipped handles with air cushion pockets provide comfortable grip, reducing hand fatigue
- . Longer, curved handles provide extra leverage and greater comfort
- Serrated gripping jaws in nose for use as pliers
- Built-in bolt cutters cleanly cut 6-32 and 8-32 screws





















AVIATION SNIPS

Bi-Mold Comfort Grip Handles

Product Code	Cutting Direction	Overall Length (Inches)	Cut Length (Inches)	Cutting Capacity (cold-rolled/stainless)
JHW28201	Left	9 3/4	1 %	18 ga. CR / 22 ga. SS
JHW28203	Right	9 3/4	1 %	18 ga. CR / 22 ga. SS
JHW28205	Straight	9 13/16	1 1/2	18 ga. CR / 22 ga. SS

JHW28251 3 Piece Aviation Snips Set in Pouch

Contents Include:

Product Code	Description	Product Code	Description
JHW28201 JHW28203	Left-cut snips Right-cut snips	JHW28205	Straight-cut snips

Features

- Color-coded handles help quickly identify the cutting direction
- Bi-mold handles provide comfortable grip, reduces hand fatigue
- · Meet ANSI and DIN standards



OFFSET AVIATION SNIPS

Bi-Mold Comfort Grip Handles

Product Code	Cutting Direction	Overall Length (Inches)	Cut Length (Inches)	Cutting Capacity (Cold-Rolled/Stainless)
JHW28231	Left and Straight	9 1/4	1 3/16	18 ga. CR / 22 ga. SS
JHW28233	Right and Straight	9 1/4	1 3/16	18 ga. CR / 22 ga. SS

JHW28253 2 Piece Offset Aviation Snips Set in Pouch

Contents Include:

Product Code	Description	Product Code	Description
JHW28231	Left and Straight Cut	JHW28233	Right and Straight Cut

Features

- . Color-coded handles help quickly identify the cutting direction
- . Bi-mold handles provide comfortable grip, reduces hand fatigue
- . Meet ANSI and DIN standards
- Offset blades keeps user's hands above the work for safety and flow material away from blades for speed



SPECIALTY AVIATION SNIPS

Bi-Mold Comfort Grip Handles

Product Code	Style	Overall Length (Inches)	Cut Length (Inches)	Cutting Capacity (Cold-Rolled/Stainless)
JHW28211	Bulldog - Notch	9	1 3	16 ga. CR / 18 ga. SS
JHW28221	Long Cut - Straight	11 ¾		20 ga. CR / 26 ga. SS

JHW28255 2 Piece Specialty Aviation Snips Set in Pouch

JHW28255 2 Piece Specialty Snips Set. Includes one each Bulldog and Long Cut snips above.

Contents Include:

Product Code	Description	Product Code	Description
JHW28211	Bulldog - Notch	JHW28221	Long Cut - Straight

- Bulldog snips notches and cuts rolled edges, seams, and thick sheet metal up to 16 gauge cold-rolled steel
- . Color-coded handles help quickly identify the cutting direction
- . Bi-mold handles provide comfortable grip, reduces hand fatigue
- Meet ANSI and DIN standards



STRAIGHT PATTERN TIN SNIPS

Double-Dipped Plastic Handles

Product Code	Overall Length (Inches)	Cutting Length (Inches)	Cutting Capacity (Cold-Rolled/Stainless)
JHW28301	7	1 %16	24 ga. CR / 32 ga. SS
JHW28305	10	2	22 ga. CR / 28 ga. SS
JHW28307	12	2 3/4	20 ga. CR / 24 ga. SS
JHW28309	14	3	18 ga. CR /22 ga. SS

JHW28351 2 Piece Straight Pattern Tin Snips Set in Pouch

Contents Include:

Product Code	Description	Product Code	Description
JHW28301	7" Tin Snips	JHW28307	12" Tin Snips

Features

- · Forged steel blades
- · Double-dipped handles provide comfortable grip, reducing hand fatigue
- . Cut straight lines and wide curves
- . Meet ANSI and DIN standards

CABLE CUTTER FOR FERROUS MATERIALS

With Rubber Grips

Product Code	Overall Length (Inches)	Cable Cutting Capacity (Inches)	Replacement Blade Kit
JHW2520	22 1/2	1 3/16 Aluminum/Copper with 1/4 Messenger Wire	2520-SH

Features

- · Lightweight handles provide ease of control while offering solid durability
- · Rubber grips offer control and comfort during working application
- Cutting notch below top cutting blades provided for cuts on ferrous material
- · Replacement blade kit includes blades, screws, and nuts

CABLE CUTTER FOR NON-FERROUS MATERIALS

With Rubber Grips

Product Code	Overall Length (Inches)	Cable Cutting Capacity (Inches)
JHW2620-31	31 ¹/2	1 5/8 Aluminum/Copper

Features

- · For non-ferrous material cutting only
- . Lightweight handles provide ease of control while offering solid durability
- . Rubber grips offer control and comfort during working application
- · Replacement blade kit includes blades, screws, and nuts

CABLE TIE CUTTER

With Rubber Grips

Product Code	Overall Length (Inches)	
JHWPL-1300	6 1/2	

- Suitable for cable ties rated up to 250 lbs
- Safely remove cable ties without harming bundled items













Produces Right Hand (clockwise) Twists

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Cutting Blade Length (Inches)
JHWWTC-11	8.5	1 1/16	1/4
JHWWTC-45	6	1 1/16	1/16

Features

JHWWTC-11

JHW23210

JHW23220

JHW23201

- Diamond-shaped, flat top jaw serrations hold wire firmly and resist nicking material being worked on
- Diagonal nose configurations & "mini" frame allows access in tight quarters
- Automatic return feature retracts automatically, speeding up operation use and reducing operator fatigue
- Heat-treated cutting edge holds it edge for cutting tough (up to .041) stainless steel and safety wire
- One hand operation allows for operator closing and locking with minimum of handle force
- High carbon alloy steel forging are used for maximum durability and long life



LOCKING PLIERS AND SET

Bi-Mold Comfort Grip Handles		
Overall Length (Inches)	Style	
5	Curved Jaw with Cutter	
7	Curved Jaw with Cutter	
10	Curved Jaw with Cutter	
7	Straight Jaw	
10	Straight Jaw	
6	Long Nose with cutter	
9	Long Nose with cutter	
	Overall Length (Inches) 5 7 10 7 10 6	

OTTOTE !	•	Long Hood Hiti dattor
Locking Pliers	Sets	
Product Code		Description
JHW23070	3 Piece Lo	ocking Pliers Set with Bi-Mold
	(Comfort Grip Handles

Contents Include:	у также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также также такж
Product Code	Description
JHW23201	5" Curved Jaw Locking Pliers with Cutter
JHW23202	7" Curved Jaw Locking Pliers with Cutter
JHW23203	10" Curved Jaw Locking Pliers with Cutter
Product Code	Description
JHW23071	3 Piece Locking Pliers Set with Bi-Mold

Comfort Grip Handles

Contents Include:

Product Code	Description
JHW23203 10 ^t	Curved Jaw Locking Pliers with Cutter
JHW23210	7" Straight Jaw Locking Pliers
JHW23220 6"	Long Nose Locking Pliers with Cutter

- Bi-mold handles provide comfortable grip, reducing hand fatigue
- · Convenient one-hand release lever
- Heavy-duty jaw surfaces provide extra gripping power
- Packed in a pouch







LOCKING PLIERS

Curved Jaw with Wire Cutter Locking Pliers	
Product Code	Overall Length (Inches)
JHW23301	5
JHW23302	7
JHW23303	10

Straight Jaw Locking Pliers

Product Code	Overall Length (Inches)
JHW23304	7
JHW23305	10

Long Nose with Wire Cutter Locking Pliers

Product Code	Overall Length (Inches)
JHW23309 JHW23310	6 9
0111120010	

Locking C-Clamps

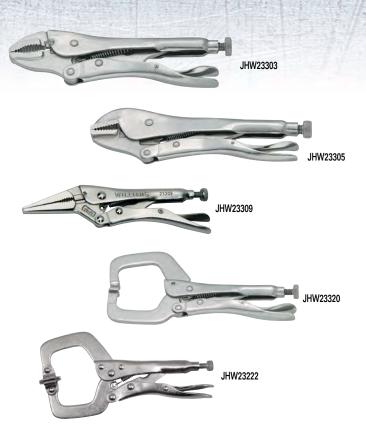
Product Code	Overall Length (Inches)	Throat Depth	Capacity (Lbs.)
JHW23320	6	11/4"	450
JHW23321	11	21/4"	900

Locking C-Clamps with Swivel Pad

Product Code	Overall Length (Inches)	Throat Depth	Capacity (Lbs.)
JHW23222	6	15/16"	450
JHW23223	9	23/16"	900
JHW23224	11	21/4"	900
JHW23225	14	41/2"	700

Features

- · Convenient one-hand release lever
- · Heavy-duty jaw surfaces provide extra gripping power



LOCKING PLIERS SETS

JHW23072 3 Piece Locking Pliers Set Contents Include:

Product Code	Description
JHW23301	5" Curved Jaw Locking Pliers with Cutter
JHW23302	7" Curved Jaw Locking Pliers with Cutter
JHW23303	10" Curved Jaw Locking Pliers with Cutter

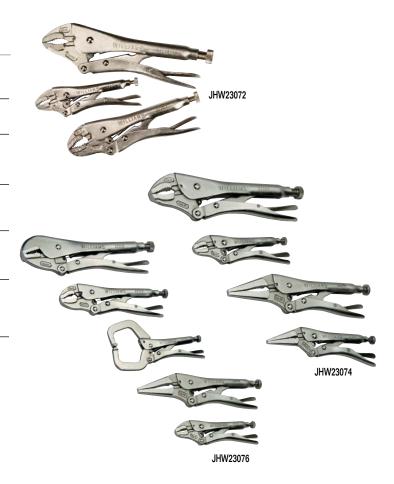
JHW23074 4 Piece Locking Pliers Set Contents Include:

Product Code	Description
JHW23301	5" Curved Jaw Locking Pliers with Cutter
JHW23303	10" Curved Jaw Locking Pliers with Cutter
JHW23309	6" Long Nose with Wire Cutter
JHW23310	9" Long Nose with Wire Cutter

JHW23076 5 Piece Locking Pliers Set Contents Include:

Product Code	Description
JHW23301	5" Curved Jaw Locking Pliers with Cutter
JHW23302	7" Curved Jaw Locking Pliers with Cutter
JHW23305	10" Straight Jaw
JHW23310	9" Long Nose with Wire Cutter
JHW23320	6 [®] Locking C-Clamp

- Convenient one-hand release lever
- · Heavy-duty jaw surfaces provide extra gripping power

















SNAP RING PLIERS

Toll Free 1 800 563 1293

Double-Dipped Plastic Handles				
Product Code	Tip Size	Tip Angle (Degree)		
JHWPL-1620	0.038	0°		
JHWPL-1621	0.038	45°		
JHWPL-1622	0.038	90°		
JHWPL-1623	0.047	0°		
JHWPL-1624	0.047	45°		
JHWPL-1625	0.047	90°		
JHWPL-1626	0.070	0°		
JHWPL-1627	0.070	45°		
JHWPL-1628	0.070	90°		
JHWPL-1629	0.090	0 °		
JHWPL-1630	0.090	45°		
JHWPL-1631	0.090	90°		

Combination Internal/External Snap Ring Pliers Set Pliers set in a plastic carrying case

Contents Include:

Product Code	Description
JHWPL-1612	12 Piece Combination Internal/External Snap Ring Pliers Set
Set includes 1 each S	nap Ring Plier listed above

Combination Internal/External Snap Ring Pliers Set Pliers set in a plastic carrying case

Contents Include:

Product Code	Description
JHWPL-1606	6 Piece Combination Internal/External Snap Ring Pliers Set
0 1.1.4.10	D: DI: DI 1000 DI 1000 DI 1000 DI 1000 DI 1000 DI 1000

Set includes 1 each Snap Ring Pliers, PL-1620, PL-1622, PL-1623, PL-1625, PL-1626, PL-1628

- · Cushioned grip handles
- · Pliers are convertible for use on internal and external snap rings
- Knurled center screw with spring for easy changing and secure hold





JHWPL-1612



JHWPL-1606



*A*pplifast

RETAINING RING PLIERS AND SET

Double-Dipped Plastic Handles

Product Code	Description	(Ctr. To Ctr.)	(Ctr. To Ctr.)	(Each Plier Includes 2 of Each)
JHWPL-1600C1 JHWPL-1600C2	Internal pliers with tips External pliers with tips	3/ ₃₂ 3/ ₃₂	²⁵ / ₃₂ 1 ¹ / ₃₂	0.035" 90° 0.045" 45°
				0.045" Straight 0.060" Straight

Snap Ring Pliers Set

Product Code	Description
JHWPL-1600C	Snap Ring Pliers Set

Contents Includes:

Product Code	Description
JHWPL-1600C1	PL-1600C-1 Internal Pliers
JHWPL-1600C2	PL-1600C-2 External Pliers

Replacement Tip Set Contents Includes:

Product Code	Description
JHWPL-1600C3	16 Piece Replacement tip set

Features

- . Internal snap rings designed for use in housings, boxes, etc with bore diameters .375 to 1.750 inches
- . External snap rings designed for use in shafts, studs, etc with shaft diameters .250 to 1.438 inches
- $\bullet~$ JHWPL-1600C1 and JHWPL-1600C2 each supplied with 8 tips (2 each: 90° x .035 and 45° x .045 angle tips and .045 and .060 straight tips)
- · Made of high quality carbon steel with black-oxide finish to resist rust and other corrosions
- . Tips heat treated for a secure grip
- · Pliers provided with cushion grip handles
- . Set consists of one internal and one external snap ring pliers and 16 tips in a pouch
- Tip set includes 4 each of interchangeable tips: 90° x .035 and 45° x .045 angle tips and .045 and .060 straight tips



CONVERTIBLE RETAINING RING PLIERS AND SET

Double-Dipped Plastic Handles

Product Code	Capacity (Max. Ring Dia.)	Tips Included (Includes 2 of Each)
23801	2"	0.039" Straight Tips (Yellow) 0.038" 90° Tips (Yellow) 0.047" Straight Tips (Green) 0.047" 90° Tips (Green)
JHW23803A	1"	0.074" Straight Tips (Copper) 0.023" Straight Tips (Red) 0.039" Straight Tips (Yellow) 0.038" 90° Tips (Yellow) 0.047" Straight Tips (Green) 0.047" 90° Tips (Green)

Retaining Ring Pliers Set

Product Code	Description
JHW23092	Retaining Ring Pliers Set

Contents Includes:

Product Code	Description
23801 JHW23803A	2" Capacity Retaining Ring Pliers 1" Capacity Retaining Ring Pliers

Replacement Tip Kits Contents Includes:

ricpiacement rip rate contents includes			
Product Code	Description		
JHW23802A	Replacement Tip Kit Only for 23801A		
JHW23804A	Replacement Tip Kit Only for 23803A		

Features

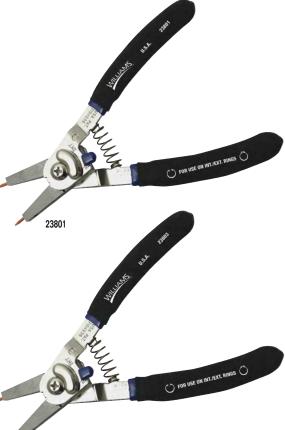
- Easily convert for use on internal and external rings by moving convenient adjusting levers
- Each pliers includes five pairs of color-coded tips for maximum versatility
- Hex-shaped locking guides firmly hold tips in place
- Double-dipped handles with air cushion pockets provide comfortable grip, reducing hand fatigue
 Spring-loaded handles speed work











JHW23803A



JHWPL-529

HEAVY DUTY RETAINING RING PLIERS & TIPS

Double-Dipped Plastic Handles

Product Code	Description	(Ctr. To Ctr.)	(Ctr. To Ctr.)
JHWPL-527	Internal snap ring pliers	5/16	1 13/32
JHWPL-528	External snap ring pliers	11/32	1 17/32

Tips for Heavy Duty Retaining Ring Pliers

,		
Product Code	Description (Includes 2 each)	
JHWPL-529A	0.108" Straight Tips	
JHWPL-529B	0.108" 15° Tips	
JHWPL-529C	0.108 45° Tips	
JHWPL-529D	0.108 90° Tips	
JHWPL-530A	0.120 Straight Tips	_
JHWPL-530B	0.120 15° Tips	
JHWPL-530C	0.120 45° Tips	
JHWPL-530D	0.120 90° Tins	

Heavy Duty Retaining Ring Pliers Set JHWPL-529

Product Code	Contents Include:
JHWPL-527	Internal snap ring pliers
JHWPL-528	External snap ring pliers

Set includes 2 each of heavy duty tips listed above

- Internal snap rings designed for use in housings, boxes, etc
- External snap rings designed for use in shafts, studs, etc
- Pliers supplied with spring ratchet lock assembly which allows the ring to be compressed or expanded with gradual adjustments which lock at the desired size without continued pressure on the handles
- Made of high quality carbon steel with black-oxide finish to resist rust and other corrosions
- · Tips heat treated for a secure grip
- Tips not provided with pliers when pliers are ordered individually







Applifast

FIXED TIP RETAINING RING PLIERS

Double-Dipped Plastic Handles

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Tip Diameter (Inches)	Minimum Jaw Opening (Inches)	Maximum Jaw Opening
Internal					
JHWPL-531 JHWPL-532	5 ¹ / ₂ 6 ¹ / ₂	⁷ / ₈ 1	0.038 0.070	3/ ₃₂ 3/ ₃₂	2 3/8 2 31/32
External					
JHWPL-533 JHWPL-534	6 ¹ / ₂ 7	⁷ / ₈ 2 ¹ / ₁₆	0.038 0.070	3/ ₃₂ 3/ ₃₂	1 ¹ / ₃₂ 1 ¹ / ₄

Features

- Internal used for installing and removing internal retaining rings in a bore without damage to the ring
- . External used for installing and removing external retaining rings on a shaft without damage to the ring
- Manufactured from high carbon, heat treated steel
- Designed for accurate fit and long wear by precision forming and induction hardening.
- . Finished with black oxide coating







LOCKING RING PLIERS

Black Jaws

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Width at Tip (Inches)
JHWPL-1515	8	1 3/8	5/16

Features

· For spreading horseshoe lock washers and steel lock rings used on gear and bearing shafts











JHWCC-406S

JHWCC-4AAW



DROP FORGED C-CLAMPS

Toll Free 1 800 563 1293

Deep Throat Design, Copper Plated Screw

Product Code	Capacity (Inches)	Throat Depth (Inches)	Screw Diameter (Inches)	Min Test Load (lbs)
JHWCC-402C	2	2 11/32	1/2	3500
JHWCC-403C	3	2 3/4	1/2	3500
JHWCC-404C	4	3 3/16	3/4	6500
JHWCC-406C	6	4 1/8	3/4	6900
JHWCC-408C	8	5 ³ ⁄ ₁₆	3/4	6900
JHWCC-410C	10	6	3/4	8000
JHWCC-412C	12	6 1/2	7//8	9500

Features

- Copper plated screw resists weld splatter
- Drop-forged and heat treated for maximum strength and greater rigidity I-Beam design for extra strength
- Highly resistant to "springing"
- Acme threading



DROP FORGED C-CLAMPS

Deep Throat Design, Standard Screw

Product Code	Capacity (Inches)	Throat Depth (Inches)	Screw Diameter (Inches)	Min Test Load (lbs)
JHWCC-402S	2	2 11/32	1/2	3500
JHWCC-403S	3	2 3/4	1/2	3500
JHWCC-404S	4	3 3/16	3/4	6500
JHWCC-406S	6	4 1/8	3/4	6900
JHWCC-408S	8	5 ¾16	3/4	6900
JHWCC-410S	10	6	3/4	8000
JHWCC-412S	12	6 1/2	7/8	9500

Features

- Black threaded screw with T-handle
- Drop-forged and heat treated for maximum strength and greater rigidity
- I-Beam design for extra strength
- Highly resistant to "springing"
- Acme threading



HEAVY SERVICE C-CLAMPS

Deep Throat Design, Standard Screw

	Maximum Capacity	Minimum Capacity	Throat Depth From Center	Exterior Body Width	Screw Diameter	Screw Length Under Head	Min Test Load
Product Code	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Inches)	(Lbs.)
JHWCC-1AAW	1 ³ /8	0	1 1/8	2 23/32	13/32	2 ⁷ / ₁₆	5,600
JHWCC11/2AAW	1 ⁷ /8	0	1 21/32	3 ¹⁹ / ₃₂	5/8	3 ¹ / ₄	8,750
JHWCC-2AAW	2 11/32	0	1 ⁷ /8	4 1/4	23/32	4 ¹ / ₈	12,500
JHWCC-3AAW	3 ⁷ / ₁₆	1/8	2 ¹³ / ₃₂	5 ³ / ₄	²⁷ / ₃₂	4 ⁷ /8	16,250
JHWCC-3LAAW **	3 7/16	0	2 1/2	5 3/4	27/32	5 ³ / ₄	16,250
JHWCC-4AAW	4 21/32	17/32	2 ⁷ /8	6 1/4	27/32	6	20,000
JHWCC-4LAAW **	4 21/32	0	2 ⁷ /8	6 ¹ / ₄	²⁷ / ₃₂	7 1/4	20,000
JHWCC-5AAW	5 ⁵ /8	1/2	3 ¹ /8	7	²⁷ / ₃₂	7 1/4	23,800
JHWCC-5LAAW **	5 ⁵ /8	0	3 ¹ /8	7	²⁷ / ₃₂	8 ⁷ /8	23,800
JHWCC-6AAW	6 ¹ / ₂	1 ⁵ / ₃₂	3 1/2	7 1/2	1 ³ / ₃₂	8	27,500
JHWCC-6LAAW **	6 ¹ / ₂	0	3 ¹ / ₂	7 ¹ / ₂	1 ³ / ₃₂	10	27,500
JHWCC-8AAW	8 ¹ / ₂	4	3 ¹¹ / ₁₆	8 ¹ / ₂	1 3/32	7 1/8	31,250
JHWCC-8LAAW **	8 ¹ / ₂	0	3 11/16	8 ¹ / ₂	1 ³ / ₃₂	11 ⁵ /8	31,250
JHWCC-10AAW	10 ³ / ₈	5 ³ / ₈	4 ³ / ₈	8 ¹ / ₂	1 ³ / ₃₂	7 3/4	35,000
JHWCC-10LAAW **	10 ³ / ₈	0	4 5/16	8 ¹ / ₂	1 ³ / ₃₂	14 ³ / ₈	35,000
JHWCC-12AAW	12 ³ /8	7 1/4	4 ⁷ / ₁₆	9 1/2	1 3/32	8 ¹ / ₄	40,000
JHWCC-12LAAW **	12 ³ / ₈	0	4 1/4	9 1/2	1 ³ / ₃₂	16 ⁷ /16	40,000

^{**} Where zero capacity is desired, the clamps with long screws should be ordered. These are indicated with an "L" in the product code.

- Especially designed for heavy duty service, frames are drop-forged and heat-treated for maximum strength and reduced springing

 Screws are made of special grade steel and are heat-treated for added strength not found in typical case-hardened screws
- To tighten, the square headed screw must be turned with a wrench
- Ideal for the most demanding applications such as construction and heavy industry
- Square head screw allows tightening with wrench for extra heavy duty clamping requirements
- Greater anvil surface for gripping larger work pieces and for greater stability





UNIVERSAL PLIERS WRENCHES

With Comfort Grip

Product Code	Overall Length (Inches)	Maximum Jaw Opening (Inches)	Pipe Maximum Diameter (Inches)
JHW140	8 7/16	1 3/16	3/4
JHW141	11	1 3/8	1
JHW142	14 ¹ / ₂	2 ¹ / ₁₆	1 1/2
JHW143	21 ⁷ /8	3 1/16	2 1/2
JHW144	28 ³ / ₈	4 3/8	3 1/2

Features

- · Black oxide and anti-rust treated high alloy steel provide long life and durability
- · Precision induction hardened jaws are designed with inwardly angled aggressive teeth
- . Outer part of jaw is large toothed and used for maximum grip on large diameter pipes
- Inner part of jaw is fine toothed and used for maximum grip on small diameter pipes
- Commonly called a "Swedish Pipe Wrench", the small head makes them ideal for working in confined areas



ALUMINUM STRAIGHT PIPE WRENCH

Aluminum, Heavy Duty

	S	ize	Pipe Ca	pacity	Wei	ght
Product Code	in.	mm	in.	mm	lb.	kg
RIG31090	10	250	1 1/2	40	1	0.4
R47057	12	300	2	50	2 1/2	1.1
R31095	14	350	2	50	2 1/2	1.1
R31100	18	450	2 ¹ / ₂	65	3 3/4	1.7
R31105	24	600	3	80	6	2.7
R31110	36	900	5	125	11	5.0
RIG31115	48	1200	6	150	18 ¹ / ₂	8.4

- Professional strength in lightweight aluminum
- · Offer durability and ease-of-use









JHW13542



Toll Free 1 800 563 1293

	S	ize	Pipe C	Capacity	We	eight
Product Code	in.	mm	in.	mm	lb.	kg
RIG31000	6	150	3/4	20	1/2	0.2
R31005	8	200	1	25	3/4	0.3
R31010	10	250	1 1/2	40	1 ³ / ₄	0.8
R31015	12	300	2	50	2 3/4	1.2
R31020	14	350	2	50	3 ½	1.6
R31025	18	450	2 %16	65	5 ¾	2.6
R31030	24	600	3	80	9 3/4	4.4
R31035	36	900	5	125	19	8.7
RIG31040	48	1200	6	150	34 1/4	15.6
RIG31045	60	1500	8	200	51 ½	23.3

Features

- Sturdy, cast-iron housing and I-beam handle with full floating forged hook jaw, featuring self-cleaning threads with replaceable hook and heel jaws
- . Heavy-duty pipe wrenches comply with federal specifications GGG-W65IE, Type II, Class A



PIPE WRENCHES

Aluminum, Heavy Duty

	Overall Length	Maximum Jaw Opening		Spare Parts	
Product Code	(Inches)	(Inches)	Hook Jaw	Heel Jaw & Pin	Knurl Nut
JHW13500	8	1 5/16	JHW13551	JHW13567	JHW13571
JHW13502	10	1 5/8	JHW13552	JHW13562	JHW13572
JHW13504	12	2 1/8	JHW13553	JHW13563	JHW13573
JHW13506	14	2 1/16	JHW13554	JHW13564	JHW13574
JHW13508	18	3 1/8	JHW13555	JHW13565	JHW13575
JHW13510	24	3 3/4	JHW13556	JHW13566	JHW13576
JHW13512	36	5	JHW13557	JHW13568	JHW13577
JHW13514	48	6	JHW13558	JHW13569	JHW13578

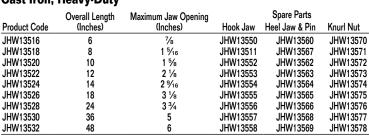
Pipe Wrench Set

Product Code	Contents Include:
JHW13542	3 Piece Aluminum Pipe Wrench Set. Includes 8", 12", and 18" wrenches

Features

- Aluminum pipe wrenches are approximately 40% lighter than cast iron
- . Heavy duty construction for strength and durability
- Scale on wrench indicates pipe diameter





Pipe Wrench Set

Product Code	Contents Include:	
JHW13544	3 Piece Cast Iron Pipe Wrench Set. Includes 8", 12", and 18" wrenches	

- · Heavy duty construction for strength and durability
- Scale on wrench indicates pipe diameter





FLANGE-JACKS

Applifast

Tremendous Pressure With Minimum Effort

		Flange Diamete	r Capacity	
Product Code	* 125 Pound	* 150 Pound	* 250 Pound	* 300 Pound
	Cast Iron	Cast Iron	Cast Iron	Cast Iron
JHWFJ-20	2 to 20	2 to 20	1 to 12	3/ ₄ to 12
JHWFJ-30	16 to 48	18 to 24	12 to 30	12 to 24

Features

- · Ideal for working on pipe lines and other applications involving flanges
- Makes gasket removal fast and easy
- Flanges are separated smoothly and evenly without damage to flange faces
- Flange jacks are sold only in pairs
- . Eliminates danger from flying wedges and sparks caused by hammer blows
- Ideal for hard to reach locations





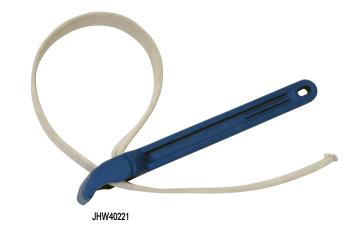


STRAP WRENCH

Aluminum Handle

Product Code	Handle Length (Inches)	Maximum Diameter (Inches)	Strap Size (Inches)
JHW40221	12	8	1 1/8 x 30

- Use on irregularly shaped objects where other wrenches won't work
- Useful for turning handwheels and other knurled handles
- Reduces risk of damage on plastic pipe and tubing
- Strap is made out of cotton











45° SINGLE FLARING TOOL

For Soft Tubing

Product Code	Description	O.D. Capacity (Inches)
JHW43631	45° Single Flaring Tool	³ / ₁₆ , ¹ / ₄ , ⁵ / ₁₆ , ³ / ₈ , ⁷ / ₁₆ , ¹ / ₂ , & ⁵ / ₈

Features

Toll Free 1 800 563 1293

- · For soft copper, aluminum, and brass tubing
- · Forged steel yoke and hardened flaring bar for durability
- Positive clamping action prevents tube slippage
- Self-centering yoke with swivel-type, hardened steel, chrome-plated flaring cone forms better flares with less effort
- Chrome plated to resist rust and corrosion





TRIPLE-HEAD TUBING BENDER

For Soft Tubing

Product Code	Description	O.D. Capacity (Inches)
JHW43621	Triple-Head Tube Bender	³ / ₁₆ , ¹ / ₄ , ⁵ / ₁₆ , & ³ / ₈

Features

- For copper, aluminum, and thin-wall steel tubing
- Calibrated markings for making accurate left, right, and offset bends
- 90° start requires less effort, making bending fast and easy





PIPE CHAIN WRENCH

Heat Treated

Product Code	Pipe Diameter Minimum - Maximum (Pipe Size)	Handle Length (Inches)	Chain Length (Inches)	
JHWCW-4	3/8 - 4	11	15	

Features

- Forged handle is fully heat-treated
- Ideal for use in close quarters and where space is at a premium
- Successive "bites" can be taken without removal of wrench from the work piece
- Fully adjustable to fit any shape pipe





PIPE CHAIN WRENCH

Heat Treated

Product Code	Pipe Diameter Capacity	Handle Length (Inches)	Chain Length (Inches)
JHW40222	4	12	16
JHW40223	5	15	19
JHW40224	6	24	23

- · Forged strong I Beam handle
- Designed for working in confined areas when regular pipe wrenches will not fit, excellent for pipe fittings
- · Portable and lightweight can be used for overhead and underground work



5/8" CAPACITY MINI-TUBING CUTTER

For Hard or Soft Copper	Tubing, Brass.	Stainless	Steel, etc.
-------------------------	----------------	------------------	-------------

Product Code	Description	Cutting Capacity (Inches)	Overall Length (Inches)
JHW43603	Mini-Tubing Cutter	1/8 to 5/8	1 3/4
JHW43613	Replacement Cutter Wheel for 43603 (Pack of 5)		

Features

- Designed for use in tight access areas
- · Enclosed feed screw assures smooth operation by minimizing contamination
- Corrosion resistant stainless steel rollers produce easier, smoother cuts





JHW43603

1-1/8" CAPACITY TUBING CUTTER

For Hard or Soft Copper Tubing, Brass, Stainless Steel, etc.

Product Code	Description	Cutting Capacity (Inches)	Overall Length (Inches)
JHW43605	1 1/8" Tubing Cutter	1/8 to 1 1/8	5
JHW43611	General Purpose Replacement Cutter Wheel (Pack of 10)		
JHW43615	Optional Cutter Wheel for Stainless Steel (Pack of 5)		

Features

- · Enclosed hardened steel thrust-bearing mechanism assures smooth cuts and reliable operation
- Rugged aluminum alloy body looks good and handles well
- · Foldaway hardened steel reamer removes inside burrs cleanly
- Includes (2) general-purpose cutter wheels





2-5/8" CAPACITY TUBING CUTTER

For Hard or Soft Copper Tubing, Brass, Stainless Steel, etc.

Product Code	Description	Cutting Capacity (Inches)	Overall Length (Inches)
JHW43607	25/8" Tubing Cutter	3/8 to 2 5/8	7 3/4 (Closed)
JHW43617	General Purpose Replacement Cutter Wheel for JHW43607 (Pack of 5)		

Features

- Ratchet feed mechanism speeds up cutting operations while extra-wide rollers stabilize the tubing
- Light-weight aluminum body
- Spare cutting wheel included under cap
- Cuts Schedule 40 PVC pipe up to 2" diameter with optional 43616 cutter wheel





PLASTIC AND RUBBER HOSE CUTTER

Compact and Light

Product Code	Description	Replacement Cutting Wheel
JHW43618	Plastic and rubber hose cutter	JHW43619

- · Cuts plastic tubing and non-metal reinforced hose
- Cuts sizes 1/16" to 1/2" and 1mm to 13mm O.D
- Spring loaded for safety
- Weighs only one ounce

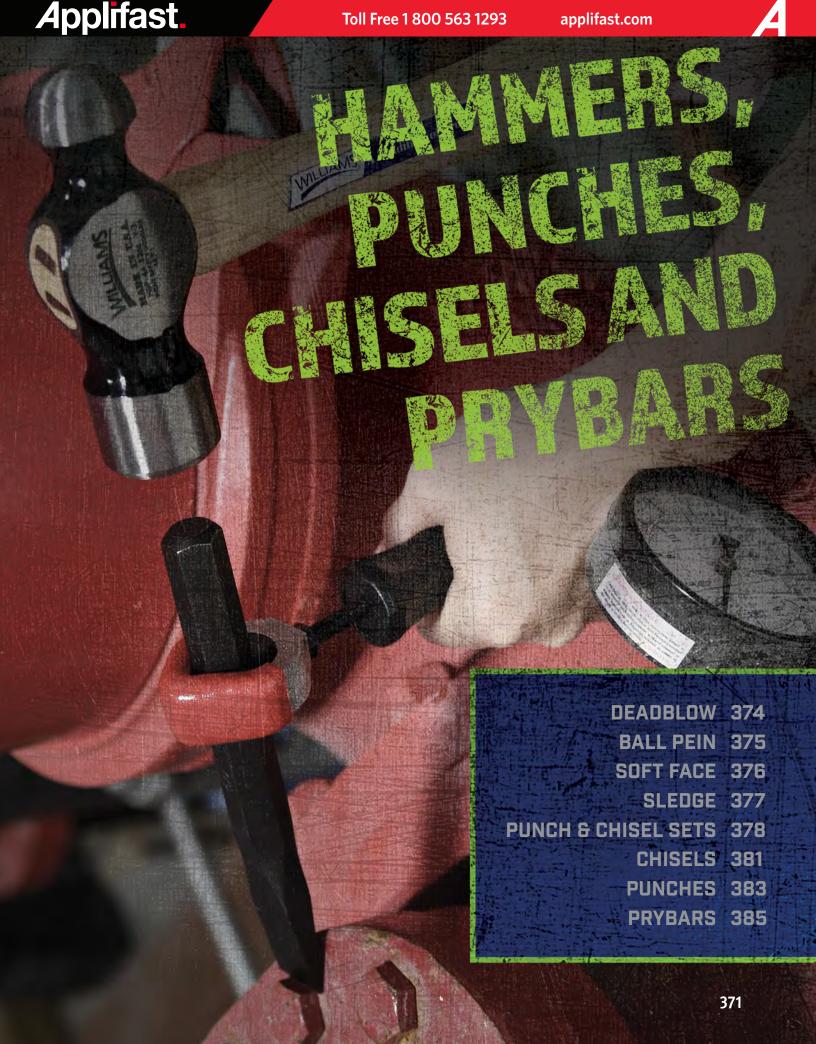




JHW43618









Hammer heads are drop-forged from specially selected steel

and heat treated for dependable

strength, hardness and uniformity.

Wooden handles made from white hickory and clear

lacquered and permanently wedged into the heads

Ideal for driving punches, — chisels and other metal work





Protects user from hand injury

Heavy duty construction for strength and durability.



Holds chisel and punch securely





Drop forged hardened steel

point & wedge ends



pplifast

DEADBLOW HAMMERS

Ergonomically Designed Handles

Product Code	Weight (ozs.)	Overall Length (Inches)	Head Length (Inches)	Face Diameter (Inches)
JHWJHW-16	16	12	3 1/4	1 %16
JHWJHW-24	24	12 3/4	3 ¾	1 3/4
JHWJHW-32	32	13 ½	4 1/4	2
JHWJHW-48	48	15	4 ³ / ₄	2 1/4
JHWJHW-56	56	15 ¾	5 ½16	2 ³ ⁄ ₄

Features

- Hard urethane construction resists cut damage to hammer head
- · Head provides a non-marring contact surface that will not damage equipment
- · Deadblow feature minimizes hammer bounce back, reducing fatigue and improving productivity





BALL PEIN HAMMERS

Fiberglass Handles with Cushion Grip

Product Code	Weight (ozs.)	Handle Length (Inches)	Overall Length (Inches)	Face Diameter (Inches)
JHW20542	8	9 1/2	10 3/4	7/8
JHW20543	12	10 1/4	11 ¾	7/8
JHW20544	16	11 1/4	13	1 %
JHW20545	24	13	15	1 1/4
JHW20546	32	12 ¾	15	1 1/4

Features

- Ideal for driving punches, chisels and other metal work
- Fiberglass handle has a cushion grip for greater comfort and safety
- · Hammer heads are drop-forged from specially selected steel and carefully heat treated for dependable strength, hardness and uniformity



BRASS HAMMERS

Fiberglass Handles with Cushion Grip

Product code	Weight (ozs.)	Handle Length (inches)	Overall length (Inches)	Face Diameter (Inches)
JHWHSB-1.5A	1-1/2	10	12	1
JHWHSB-2.6A	2-1/2	10	12	1-1/4
JHWHSB-3.8A	3-3/4	10	12	1-5%

- · Ideal for applications which require non-sparking conditions
- · The flat surface brass head absorbs impact blows, reduces rebound and helps eliminate marred work surfaces
- . Non-slip cushion grip provides greater comfort and safety

















Wood Handle

Toll Free 1 800 563 1293

JHWHBP-4A

JHW20678

	Head Weight	Handle Length	Overall length	Face Diameter
Product code	(ozs.)	(inches)	(Inches)	(Inches)
JHWHBP-5-0A	4	9 %	10 7/16	3/4
JHWHBP-3-0A	8	10 ½	11 ¾	1
JHWHBP-2-0A	12	11 1/8	12 1/2	1 1/8
JHWHBP-0A	16	12 1/8	13 %	1 1/4
JHWHBP-2A	24	13 ¼	15 ½	1 ½
JHWHBP-4A	32	13 1/4	15 ³ / ₁₆	1 1/2
JHWHBP-6A	40	13 5/16	15 ⁵ ∕₁6	1 %
JHWHBP-8A	48	13 ½	15 %	1 1/8

Features

- · Ideal for driving punches, chisels and other metal work
- · Wooden handles, which are made from white hickory and clear lacquered, are permanently wedged in to the heads
- · Hammer heads are drop-forged from specially selected steel and carefully heat treated for dependable strength, hardness, and uniformity
- · Polished Face, Bevel & Pein



DRILLING HAMMER

Fiberglass Handles with Cushion Grip

			Handle Length					
Product Code \	Neight (ozs.)	(Inches)	Overall Length (Inches)					
JHW20678	32	8 1/2	10 1/4					

Features

- · Handles are durable and comfortable
- · Heavy duty construction for strength and durability

CROSS PEIN HAMMER

Fiberglass Handles with Cushion Grip

		Handle Length	
Product Code	Weight (ozs.)	(Inches)	Overall Length (Inches)
JHW20651	48	13	15 ¾

Features

- Handles are durable and comfortable
- · Heavy duty construction for strength and durability

CLAW HAMMERS

Fiberglass Handles with Cushion Grip

			Handle Length	Overall Length
Product Code	Style	Weight (ozs.)	(Inches)	(Inches)
JHW20402	Ripping Claw	16	10 3/4	13
JHW20401	Curved Claw	20	10 3/4	13

- Handles are durable and comfortable
- · Heavy duty construction for strength and durability





8 PIECE SOFT-FACE HAMMER BODY AND TIP SET

Fiberglass Handles with Cushion Grip

i ibei giass ii	andics	With Ousi	non anp			
Product Code	Description					
JHWHSF-8SET	8 Piece Soft Face Hammer Body and Tip Set					
Contents Include					•	
Product Code	Weight Class	Head Length (Inches)	Handle Length (Inches)	Overall Length (Inches)	Head Diameter (Inches)	
JHWHSF-151A	16 oz.	1 ½	12 ½	14	1 1/2	
Product Code JHWHSF-15S JHWHSF-15M	Hardness Soft Medium		Tip Diameter (Inches) 1 ½ 1 ½	Color Brown Red		
JHWHSF-15N JHWHSF-15H JHWHSF-15SS JHWHSF-15B	Medium Hard Hard Steel Brass		1 ½ 1 ½ 1 ½ 1 ½	Cream Black Steel Brass		
Plastic Storage Cas	se					

Features

- Handles are durable and comfortable
- · Heavy duty construction for strength and durability
- Six interchangeable heads meet a number of various applications, including non-marring and non-sparking applications with selected head surfaces



SOFT-FACE HAMMER TIPS

• •	
Heavv	Dutv

Product Code	Hardness	Tip Diameter (Inches)	Color			
Brown: Working with soft composites, plastics and soft alloy metals. Replaces vinyl hammer.						
JHWHSF-10S	Soft	1	Brown			
JHWHSF-15S	Soft	1 ½	Brown			
JHWHSF-20S	Soft	2	Brown			
JHWHSF-25S	Soft	2 ½	Brown			
JHWHSF-30S	Soft	3	Brown			

Red: Working with s	soft composites, plastics	and soft alloy metals. Repla	ces rawhide hammer.
JHWHSF-10M	Medium	1	Red
JHWHSF-15M	Medium	1 ½	Red
JHWHSF-20M	Medium	2	Red
JHWHSF-25M	Medium	2 1/2	Red
IH/WHSE-30M	Medium	2	Rad

Cream: Working	with soft composites, plast	ics and soft alloy metals. R	eplaces soft-metal hammer
JHWHSF-10N	Medium Hard	1	Cream
JHWHSF-15N	Medium Hard	1 ½	Cream
JHWHSF-20N	Medium Hard	2	Cream
JHWHSF-25N	Medium Hard	2 1/2	Cream
JHWHSF-30N	Medium Hard	3	Cream

Black: Working with hard surface composites and other hard metals.						
JHWHSF-10H	Hard	1	Black			
JHWHSF-15H	Hard	1 ½	Black			
JHWHSF-20H	Hard	2	Black			
JHWHSF-25H	Hard	2 1/2	Black			
ILIMITICE SOLI	Hand	•	DII.			

Yellow: Working v	vith hard surface composi	tes and other hard metals,	hardness is close to steel.
JHWHSF-10XH	Extra Hard	1	Yellow
JHWHSF-15XH	Extra Hard	1 ½	Yellow
JHWHSF-20XH	Extra Hard	2	Yellow
JHWHSF-25XH	Extra Hard	2 1/2	Yellow
.IHWHSF-30XH	Extra Hard	3	Yellow

Green: Working wi	th soft composites, plast	ic and soft alloy metals. Rep	places brass hammer
JHWHSF-10T	Tough	1	Green
JHWHSF-15T	Tough	1 1/2	Green
JHWHSF-20T	Tough	2	Green
JHWHSF-25T	Tough	2 1/2	Green
JHWHSF-30T	Tough	3	Green

Features

· Heavy duty construction for strength and durability



















JHWHSF-20S

JHWHSF-20M

JHWHSF-20T

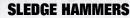
SOFT-FACE AND SHOT FILLED SOFT-FACE HAMMER BODY

Fiberglass H	andles w	ith Cushi	on Grip		
J			•	Overall	
	Weight	Head Length	Handle Length	Length	Head Diameter
Product Code	Class (oz.)	(Inches)	(Inches)	(Inches)	(Inches)
JHWHSF-202A **	40	4 1/8	10 ¾	13 ½	2
JHWHSF-100A	5	2	10 3/16	11 ½	1
JHWHSF-105A	8	2	10 3/16	11 1/8	1
JHWHSF-150A	12	2 1/2	10 1 ³ / ₁₆	12 ⁵ ⁄16	1 1/2
JHWHSF-151A	16	1 1/2	12 1/2	14	1 1/2
JHWHSF-155A	20	2 3/8	10 ¾	12 7/16	1 1/2
JHWHSF-200A	20	2 1/2	11 %	13 ½	2
JHWHSF-205A	32	2 1/2	11 %16	13 ½	2
JHWHSF-250A	32	3 1/4	12 ½	14 ¾	2 1/2
JHWHSF-255A	64	3 1/4	12 5/16	14 ¾	2 1/2
JHWHSF-300A	56	3 3/4	12 ⁷ / ₈	14 ¾	3
JHWHSF-305A	96	3 3/4	11 3/4	14 ¾	3

- **Shot filled head reduces rebound for safety and transmits more force to the work
- Handles are durable and comfortable
- . Heavy duty construction for strength and durability
- Use with Soft-Face hammer tips below
- Match head diameter with tip diameter for proper fit
- Tips are not included with hammer body
- 5/16 18 thread size







Wood Handle

Toll Free 1 800 563 1293

Product Code	Weight (lbs.)	Handle Length (inches)	Overall length (Inches)	Face Diameter (Inches)
JHWSH-2A	2	15	15	1 ½
JHWSH-4A	4	15	15	2
JHWSH-6A	6	36	36	2 1/8
JHWSH-8A	8	36	36	2 1/3
JHWSH-10A	10	36	36	2 1/2
JHWSH-12A	12	36	36	2 %
JHWSH-16A	16	36	36	2 3/4

Replacement Handle Service Kit

Product c	uct code Description		Weight (ozs.)	Length (Inches)	
JHWSHH	W-14A	Handle	14	15	
JHWSHH	W-32A	Handle	24	36	

Features

· High carbon steel, heat treated and tempered head, with hickory handle



SLEDGE HAMMERS

Fiberglass Handle

		Handle Length	Overall length	Face Diameter
Product Code	Weight Class (lbs.)	(inches)	(Inches)	(Inches)
JHWSHF-4SA **	4	14	14	1 1/4
JHWSHF-8SA **	8	32	32	2
JHWSHF-12SA **	12	32	32	2 1/4
JHWSHF-2A	2	14	14	1 1/4
JHWSHF-3A	3	14	14	1 ½
JHWSHF-4A	4	14	14	1 %
JHWSHF-6A	6	32	32	1 3/4
JHWSHF-8A	8	32	32	2
JHWSHF-10A	10	16	16	2 1/8
JHWSHF-10LA	10	32	32	2 1/8
JHWSHF-12A	12	32	32	2 1/4
JHWSHF-16A	16	24	24	2 %
JHWSHF-16LA	16	32	32	2 %
JHWSHF-20A	20	36	36	2 3/4

Replacement Handle Service Kit

Product Code	Description	Weight (lbs)	Length (Inches)
JHWSHHF-14A	Fiberglass	2 to 4	14
JHWSHHF-16A	Fiberglass	6 to 8	16
JHWSHHF-32A	Fiberglass	6 to 16	32
JHWSHHF-36	Fiberglass	20	36

Features

- ** Soft steel safety head is similar in hardness to brass
- ** Ideal replacement for Brass Head where non-sparking is not required
- . Double faced head is hardened and tempered forged for maximum strength and durability
- · All kits include replacement handle, pre-measured bonding mix, mix container and instructions



DEAD BLOW SLEDGE HAMMERS WITH REPLACEMENT TIPS

Product Code	Weight (lbs)	Handle Length (Inches)	Overall length (Inches)	Face Diameter (Inches)
JHWSHSFDB8	8	29	32	2
		·	·	

Includes Two 4" Black Tips

4" Replacement Tip

Product code	Hardness	Color	Product code	Hardness	Color
JHWSHSFDB40S	Soft	Brown	JHWSHSFDB40N	Med/Hard	Cream
JHWSHSFDB40M	Medium	Red	JHWSHSFDB40H	Hard	Black
JHWSHSFDB40T	Tough	Green	JHWSHSFDB40XH	Extra hard	Yellow

- . Shot loaded dead blow heads deliver the impact of a steel hammer with little or no rebound
- · Oversized head and striking face minimizes miss hits, applying force with greater impact and repeatability
- Strong yet light weight handles provide 90% of the total hammer weight at the head
- 4" Non-marring removable tips can be replaced when worn



















JHWSHSFDB40T



27 PIECE PUNCH & CHISEL SET

Packed in a Pouch

Product Code	Description
JHWPC-27	27 Piece Punch & Chisel Set

Contents Include:

		Point			Blade
Product		Diameter	Product		Width
Code	Description	(Inches)	Code	Description	(Inches)
JHWP-3	Pin Punch	3/32	JHWC-8	Cold Chisel	1/4
JHWP-4	Pin Punch	1/8	JHWC-10	Cold Chisel	5/16
JHWP-5	Pin Punch	5/32	JHWC-12	Cold Chisel	3/8
JHWP-6	Pin Punch	3/16	JHWC-16	Cold Chisel	1/2
JHWP-8	Pin Punch	1/4	JHWC-20	Cold Chisel	5/8
JHWP-10	Pin Punch	5/16	JHWC-24	Cold Chisel	3/4
JHWP-13	Solid Punch	3/32	JHWC-28	Cold Chisel	7/8
JHWP-14	Solid Punch	1/8	JHWC-32	Cold Chisel	1
JHWP-15	Solid Punch	5/32	JHWC-36	Cold Chisel	1 1/8
JHWP-16	Solid Punch	3/16			
JHWP-17	Solid Punch	1/4	JHW28449	Punch and Ch	isel Holder
JHWP-25	Long Taper Punch	5/32		7%" Cap	acity
JHWP-26	Long Taper Punch	3/16			•
JHWP-28	Long Taper Punch	1/4			
JHWP-30	Prick Punch		1		
JHWP-40	Center Punch	-			
JHWP-42	Center Punch	-			
_					

Features

- · Heavy duty construction for strength and durability
- Includes punch and chisel holder for safety





17 PIECE PUNCH & CHISEL SET

Packed in a Pouch	
Product Code	Description
JHWPC-17	17 Piece Punch & Chisel Set

Contents Include:

Product Code	Description	Point Diameter (Inches)	Product Code	Description	Blade Width (Inches)
JHWP-4	Pin Punch	1/8	JHWC-10	Cold Chisel	5/16
JHWP-6	Pin Punch	³ / ₁₆	JHWC-12	Cold Chisel	3/8
JHWP-8	Pin Punch	1/4	JHWC-16	Cold Chisel	1/2
JHWP-14	Solid Punch	1/8	JHWC-20	Cold Chisel	5/8
JHWP-15	Solid Punch	5/32	JHWC-24	Cold Chisel	3/4
JHWP-16	Solid Punch	3/16	JHWC-42	Cape Chisel	1/4
JHWP-25	Long Taper Punch	5/32	JHWC-62	Diamond Point	3/8
JHWP-28	Long Taper Punch	1/4		Chisel	
JHWP-32	Prick Punch				
JHWP-40	Center Punch	-			

Features

· Heavy duty construction for strength and durability



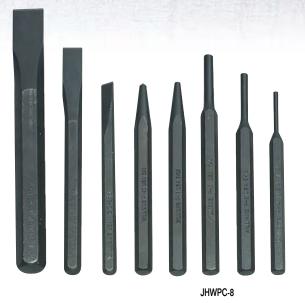


JHWPC-17









8 PIECE PUNCH & CHISEL SET

Packed in a Pouch

Product Code	Description
JHWPC-8	8 Piece Punch & Chisel Set

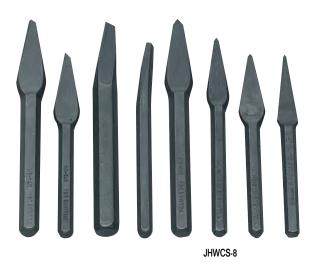
Contents Include:

Product Code	Description	Point Diameter (Inches)	Product Code	Description	Blade Width (Inches)
JHWP-4	Pin Punch	1/8	JHWC-10	Cold Chisel	5/16
JHWP-6	Pin Punch	3/16	JHWC-16	Cold Chisel	1/2
JHWP-8	Pin Punch	1/4	JHWC-24	Cold Chisel	3/4
JHWP-15	Solid Punch	5/32			
JHWP-40	Center Punch	-			

Features

· Heavy duty construction for strength and durability





8 PIECE CHISEL SET

Packed in a Pouch

i deked ili d i odeli		
Product Code	Description	
JHWCS-8	8 Piece Chisel Set	

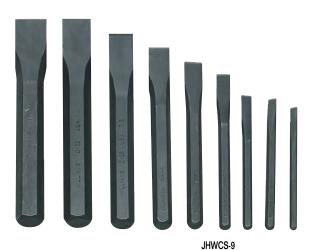
Contents Include:

Product Code	Description	Blade Width (Inches)	Product Code	Description	Blade Width (Inches)
JHWC-40	Cape Chisel	3/16	JHWC-60	Diamond Point Chisel	1/4
JHWC-42	Cape Chisel	1/4	JHWC-62	Diamond Point Chisel	3/8
JHWC-44	Cape Chisel	5/16	JHWC-72	Round Nose Chisel	1/4
JHWC-46	Cape Chisel	3/8	JHWC-74	Round Nose Chisel	3/8

Features

· Heavy duty construction for strength and durability





9 PIECE COLD CHISEL SET

Packed in a Pouch

Product Code	Description
JHWCS-9	9 Piece Cold Chisel Set

Contents Include:

Product Code	Description	Blade Width (Inches)	Product Code	Description	Blade Width (Inches)
JHWC-8	Cold Chisel	1/4	JHWC-24	Cold Chisel	3/4
JHWC-10	Cold Chisel	5/16	JHWC-28	Cold Chisel	7/8
JHWC-12	Cold Chisel	3/8	JHWC-32	Cold Chisel	1
JHWC-16	Cold Chisel	1/2	JHWC-36	Cold Chisel	1 1/8
JHWC-20	Cold Chisel	5/8			

Features

. Heavy duty construction for strength and durability





17 PIECE PUNCH SET

Packed	in a	Pouc	h
--------	------	------	---

Product Code	Description	
JHWPS-17	17 Piece Punch Set	

Contents Include:

Product		Tip Diameter	Product		Tip Diameter
Code	Description	(Inches)	Code	Description	(Inches)
PJHW-3	Pin Punch	3/32	JHWP-16	Solid Punch	3/16
JHWP-4	Pin Punch	1/8	JHWP-17	Solid Punch	1/4
JHWP-5	Pin Punch	5/32	JHWP-25	Long Taper Punch	5/32
JHWP-6	Pin Punch	3/16	JHWP-26	Long Taper Punch	3/16
JHWP-8	Pin Punch	1/4	JHWP-28	Long Taper Punch	1/4
JHWP-10	Pin Punch	5/16	JHWP-30	Prick Punch	-
JHWP-13	Solid Punch	3/32	JHWP-40	Center Punch	-
JHWP-14	Solid Punch	1/8	JHWP-42	Center Punch	-
JHWP-15	Solid Punch	5/32			

Features

· Heavy duty construction for strength and durability





4 PIECE CENTER PUNCH SET

Packed in a Pouch		
Product Code	Description	
JHWPS-4	4 Piece Center Punch Set	

Contents Include:

Product Code	Description	Stock Diameter (Inches)	Product Code	Description	Stock Diameter (Inches)
JHWP-38	Center Punch	1/4	JHWP-40	Center Punch	3/8
JHWP-39	Center Punch	5/16	JHWP-42	Center Punch	1/2

Features

Heavy duty construction for strength and durability





12 PIECE PILOT PUNCH SET

Packed in a Pouch

Product Code	Description			
JHWPS-12	12 Piece Pilot Punch Set			
Contents Include:				
Product Code	Point Diameter	Product Code	Point Diameter	
JHWP-51	1/16	JHWP-57	7/32	

Product Code	Point Diameter	Product Code	Point Diameter
JHWP-51	1/16	JHWP-57	7/32
JHWP-52	5/64	JHWP-58	1/4
JHWP-53	3/32	JHWP-59	5/16
JHWP-54	1/8	JHWP-60	3/8
JHWP-55	5/32	JHWP-61	7/16
JHWP-56	3/16	JHWP-62	1/2

- Designed to apply equal pressure to the end of a pin driving it straight through the hole
 The ball on the center of the point end assures proper contact with the pin eliminating damage to the pin or hole wall













8 PIECE PILOT PUNCH SET

Packed in a Pouch

Product Code	Description
JHWPS-8	8 Piece Pilot Punch Set

Contents Include:

Product Code	Point Diameter	Product Code	Point Diameter
JHWP-51	1/16	JHWP-55	5/32
JHWP-52	5/64	JHWP-56	3/16
JHWP-53	3/32	JHWP-57	7/32
JHWP-54	1/8	JHWP-58	1/4

- eliminating damage to the pin or hole wall



Designed to apply equal pressure to the end of a pin driving it straight through the hole
 The ball on the center of the point end assures proper contact with the pin



3 PIECE BRONZE DRIFT PUNCH SET

Packed in a Pouch

Product Code	Description
JHWPS-3A	3 Piece Bronze Drift Punch Set

Contents Include:

Product Code	Point Diameter	
JHWP-63A	3/8	
JHWP-64A	1/2	
JHWP-65A	3/4	

Features

· For aligning unhardened steel or aluminum





Comfort Grip Handle

Product Code	Description
JHW28449	7/8

Features

- Holds chisel and punch securely
 Protect user from hand injury





Heavy Duty Industrial Grade

Product Code	Stock Size	Blade Width (Inches)	Length (Inches)
JHWC-8	1/4	1/4	5
JHWC-10	1/4	5/16	5
JHWC-12	5/16	3/8	5 ½
JHWC-15	3/8	7/16	6
JHWC-16	⁷ /16	1/2	6
JHWC-20	1/2	5/8	6 ½
JHWC-24	5/8	3/4	7
JHWC-28	3/4	7/8	7 1/2
JHWC-32	7/8	1	8
JHWC-36	7/8	1 1/8	8

Features

- . The most commonly used chisels in the chisel line
- For cutting, shaping and removing metal softer than the cutting edge of the chisel





JHW28449

JHWPS-3A

JHWPS-8



EXTRA-LONG COLD CHISELS

Heavy Duty Industrial Grade

Product Code	Stock Size	Blade Width (Inches)	Length (Inches)
JHWC-120	1/2	5/8	12
JHWC-124	5/8	3/4	12
JHWC-125	5/8	3/4	14
JHWC-126	5/8	3/4	18
JHWC-132	3/4	1	12
JHWC-133	3/4	1	18

Features

 Designed for cutting, shaping and removing metal softer than the cutting edge of the chisel



RIVET-BUSTER CHISEL

Heavy Duty Industrial Grade

	Stock	Blade Width	Length
Product Code	Size	(Inches)	(Inches)
JHWC-422	5/8	3/4	12

Features

. Designed for shearing bolt heads and rivets



CAPE CHISELS

Heavy Duty Industrial Grade

Product Code	Stock Size	Blade Width (Inches)	Length (Inches)
JHWC-40	3/8	3/16	5 %
JHWC-42	3/8	1/4	5 %
JHWC-44	1/2	5/16	6 1/4
JHWC-46	5/8	3/8	7

Features

. Designed for cutting or grooving keyholes or slots



DIAMOND POINT CHISELS

Heavy Duty Industrial Grade

Product Code	Stock Size	Square Cut	Length (Inches)
JHWC-60	3/8	1/4	5 ³ / ₄
JHWC-62	5/8	3/8	7

Features

 Designed for making a V-groove in metal and to clean out inside corners



ROUND NOSE CHISELS

Heavy Duty Industrial Grade

Product Code	Stock Size	Blade Width (Inches)	Length (Inches)
JHWC-72	3/8	1/4	5 ¾
JHWC-73	1/2	5/16	6 1/4
JHWC-74	5/8	3/8	7
JHWC-75	3/4	1/2	8

Features

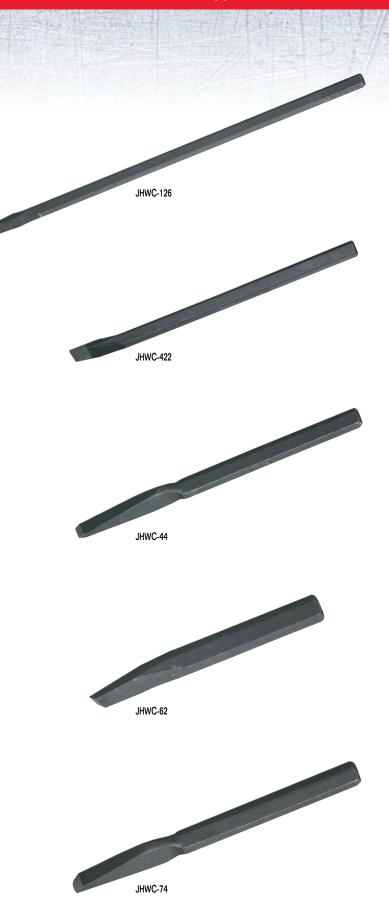
· Designed for cutting or grooving keyholes or slots













PILOT PUNCHES

Heavy Duty Industrial Grade

Product Code	Stock Size	Point Diameter	Length (Inches)
JHWP-51	1/4	1/16	2 3/4
JHWP-52	1/4	5/64	3 1/4
JHWP-53	1/4	3/32	3 ½
JHWP-54	1/4	1/8	4
JHWP-55	1/4	5/32	4 1/2
JHWP-56	3/8	³ / ₁₆	4 1/2
JHWP-57	3/8	7/32	5
JHWP-58	7/16	1/4	5 1/2
JHWP-59	7/16	5/16	6
JHWP-60	1/2	3/8	6
JHWP-61	5/8	7/16	6
JHWP-62	5/8	1/2	6

Features

- Designed to apply equal pressure to the end of a pin driving it straight through the hole
- The ball on the center of the point end assures proper contact with the pin eliminating damage to the pin or hole wall





Heavy Duty Industrial Grade

Product Code	Stock Size	Point Diameter	Length (Inches)
JHWP-3	5/16	3/32	4 1/2
JHWP-4	5/16	1/8	4 3/4
JHWP-5	5/16	5/32	5
JHWP-6	3/8	³ / ₁₆	5 1/4
JHWP-8	3/8	1/4	5 ¾
JHWP-10	7/16	⁵ / ₁₆	6

Features

 For driving out and removing already loosened pins and keys after initial movement by a solid or starter punch





Heavy Duty Industrial Grade

Product Code	Stock Size	Point Diameter	Length (Inches)
JHWP-12	3/8	1/16	5
JHWP-13	3/8	3/32	5
JHWP-14	3/8	1/8	5
JHWP-15	3/8	5/32	5
JHWP-16	3/8	³ / ₁₆	5
JHWP-18	3/8	7/32	5
JHWP-17	3/8	1/4	5

- . For loosening frozen or tight pins and keys or knocking out rivets
- Also called starter punches because they are ideal for loosening frozen pins











*A*pplifast

LONG TAPER PUNCHES

Heavy Duty Industrial Grade

Product Code	Stock Size	Point Diameter	Length (Inches)
JHWP-24	5/16	1/8	8
JHWP-25	3/8	5/32	9
JHWP-26	1/2	3/16	10
JHWP-28	5/8	1/4	12
JHWP-28A	3/4	1/4	15
JHWP-29	5/8	5/16	16
JHWP-27	3/4	3/8	15

Features

- Designed for aligning the holes in metal pieces through which rivets, bolts, or screws will be inserted
- · Not intended for driving pins as punch may become stuck in work
- Also called line-up aligning or drift punches



CENTER PUNCHES

Heavy Duty Industrial Grade

Product Code	Stock Size	Blade Width (Inches)
JHWP-38	1/4	4
JHWP-39	5/16	4 1/2
JHWP-40	3/8	5
JHWP-42	1/2	6

Features

· Pierces or marks work by indentation for starting pilot drills in metal or other materials



PRICK PUNCHES

Heavy Duty Industrial Grade

Product Code	Stock Size	Length (Inches)
JHWP-30	3/8	5
JHWP-32	1/2	6

Features

- · For scribing lines into metal before cutting or riveting, and for punching starting holes for short metal screws
- Point is more tapered than center punch



BRONZE DRIFT PUNCHES

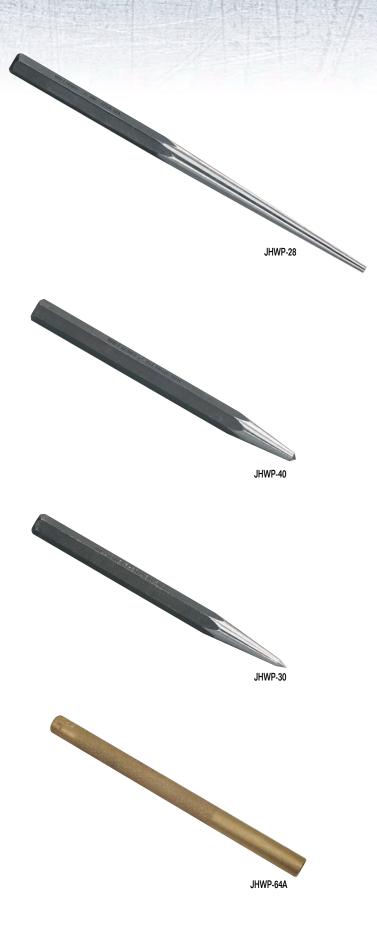
Packed in a Pouch

Product Code	Body Size	Overall Length (Inches)
JHWP-63A	3/8	6
JHWP-64A	1/2	7
JHWP-65A	3/4	8

Features

• For aligning unhardened steel or aluminum















Applifast.

4 PIECE PINCH & ROLL BAR SET

Heavy Duty Industrial Grade

Description	
4 Piece Pinch & Roll Bar Set	

Contents Include:

Toll Free 1 800 563 1293

Product Code	Description	Stock Diameter (Inches)
JHWC-80A	Pinch Bar	3/4
JHWC-82A	Pinch Bar	3/4
JHWC-715	Roll Bar	1/2
JHWC-718	Roll Bar	5/8

Features

· Heavy duty construction for strength and durability



PRYBARS - SCREWDRIVER TYPE

Contents Include:

Product Code	Size	Overall Length (Inches)	Product Code	Size	Overall Length (Inches)
JHWC-807	3/8	12	JHWC-836	5/8	36
JHWC-812	3/8	17	JHWC-842	5/8	42
JHWC-818	1/2	25	JHWC-844	7/8	44
JHWC-824	1/2	31	JHWC-858	3/4	58

Product Code	Description	
JHWC-803	3 Piece Prybar Set	

Contents Include:

Product Code	Overall Length (Inches)	
JHWC-807	12	
JHWC-812	17	
JHWC-818	25	

Features

- Blade is heat-treated the entire length.
- Handle is ergonomically designed to provide a more comfortable and secure grip
- Curved blade style gives extra leverage
- . Capped end allows for striking without damage to handle





LIGHTWEIGHT HANDLE PRYBARS

Single Curved Tip

Product Code	Overall Length (Inches)	Product Code	Overall Length (Inches)
JHWC-90	30	JHWC-92	41 ½
JHWC-91	35 ½	JHWC-93	48 ½

Double End

Product code	Overall length (Inches)	Product code	Overall length (Inches)
JHWC-100	33	JHWC-102	44
JHWC-101	38	JHWC-103	50

- Designed with drop forged hardened steel point & wedge ends
- Rust resistant black finish
- Prybar is chemically bonded to the fiberglass handle
- Half the weight of steel prybars
- Handle resists heat & cold less flex than a steel bar
- Non-Conductive fiberglass provides insulation from electrical shock
- · Used by:
 - Contractors & mechanics for construction & auto repair
 - Municipalities for safe prying, lifting & digging
 - Fire & Police Forcible entry

HAMMERS, PUNCHES, CHISELS & PRYBARS



*A*pplifast

LADYFOOT PRYBARS

Product Code	Stock Size	Overall Length (Inches)
JHWC-612	1/2	12
JHWC-616	5/8	16
JHWC-621	3/4	21

Features

- · Curved end ensures better leverage in small areas
- · Other end for aligning work



PINCH BARS

Heavy Duty Industrial Grade

Product Code	Overall Length (Inches)	Stock Size	Width of Flat (Inches)
JHWC-80	14	1/2	5/8
JHWC-82	16	5/8	3/4
JHWC-82A	18	3/4	7/8
JHWC-83	20	3/4	7/8
JHWC-80A	24	3/4	7/8
JHWC-84	30	7/8	1
JHWC-85	38	3/4	7/8
JHWC-86	42	7/8	1

Features

. Used for aligning, prying and positioning



ROLL BARS

Heavy Duty Industrial Grade

Product Code	Overall Length (Inches)	Stock Size		
JHWC-709	9	3/8		
JHWC-715	16	1/2		
JHWC-718	18	5/8		

Features

Aligning and prybar with long tapered body and 90° rolling head



2 PIECE COMFORT GRIP PRYBAR SET

Bi-Mold Comfort Grip Handles

Product Code	Description					
JHW21661	2 Piece Comfort Grip Prybar Set					
Contents Include:						
Size	Overall Length (Inches)					
Small	8					
Large	18					

- . Bi-mold handles provide comfortable grip, reducing hand fatigue
- . Thumb stop on handle provides control during use
- · Fulcrum end provides extra prying power

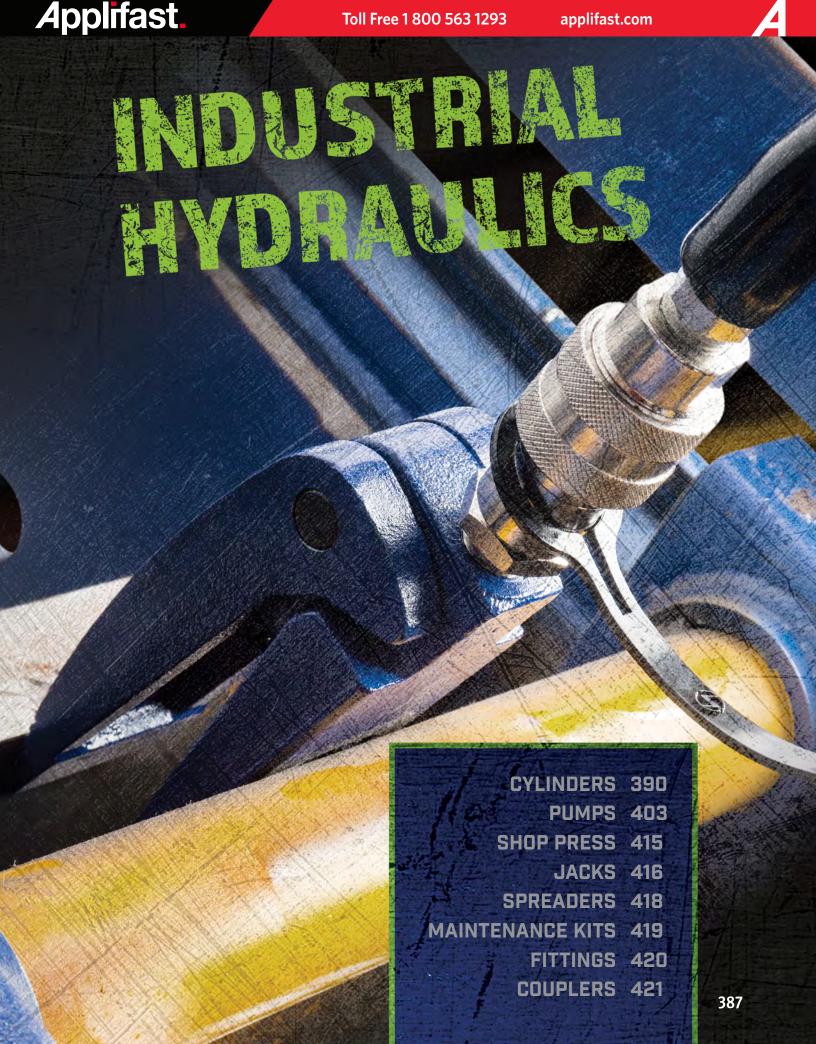














LOW PROFILE MINI JACKS





HAND PUMPS

Release valve for a overload protection



CYLINDERS

Heavy-duty, heat-treated, grooved saddle provides better surface traction during operation

Rod wiper seals out dirt and contamination

Hard, chrome-plated rod prevents scratching and corrosion

1-Piece steel rod stopper for extra strength prevents over-travel

Polyurethane cup seal provides optimum performance

Rectangular return spring design eliminates spring breakage and provides quicker retraction **Steel stop ring** for rod over-travel protection

Collar fixture threads

Burnish-rolled cylinders for smoother finish than honing which reduces scoring and prolongs seal life

1-Piece high grade alloy bearing for side load protection and long life

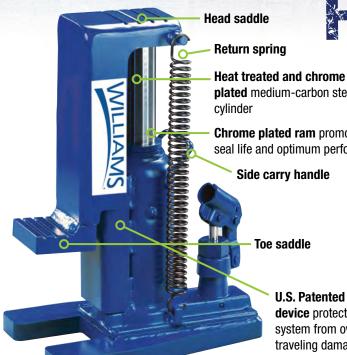
High flow ball coupler provides more flow than conventional couplers



TOE JACKS

INDUSTRIAL HYDRAULICS

SUPERIOR QUALITY. MORE RELIABILITY.



plated medium-carbon steel

Chrome plated ram promotes longer seal life and optimum performance

Side carry handle

Toe saddle

U.S. Patented by-pass device protects hydraulic system from over traveling damage



MAINTENANCE KITS

Portable for easy use in the plant or on the job site

Custom fitted, rugged, blow-molded storage case (10-ton set has wheels for easy movement)

Extension tubes

Cylinder

Hand pumps are rated from 8,000 to 10,000 PSI

Williams® Hydraulics are interchangeable with other manufacturers. All pumps and cylinders are marathon tested to 10,000 cycles.



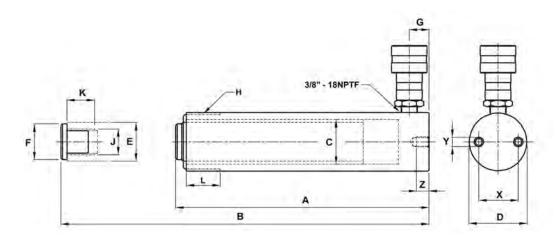


pplifast

SINGLE ACTING CYLINDERS

- 39 models
- Internal plunger threads
- Snap in grooved saddles
- Rod wiper seals out dirt and contamination
- Collar fixture threads
- Two base mounting holes on most models
- High strength steel construction from gun drilled solid bar
- High flow 3/8" NPTF couplers
- · Collar thread protector
- One piece high grade alloy bearing for side load protection and long life

- Polyurethane cup seal provides optimum performance
- Industrial hard chrome plated ram helps prevent rust and corrosion
- Solid steel cylinder body
- Heavy duty return spring provides quicker retraction
- Ideal for lifting and pressing
- Maximum working pressure: 10,000 psi / 700 bar
- See page 421 for Cylinder accessories



CYLINDER DIMENSIONS

Cylinder Capacity	Stroke	Product Code	Cylinder Effective Area	Pressure at Capacity	Oil Capacity	Collapsed Height	Extended Height	Cylinder Bore Dia.	Outside Dia.	Plunger Dia.	
(tons)	(in)		(in²)	(psi)	(in³)	A (in)	B (in)	C (in)	D (in)	E (in)	
	0.63	JHW6C05T00	1.10	9,090	0.69	1.61	2.24	1.18	2.36 x 1.58	0.98	
	1.00	JHW6C05T01			1.00	4.58	5.58		1.50	1.00	
5	3.07	JHW6C05T03		10,000	3.07	6.65	9.72	1.13			
"	5.08	JHW6C05T05	1.00		5.08	8.70	59.50				
	7.09	JHW6C05T07			7.09	10.71	17.80				
	9.09	JHW6C05T09			9.09	12.72	21.81				
	1.00	JHW6C10T01			2.24	3.62	4.62	1.69	2.26	1.49	
	2.01	JHW6C10T02			4.50	4.84	6.85				
	4.02	JHW6C10T04			9.00	6.85	10.87				
10	5.94	JHW6C10T06	2.24	8,930	13.31	9.84	15.78				
10	7.95	JHW6C10T08	2.27	0,330	17.81	11.85	19.80	1.69	2.26	1.49	
	9.96	JHW6C10T10			22.31	13.86	23.82				
	11.97	JHW6C10T12			26.81	15.87	27.84				
	14.02	JHW6C10T14			31.40	17.72	31.74				









Applifast.



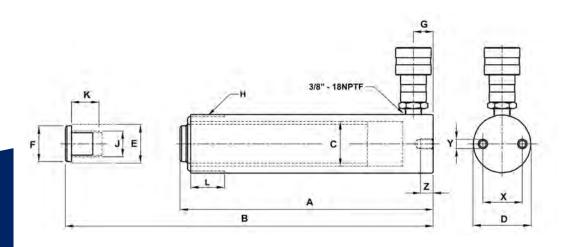


	JHW6C10T0
TAA	

Saddle	Base to	Collar	Collar	Plunger	Plunger	В	ase Mounting H	lole	
Dia.	Inlet Port	Thread	Thread Length	Internal Thread	Thread Length	Bolt Circle	Thread	Thread Depth	Product Code
F (in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	(in)	
N/A	0.75	N/A	N/A	N/A	N/A	1.10	0.2	N/A	JHW6C05T00
									JHW6C05T01
									JHW6C05T03
0.98	0.79	1 ½ -16	1.10	0 ¾"-16UNF 0.63 1.00 ¼" - 20UNC 0.9	0.55	JHW6C05T05			
			I					JHW6C05T07	
									JHW6C05T09
N/A	0.77	2 ¼ -14	1.30	#10-24UNC	0.24	1.56	5∕16" - 18UNC	0.55	JHW6C10T01
									JHW6C10T02
									JHW6C10T04
									JHW6C10T06
1.38	0.77	2 ¼ -14	1.30	1"-8UNC	0.79	1.56	5∕16"-18UNC	0.55	JHW6C10T08
									JHW6C10T10
									JHW6C10T12
									JHW6C10T14



Applifast.





JHW6C30T08

CYLINDER DIMENSIONS

Cylinder Capacity	Stroke	Product Code	Cylinder Effective Area	Pressure at Capacity	Oil Capacity (in³)	Collapsed Height	Extended Height	Cylinder Bore Dia.	Outside Dia.	Plunger Dia.	Saddle Dia.												
		4	C1 23		riii. 1	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)												
(tons)	(in)		(in²)	(psi)					J ()														
	0.99	JHW6C15T01			3.11	4.88	5.87																
	2.01	JHW6C15T02			6.31	5.87	7.88																
	3.98	JHW6C15T04			12.50	7.87	11.85																
15	5.87	JHW6C15T06	3.14	9,550	18.43	10.67	16.54	2.00	2.75	1.63	1.50												
	7.87	JHW6C15T08	3.14	3,330	24.71	12.68	20.55	2.00	2.75	1.00	1.30												
	9.88	JHW6C15T10			31.02	14.69	24.57																
	12.01	JHW6C15T12			37.71	16.65	28.66																
	14.02	JHW6C15T14			44.02	18.66	32.68																
	1.02	JHW6C25T01	5.14		5.24	5.84	6.86			2.24	1.97												
	2.01	JHW6C25T02			10.33	6.82	8.83	2.56	3.35														
	3.94	JHW6C25T04		.14 9,730	20.25	8.78	12.72																
	5.94	JHW6C25T06			30.53	10.79	16.73																
25	7.95	JHW6C25T08			40.86	12.80	20.75																
	9.96	JHW6C25T10			51.19	14.80	24.76																
	12.24	JHW6C25T12		İ													62.91	16.73	28.97				
	14.25	JHW6C25T14	İ		73.25	18.74	32.99																
30	8.27	JHW6C30T08	6.49	9,240	53.67	15.24	23.51	2.87	4.00	2.24	2.13												
	2.01	JHW6C55T02			22.09	6.93	8.94																
	3.98	JHW6C55T04	1		43.74	8.94	12.92	1															
55	6.22	JHW6C55T06	10.99	10,000	68.36	11.14	17.36	3.74	5.00	3.15	2.76												
	13.27	JHW6C55T13	İ		145.84	18.15	31.42																
75	6.14	JHW6C75T06	10.10		98.85	11.22	17.36	4.50	F 70	0.74	0.70												
75	13.11	JHW6C75T13	16.10	9,320	211.07	19.37	32.48	4.53	5.79	3.74	2.76												
100	6.61	JHW6C100T06	20.57	9,720	135.97	14.06	20.67	5.12	6.97	4.13	2.76												
100	10.24	JHW6C100T10	20.37	3,720	210.64	17.68	27.92	J. 12	0.37	7.13	2.70												









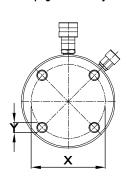
to Inlet Thread Internal Thread Bolt Thread Depth		
	Product Code	
G (in) H (in) L (in) J (in) K (in) X (in) Y (in) Z (in)		
	JHW6C15T01	
	JHW6C15T02	
	JHW6C15T04	
0.98 2 ¾ -16 1.18 1"-8UNC 0.98 1.88 ¾"-16UNC 0.51	JHW6C15T06	
0.30 2 /4 - 10 1.10 1 - 0.000 0.30 1.00 /6 - 10000 0.31	JHW6C15T08	
	JHW6C15T10	
	JHW6C15T12	
	JHW6C15T14	
	JHW6C25T01	
	JHW6C25T02	
	JHW6C25T04	
0.98 3 1/6 - 12 1.93 1 1/2 - 16 1.18 2.31 1/2 - 13UNC 0.75	JHW6C25T06	
	JHW6C25T08	
	JHW6C25T10	
	JHW6C25T12	
	JHW6C25T14	
1.97 3 5/16 - 12 1.93 1 ½ -16 1.18 N/A	JHW6C30T08	
	JHW6C55T02	
	JHW6C55T04	
1 22 5 12 2 17 N/A 2 75 1/4"-12UNC 0.75	JHW6C55T06	
1.22 5 - 12 2.17 N/A 3.75 ½"-13UNC 0.75		
1.22 5 - 12 2.17 N/A 3.75 ½"-13UNC 0.75	JHW6C55T13	
1.22 5 - 12 2.17 N/A 3.75 ½"-13UNC 0.75 1.18 5¾ - 12 1.73 N/A	JHW6C55T13 JHW6C75T06 JHW6C75T13	
	JHW6C75T06	

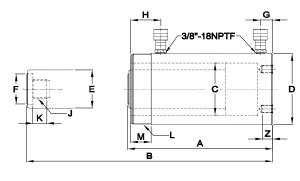


pplifast

DOUBLE ACTING CYLINDERS

- Rod wiper seals out dirt and contamination
- . High strength steel construction from gun drilled solid bar
- High flow 3/8" NPTF couplers
- One piece high grade alloy bearing for side load protection and long life
- Ideal for pushing and pulling
- Maximum working pressure: 10,000 psi / 700 bar
- See page 421 for Cylinder accessories







DOUBLE ACTING CYLINDER SPECIFICATIONS

Cylinder Capacity	Stroke	Product Code			nder Eylind Fffective				Collapsed Height	Extended Height	Cylinder Bore Dia.	Outside Dia.		
(tons)	(in)		Push (ton)	Pull (ton)	Push (in²)	Pull (in²)	Push (in³)	Pull (in)	A (in)	B (in)	C (in)	D (in)		
10	10.04	JHW6CD10T10	11.4	3.8	2.23	0.74	22.41	7.47	16.14	26.18	1.69	2.87		
10	11.97	JHW6CD10T12					26.71	8.90	18.03	30.00		2.87		
30	8.15	JHW6CD3OT08	32.9	16.2	6.49	3.19	52.93	26.02	15.31	23.46	2.87	3.98		
30	14.49	JHW6CD30T15					94.09	46.26	21.65	36.14		3.30		
	6.18	JHW6CD55T06		16.2	10.99	3.19	67.93	19.74	13.03	19.21	3.74			
55	13.19 20.12	JHW6CD55T13 JHW6CD55T20	55.7				144.94 221.09	42.11 64.24	20.04 28.86	33.23 49.98		5.00		
	6.10	JHW6CD75T06							98.1	31.21	13.70	19.80		
75	13.11	JHW6CD75T13	81.7	25.9	16.09	5.12	210.93	67.06	20.71	33.82	4.53	5.75		
	6.57	JHW6CD100T06					135.23	62.98	14.06	20.63	5.12			
100	13.11	JHW6CD100T13	104.4	48.6	20.57	9.58	269.66	125.58	20.63	33.74		6.97		
	18.15	JHW6CD100T18					373.31	173.86	27.05	45.20				

DOUBLE ACTING CYLINDER DIMENSIONS

DOUBLE ACTING CT LINDER DIMENSIONS														
Product	Plunger	Saddle	Saddle	Saddle	Base to Adv.	Top to Return	Plunger Internal	Plunger Thread	Collar	Collar Thread	Ва	se Mountin	g Hole	Weight
Code	Dia.	Dia.	Port	Port	Thread	Length	Thread	Length	Bolt Circle	Thread Thread Depth		(lbs)		
	E (in)	F (in)	G (in)	H (in)	J (in)	K (in)	L (in)	M (in)	X (in)	Y (in)	Z (in)			
JHW6CD10T10	1.37	1.38	1.42	2.09	1 - 8	0.98	2¼ - 14	1.02		26.7				
JHW6CD10T12	1.37	1.36	1.42	2.09	1-8	0.36	2%-14	1.02		30.0				
JHW6CD30T08	2.13	1.97	1.65	2.91	1½ - 16	0.98	3 ⁵⁄ıs - 12	1.93		43.0				
JHW6CD30T15	2.13	1.37	1.03	2.31	1/2-10	0.30	J /16 - 12	1.33		60.6				
JHW6CD55T06			1.14									70.5		
JHW6CD55T13	3.14	2.76	1.14	1.14	".14	2.87	1 - 12	0.98	5 - 12	1.73		N/A		104.0
JHW6CD55T20	ĺ		2.48									146.2		
JHW6CD75T06		0.70	1.10	0.00		1.50	F2/ 10	1.50		N/A		93.7		
JHW6CD75T13	3.75	2.76	1.18	2.80	1 - 12	1.50	5¾ - 12	1.50		136.8				
JHW6CD100T06			1.22									138.6		
JHW6CD100T13	3.75	2.95		2.95	1¾ - 12	1.38	6 1/8 - 12	1.97	5.47	³⁄4 - 10	0.98	193.6		
JHW6CD100T18		1.50										248.3		









LOCK NUT CYLINDERS

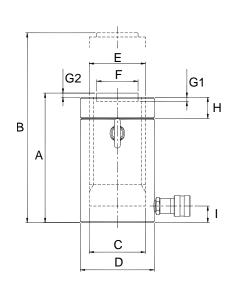
- Single acting cylinder with mechanical safety lock nut
- Designed to support load for extended periods without hydraulic pressure.
- Overflow port prevents cylinders from over travel
- Load return
- Solid steel cylinder body
- Ideal for lifting and holding loads
- Maximum working pressure: 10,000 psi / 700 bar
- See page 421 for Cylinder accessories

LOCK NUT CYLINDERS SPECIFICATIONS

Cylinder Capacity	Stroke	Product Code	Cylinder Effective Area	Oil Capacity	Collapsed Height	Extended Height	Cylinder Bore Diameter	Outside Diameter	Plunger Outside Thread
(tons)	(in)		(in²)	(in³)	A (in)	B (in)	C (in)	D (in)	E
	1.97	JHW6CN55T02		21.65	6.5	8.4		4.9	
	3.94	JHW6CN55T04	10.99	43.27	8.4	12.4			
	5.91	JHW6CN55T06		64.90	10.4	16.3	3.7		T05 0N
55	7.87	JHW6CN55T08		86.54	12.4	20.2	3.7		Tw95-6N
	9.84	JHW6CN55T10		108.17	14.3	24.2			
	11.81	JHW6CN55T12		129.80	16.3	28.1			
	1.97	JHW6CN100T02		40.49	7.4	9.3		6.5	
	3.94	JHW6CN100T04		80.98	9.3	13.3			
100	5.91	JHW6CN100T06	20.57	121.48	11.3	17.2			Tw130-4N
100	7.87	JHW6CN100T08	20.57	161.97	13.3	21.1	5.1		IW 130-4N
	9.84	JHW6CN100T10		202.46	15.2	25.1			
	11.81	JHW6CN100T12		242.95	17.2	29.0			

LOCK NUT CYLINDERS DIMENSIONS

Product Code	Saddle Diameter	Depth of Plunger Hole	Saddle Protrusion from Plunger	Lock Nut Length	Base to Inlet Port	Weight (lbs)
	F (in)	G1 (in)	G2 (in)	H (in)	l (in)	
JHW6CN55T02						34.0
JHW6CN55T04						44.5
JHW6CN55T06	2.8		0.51	1.4		55.1
JHW6CN55T08				1.4		65.9
JHW6CN55T10		0.08				76.5
JHW6CN55T12					1.1	87.1
JHW6CN100T02	2.0	0.00				67.2
JHW6CN100T04						85.8
JHW6CN100T06						104.3
JHW6CN100T08				1.8		122.6
JHW6CN100T10						141.1
JHW6CN100T12						159.6

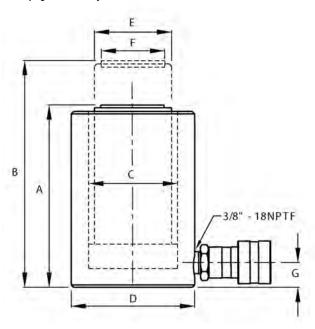




pplifast

ALUMINUM CYLINDERS

- Lightweight aluminum alloy construction
- Up to 60 percent lighter than comparable tonnage steel rams
- Convenient carry handle
- Hard anodized aluminum piston rod provides extra protection against corrosion and wear
- Maximum working pressure: 10,000 psi / 700 bar
- See page 421 for Cylinder accessories





JHW6CA30T06

ALUMINUM CYLINDER DIMENSIONS

Cylinder Capacity	Stroke	Product Code	Cylinder Effective Area	Internal Pressure at Capacity	Oil Capacity	Collapsed Height	Extended Height	Cylinder Bore Dia.	Outside Dia.	Plunger Dia.	Saddle Dia.	Base to Inlet Port	Weight
(tons)	(in)		(in²)	(psi)	(in³)	A (in)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	(lbs)
	2.00	JHW6CA30T02			13.00	6.50	8.50		4.50			1.5	11.0
30	4.00	JHW6CA30T04	6.50	9,231	26.00	8.50	12.50	2.90		2.50	2.00		14.0
	6.00	JHW6CA30T06			39.00	10.50	16.50						17.0
	2.00	JHW6CA50T02			22.00	6.50	8.50	3.70	5.50	3.10	2.50		17.0
50	4.00	JHW6CA50T04] ,, ,,	0.001	44.00	8.50	12.50						21.0
30	6.00	JHW6CA50T06	11.00	9,091	66.00	10.50	16.50						25.0
	10.00	JHW6CA50T10			110.00	14.50	24.50						34.0
75	4.00	JHW6CA75T04	15.00		8.50	12.50	4.40	0.50	0.00			29.0	
/3	6.00	JHW6CA75T06	13.00	10,000	90.00	10.50	16.50	4.40	6.50	3.90	3.00		35.0
	2.00	JHW6CA100T02			41.40	6.50	8.50						36.0
100	4.00	JHW6CA100T04	20.70	9,662	82.80	8.50	12.50	5.10	8.00	4.30	3.50		43.0
100	6.00	JHW6CA100T06	20.70		124.40	10.50	16.50						51.0
	10.00	JHW6CA100T10			207.0	14.50	24.50						68.0







FLAT BODY CYLINDERS

- Made of high quality steel
- Extremely low collapsed height for applications with minimal clearance at the lift point
- Great for areas of low clearance
- Maximum working pressure 10,000 psi / 700 bar
- See page 421 for Cylinder accessories



VILLIAMS

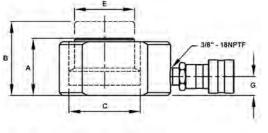
JHW6CF05T03

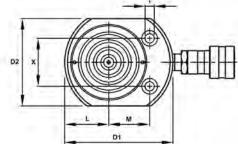




FLAT BODY CYLINDER DIMENSIONS

C	Cylinder Mounting Hole Dimensions (in)													
Product Code	Hole Pitch	Hole Dia	Counter Bore Dia.	Counter Bore Depth										
	X (in)	Y (in)	(in)	(in)										
JHW6CF05T03	1.12	0.2	0.31	0.17										
JHW6CF10T05	1.44	0.28	0.42	0.31										
JHW6CF20T05	1.94	0.4	0.59	0.39										
JHW6CF30T05	2.06	0.4	0.62	0.44										
JHW6CF50T05	2.62	0.43	0.75	0.50										





FLAT BODY CYLINDER DIMENSIONS

1 1/11 00	D 1 0 11	CHAPEH PHA											
Cylinder Capacity	Stroke	Product Code	Cylinder Effective Area	Pressure at Capacity	Oil Capacity		Extended Height	Outside Dim. D1 x D2	Cylinder Bore Dia.	Plunger Dia.	Base to Port	Plunger to Base	Plunger to Mtg. Hole
(tons)	(in)		(in²)	(psi)	(in³)	A (in)	B (in)	(in)	C (in)	E (in)	G (in)	L (in)	M (in)
5	0.24	JHW6CF05T03	1.10	9,090	0.26	1.26	1.5	2.4 x 1.6	1.18	0.98	0.69	0.80	0.87
10	0.43	JHW6CF10T05	2.36	8,470	1.01	1.69	2.12	3.3 x 2.2	1.73	1.50	0.77	1.12	1.32
20	0.43	JHW6CF20T05	4.38	9,130	1.88	2.01	2.44	4.0 x 3.0	2.36	2.00	0.75	1.54	1.56
30	0.51	JHW6CF30T05	6.49	9,240	3.31	2.31	2.82	4.6 x 3.8	2.87	2.50	0.79	1.88	1.75
50	.63	JHW6CF50T05	9.86	10,140	6.21	2.64	3.27	4.5 x 4.5	3.54	2.76	0.79	2.25	2.13

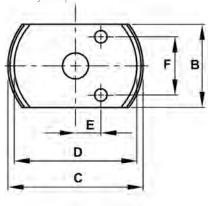


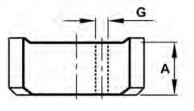
Applifast.

FLAT BODY CYLINDER KITS

- Various height magnetic adapters
- Perfect for low clearance areas needing a cylinder height boost
- Maximum working pressure: 10,000 psi / 700 bar
- Kits include magnetic adapters and carrying case
- See page 421 for Cylinder accessories

Flat Body Kit Spacers







FLAT BODY CYLINDER KIT DIMENSIONS

Cylinder Capacity	Stroke	Product	Cylinder Model	Oil Capacity	Collapsed Height	Includes			Adapter	r Dimensi	ons (in)							
(tons)	(in)	Code		(in³)	(in)	Adapter	A	В	C	D	E	F	G					
						I	0.25											
5	0.24	JH6CF05T03TB	JHW6CF05T03	0.26	1.26	II	0.5	1.61	2.56	2.32	0.48	1.10	0.24					
"	0.24	3110010310310	3114400103103	0.20	1.20	III	1	1.01	2.30	2.32	0.70	1.10	0.24					
						IV	1.25											
						1	0.39				0.81	1.46	0.28					
10	0.43	JH6CF1OTO5TB	JHW6CF10T05	1.02	1.69	II	0.79	2.20	3.54	3.23		N/A						
						III	1.57					IV/A						
						I	0.39				1.08	1.93	0.39					
20	0.43	JH6CF2OT05TB	JHW6CF2OT05	1.90	2.01	II	0.79	2.99	4.25	3.94		N/A						
											III	1.57					IV/A	
						I	0.39				1.32	2.06	0.39					
30	0.51	JH6CF3OTO5TB	JHW6CF30T05	10T05 3.32 2.31 II 0.79 3	3.75	4.76	4.45	N/A										
			B JHW6CF30T05 3.32 2.31	III	1.57					IV/A								

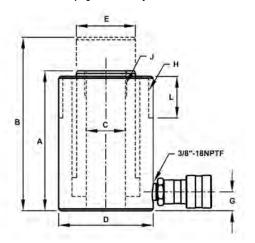








- 6 standard models
- Ideal for some pulling and pushing applications
- Heavy duty compression spring
- Dual wipers help prevent contamination
- Collar thread protector
- High flow coupler with dust cap
- See page 421 for Cylinder accessories





JHW6CH30T06

HOLLOW HOLE CYLINDER DIMENSIONS

			Cylinder	Pressure						Plun	ger	
Cylinder Capacity	Stroke	Product Code	Effective Area	at Capacity	Oil Cap.	Min. Height	Max. Height	O.D.	1.D.	O.D.	Internal Thread	Internal Thread Length
(tons)	(in)		(in²)	(psi)	(in³)	A (in)	B (in)	D (in)	C (in)	E (in)	J (in)	K (in)
12	3.00	JHW6CH12T03	2.91	8,236	8.72	7.24	10.24	2.760	0.770	1.38	•	-
20	2.01	JHW6CH2OTO2	4.90	8,167	9.83	6.38	8.39	3.92	1.063	2.15	1 %16"-16UN	0.75
20	6.06	JHW6CH2OTO6	7.30	0,107	29.70	12.05	18.11	J.32	1.003	2.13	1 / 16 - 100N	0.73
30	2.52	JHW6CH30T02	6.32	9,488	15.93	7.05	9.57	4.50	1.311	2.48	1 ¹³ /16"-16UN	0.87
30	6.11	JHW6CH30T06	0.32	3,400	38.67	13.02	19.13	4.30	1.311	2.70	1 716 -100W	0.07
60	3.00	JHW6CH6OTO3	13.05	9,195	39.10	9.77	12.77	6.252	2.126	3.66	2 ¾"-16UN	0.75
100	3.00	JHW6CH100T03	22.13	9,036	,	10.00	13.00	8.386	3.110	4.92	4"-16UN	0.98

HOLLOW HOLE CYLINDER SPECIFICATIONS

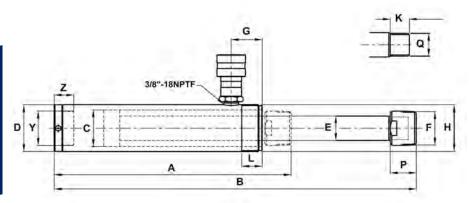
IIOLLOW IIOL	Collar 1			Ва	se Mounting Ho	ole	
Product Code	Dia.	Lgth.	Base to Inlet Port	Bolt Circle	Thread	Thread Depth	Weights
	H (in)	L (in)	G (in)	X (in)	Y (in)	Z (in)	(lbs)
JHW6CH12T03	2 ¾"-16	1.81	0.75	2.00	⁵⁄16"-18UNC	0.35	8.6
JHW6CH2OTO2	9.7/ 19	1.50	0.75	0.05	3/8"-16UNC	0.07	15.9
JHW6CH2OTO6	3 1/8 -12	1.30	0.75	3.25	%"-16UNG	0.37	29.5
JHW6CH30T02	4 ½ -12	1.75	0.01		3/8"-16UNC	0.55	22.9
JHW6CH30T06	4 1/2 - 12	1.75	0.81		%"-16UNG	0.55	43.0
JHW6CH6OTO3	6 ¼ -12	2	1.00		½"-13UNC	0.55	65.7
311440011001103	U /4 - 12		1.00		/z -130NG	0.33	81.1
JHW6CH100T03	6 % -12	2.38	1.06	7.01	%"-11UNC	0.75	113.3



PULL CYLINDERS

pplifast

- · High strength steel construction
- One piece high grade alloy bearing for side load protection and longer life
- Polyurethane cup seal helps provide optimum performance
- External plunger threads
- Internal base threads
- Used for pulling and tensioning
- Maximum working pressure: 10,000 psi / 700 bar
- See page 421 for Cylinder accessories





PULL CYLINDER DIMENSIONS

			0 11 1								Colla	ar
Cylinder Capacity	Stroke	Product Code		Pressure at Capacity	Oil Capacity	Collapsed Height	Extended Height	Outside Dia.	Cylinder Bore Dia.	Top to Inlet Port	Thread	Thread Length
(tons)	(in)		(in²)	(psi)	(in³)	A (in)	B (in)	D (in)	C (in)	G (in)	H (in)	L (in)
2.5	5.00	JHW6CP02T05	0.56	8,930	2.78	10.55	15.55	1.89	1.13	1.65	1 ½"-16	0.98
5	5.55	JHW6CP05T05	1.14	8,770	6.34	11.85	17.35	2.25	1.69	1.50	2 ¼"-14	1
10	5.95	JHW6CP10T06	2.44	8,200	14.48	11.75	17.7	3.35	2.17	1.50	M85x2	1

	Adapter			Plunger		Base Mounting H	lole
Product Code	Thread	Length	Dia.	Thread Length	Thread	Thread	Depth
	F (in)	P (in)	E (in)	K (in)	Q (mm)	Н	Z (in)
JHW6CP02T05	3/4"-14NPTF	1.13	0.75	0.76	M16x1.5	3⁄4"-14NPTF	0.72
JHW6CP05T05	1 ¼"-11.5NPTF	1.25	1.18	0.93	M28x1.5	1 ¼"-11.5NPTF	0.95
JHW6CP10T06	-	-	1.26	1.02	M30x2	M30x2	0.98







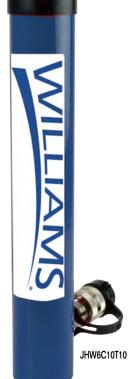


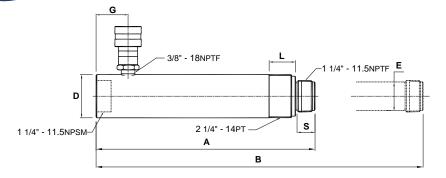


Toll Free 1 800 563 1293

- High quality threaded single acting cylinders
- Removable threaded plunger adapter allows for the use of a variety of threaded attachments
- Used to attach accessories to rod end and base
- Maximum working pressure: 10,000 psi / 700 bar
- See page 421 for Cylinder accessories







THREADED HOLE CYLINDER DIMENSIONS

Cyl Cap	inder acity	Stroke	Product Code	Cylinder Effective Area	Pressure at Capacity	Oil Capacity	Collapsed Height	Extended Height	Outside Dia.	Plunger Dia.	Base to Inlet Port	Collar Thread Length	Saddle Height
(to	ons)	(in)		(in²)	(psi)	(in³)	A (in)	B (in)	D (in)	E (in)	G (in)	L (in)	S (in)
	10	5.95	JHW6CT10T06	2.24	0.020	13.33	11.46	17.41	2.26	1.49	1.67	1.13	0.04
	10	9.96	JHW6CT10T10	2.24	8,930	22.31	15.47	25.43	2.20	1.49	1.6/	1.13	0.94



LOW PROFILE CYLINDERS

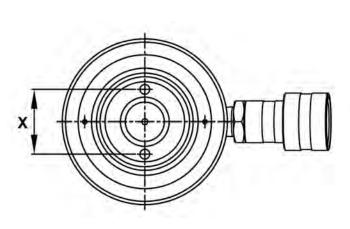
- . Compact design for use in confined spaces
- Rod wiper helps seal out dirt and contamination
- Specially designed return spring ensures a quick retraction and extends the life of the spring
- Industrial hard chrome plated ram helps prevent scratching and corrosion
- Plunger end is grooved to reduce load slippage
- Includes high flow ball coupler and dust cap
- Coupler is tilted upward for added clearance
- Maximum working pressure: 10,000 psi/700 bar
- See page 421 for Cylinder accessories

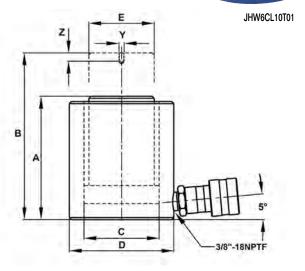




JHW6CL20T02

JHW6CL30T02





LOW PROFILE CYLINDER DIMENSIONS

			Cylinder	Internal		Collapsed	Extended	Outside	Cylinder	Plunger	Plu	nger Mour	nting
Cylinder Capacity	Stroke	Product Code	Effective Area	Pressure at Capacity	Oil Capacity	Height	Height	Dia.	Bore Dia.	Dia.	Bolt Circle	Thread	Thread Depth
			Aiou	oupuoity		A	В	D	C	E	X	Y	Z
(tons)	(in)		(in²)	(psi)	(in³)	(in)	(in)	(in)	(in)	(in)	(in)	(mm)	(in)
10	1.50	JHW6CL10T01	2.35	8,511	3.53	3.48	4.98	2.75	1.73	1.50	1.03	M4	0.32
20	1.75	JHW6CL2OT02	4.37	9,153	7.65	3.90	5.65	3.63	2.36	2.00	1.56	M4	0.32
30	2.44	JHW6CL30T02	6.49	9,245	15.84	4.61	7.05	4.00	2.87	2.50	1.56	M5	0.32
50	2.36	JHW6CL50T02	9.87	10,132	23.29	4.8	7.17	3.54	4.88	2.76	1.56	M5	0.32







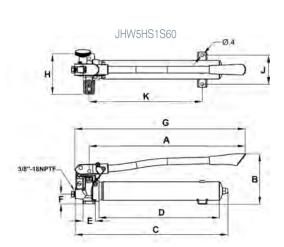
HAND PUMPS

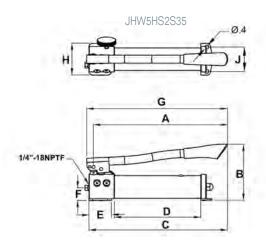
Toll Free 1 800 563 1293

JHW5HS1S60

- JHW5HS2S35, JHW5HS2S100 and JHW5HS2S200 feature 2 speed operation
- Pressure relief valve for overload protection
- Load release valve for single acting cylinder usage
- Large oil capacities to power a wide range of cylinders and tools
- JHW5HS2S35 and JHW5HS2S100 are constructed of high strength lightweight aluminum alloy for easy handling and corrosion resistance that resists cracks and leaking
- All hand pumps function in horizontal positions and will also function in some vertical positions
- Maximum working pressure: 10,000 psi / 700 bar



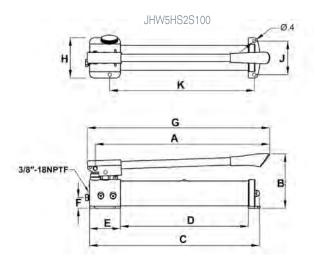


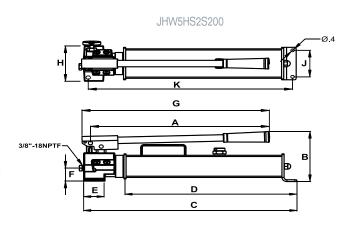


HAND PUMP SPECIFICATIONS

Used with	Ритр Туре	Usable Oil Capacity	Product Code	Pressure			acement troke 1 ³ 1	Max. Operating Force	Piston Stroke	Oil Outlet Port
Cylinder		(in³)	Gone	1st Stage	2nd Stage	1st Stage	2nd Stage	(lbs)	(in)	
	Cinula anad	36.5	JHW5HS1S60				0.15	109	0.79	3/8"-18NPTF
	Single-speed	67.0	JHW5HS1S120				0.13	89	0.82	3/8"-18NPTF
Single Acting		21.4	JHW5HS2S35		10,000	0.18	0.05	88	0.38	14"-18NPTF
	Two-speed	61.0	JHW5HS2S100	0 200		0.01	0.14	132	0.02	3/8"-18NPTF
		128.0	JHW5HS2S200			U.61	0.81 0.14		0.82	J/O -IÖNPIF







HAND PUMP DIMENSIONS

Product					Dimensi	ions (in)				
Code	A	В	C	D	E	F	G	Н	J	K
JHW5HS1S60	18.94	6.46	19.53	15.35	1.57	1.26	20.79	5.20	3.74	14.45
JHW5HS1S120	20.50	6.50	21.75	17.50	2.13	1.75	22.63	5.25	3.74	21.25
JHW5HS2S35	13.43	5.91	13.89	9.09	2.36	1.34	14.13	3.35	2.56	-
JHW5HS2S100	19.69	6.38	19.88	14.96	3.62	1.26	20.63	4.72	3.94	16.93
JHW5HS2S200	19.75	6.64	23.69	18.37	2.36	1.73	20.71	4.72	3.54	22.56

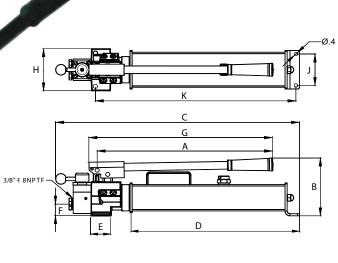




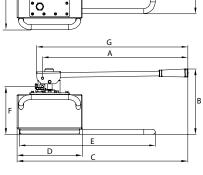


DOUBLE ACTING HAND PUMPS

- A 4-way control valve for operation of double acting cylinders
- Large oil capacities to power a wide range of cylinders and tools
- Two speed operation increases productivity and reduces user fatigue
- Metal reservoirs are made of steel or aluminum alloy and resists cracks and leaking







DOUBLE ACTING HAND PUMP SPECIFICATIONS

Used with	Pump	Usable Oil	Product	Pressur	e Rating		acement troke	Max. Operating Force	Piston Stroke	Oil Outlet	Weight
Cylinder	Туре	Capacity	Code	1st Stage (psi)	2nd Stage (psi)	1st Stage (in³)	2nd Stage (in³)	(lbs)	(in)	Port	(lbs)
Double	Two	128.0	JHW5HD2S100	200	10.000	0.81	0.14	132	0.82	3.8"-18NPTF	32.2
Acting	ing Speed 476.0 JHW5HD2S50	JHW5HD2S500	290	10,000	7.31 0.29	0.29	143	1.67	3.8"-18NPIF	77.4	

DOUBLE ACTING HAND PUMP DIMENSIONS

Product		Dimensions (in)												
Code	A	A B C D E F G H J K												
JHW5HD2S100	19.75	75 6.64 23.69 18.37 2.36 1.73 20.71 4.72 3.54 22.56												
JHW5HD2S500	25.79	11.61	30.35	11.54	24.17	8.25	26.94	15.24	11.18	-				

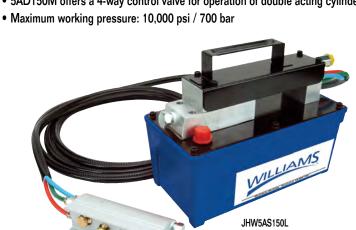
JHW5AD150M



AIR PUMPS

Applifast.

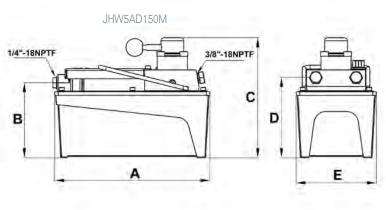
- High strength reinforced aluminum alloy reservoir is lightweight and corrosion resistant that resists cracks and leaking
- Pressure relief valve for overload protection
- Suggested air pressure range: 90-175 psi / 6-12 bar
- . Designed to be used with single acting cylinders
- Dust cover protection for the release control valve
- Dual stage release control valve
- 5AS200 offers a turbo function that features high flow at high pressure condition
- 5AD150M offers a 4-way control valve for operation of double acting cylinders

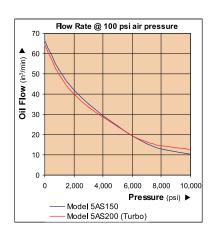




AIR PUMP SPECIFICATIONS

Used with	Usable Oil		Pressure	Oil Output	Flow Rate	Input Air Pressure		Din	nensions (i	n)	
Cylinder	Capacity	Product Code	Rating	(in³/ı	min)	Range					
	(in³)		(psi)	No Load	Load	(psi)	A	В	G	D	E
	36.6	JHW5AS60		61	9		16.54	9.84	7.01	6.18	5.59
	91.5	JHW5AS150		66	11		10.35	5.00	7.28	5.16	5.35
Single	122.1	JHW5AS200	10.000	65	12	100-200	11.57	6.02	7.91	6.18	5.98
Acting	231.9	JHW5AS380	10,000	65	11	100-200	12.64	5.08	7.36	5.24	7.36
	91.5	JHW5AS150L		61	10		10.98	6.30	8.03	5.12	5.35
	231.9	JHW5AS380L		61	10		12.64	6.42	8.15	5.20	7.36
Double Acting	91.5	JHW5AD150M	10,000	66	11	100-200	10.35	5.00	7.99	5.35	5.35







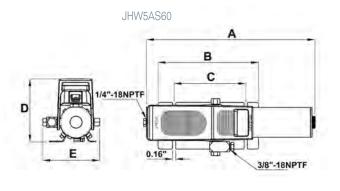


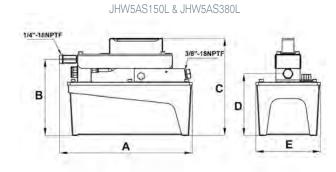


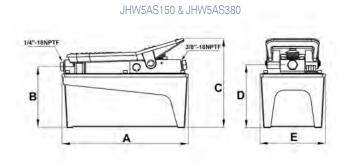


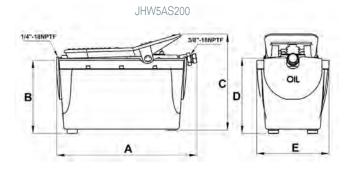


Toll Free 1 800 563 1293











ELECTRIC PUMPS

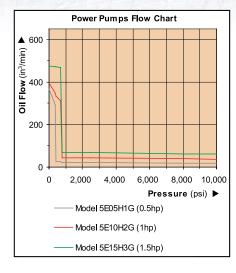
pplifast

- Quiet operation meets OSHA regulations (80dBA)
- 2 speed operation allows for faster cylinder advance
- Full load starting capacities
- Internal filter keeps contamination from damaging pump
- Rugged durable design meets the demands of industrial applications
- Precision components to minimize wear and improve overall dependability

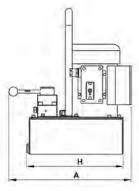
• Designed to minimize the number of moving parts and maximize overall pump efficiency

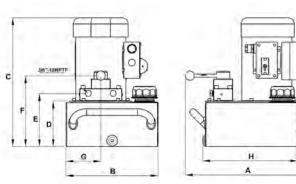
• Ideal for on site construction as well as maintenance

. Metal reservoirs are made of steel or aluminum alloy and resists cracks and leaking

















ELECTRIC PUMP DIMENSIONS

Product Code		Dimensions (in)												
	A	A B C D E F G H												
JHW5E05H1G	15.43	10.28	19.09	4.72	5.67	7.99	8.07	12.36						
JHW5E10H2G	16.65	12.01	17.83	5.94	6.89	9.21	4.53	12.36						
JHW5E15H3G	16.65	12.01	19.72	7.24	8.19	10.51	4.53	12.36						

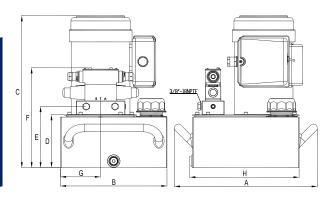
ELECTRIC PUMP SPECIFICATIONS

Motor	Usable Oil	Product	Product Code with	Max. Output		utput Rate	Valve	Valve	Current	Motor	Sound
Size	Capacity	Code	Remote Control Pendant Switch	Pressure	1st Stage	2nd Stage	Туре	Function	Draw	Voltage	Level
(hp)	(gal)			(psi)	Cin	1 ³)			(amps)	(volts)	(dBA)
0.5	1.0	JHW5E05H1G	JHW5E05H1GR		293	18	_		8		
1.0	2.0	JHW5E10H2G	JHW5E10H2GR	10,000	311	37	4-way, 3-pos.	Advance Hold Return	15	115	80
1.5	3.0	JHW5E15H3G	JHW5E15H3GR		470	61	о роз.	noiu notuin	17		



ELECTRIC PUMPS WITH SOLENOID VALVE

- · Quiet operation meets OSHA regulations (80dBA)
- · Ideal for applications where a remote control is required
- 2 speed operations allows for faster cylinder advance
- Full load starting capabilities
- Internal filter keeps contamination from damaging pump
- 10 foot hand held remote controls the solenoid valve
- Metal reservoirs are made of steel or aluminum alloy and resists cracks and leaking





ELECTRIC PUMP WITH SOLENOID VALVE SPECIFICATIONS

Used with	Motor Size	Usable Oil Capacity	Product	Pressur	e Rating	Oil Output	Flow Rate	Valve	Valve	Current Draw	Motor Voltage	Weight
Cylinder	(hp)	(gal)	Code	1st Stage (psi)	2nd Stage (psi)	1st Stage (in³/min)	2nd Stage (in³/min)	Туре	Function	(amps)	(volts)	(lbs)
	0.5	1	JHW5ES05H1G	350		293	18			9		61.5
	0.5	2	JHW5ES05H2G	330		293	10			9		65.3
Single Acting	1	2	JHW5ES10H2G			311	37	3-way, 3-position	Advance/	12		72.6
	1.5	3	JHW5ES15H3G	700	10.000	470	61	•		17	115	90.4
	1.3	5	JHW5ES15H5G			4/0	ы					98
	0.5	1	JHW5ES05H1GR	350	10,000	293	18		Return		113	61.5
	0.5	2	JHW5ES05H2GR			233	10					65.3
Double Acting	1	2	JHW5ES10H2GR			311	37	4-way, 3-position		12		72.6
	1.5	3	JHW5ES15H3GR	700		470	61			17		72.6
	1.3	5	JHW5ES15H5GR			7/0	01					98

ELECTRIC PUMP WITH SOLENOID VALVE DIMENSIONS

Product Code			Din	nensions ((in)			
Frounct cone	A	В	C	D	E	F	G	Н
JHW5ES05H1G	12.74	10.26	19.10	4.72	5.65	10.00	8.07	12.32
JHW5ES05H2G	12.74	10.26	19.10	4.72	5.65	10.00	8.07	12.32
JHW5ES10H2G	17.88	12.01	17.88	5.98	6.90	11.26	4.51	12.32
JHW5ES15H3G	17.88	12.01	17.88	5.98	6.90	11.26	4.51	12.32
JHW5ES15H5G	16.10	12.01	17.13	5.98	6.90	11.26	4.51	12.32
JHW5ES05H1GR	16.10	12.01	17.13	5.98	6.90	11.26	4.51	12.32
JHW5ES05H2GR	16.10	12.01	19.78	7.28	8.20	12.56	4.51	12.32
JHW5ES10H2GR	16.10	12.01	19.78	7.28	8.20	12.56	4.51	12.32
JHW5ES15H3GR	16.10	12.01	24.78	12.28	13.20	17.56	4.51	12.32
JHW5ES15H5GR	16.10	12.01	24.78	12.28	13.20	17.56	4.51	12.32







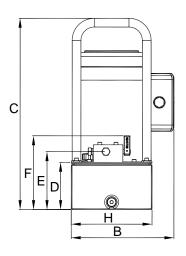


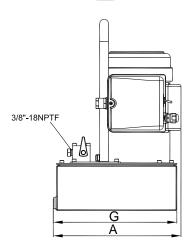
ELECTRIC PUMP WITH AUTO RETURN VALVE

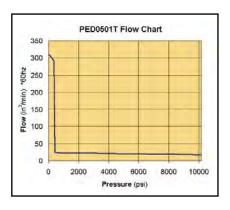
- · Quiet operation meets OSHA regulations (80dBA)
- Best suited for punching, crimping and cutting applications
- 2 speed operation allows for faster cylinder advance
- Full load starting capabilities

Toll Free 1 800 563 1293

- Internal filter keeps contamination from damaging pump
- Rugged durable design meets the demands of industrial applications
- 10 ft. remote pendant switch to control motor on/off
- Metal reservoirs are made of steel or aluminum alloy and resists cracks and leaking







ELECTRIC PUMP WITH AUTO RETURN VALVE SPECIFICATIONS

WILLIAMS

JHW5EA05H1G

Motor	Usable Oil	Duaduat	Pressure Rating Oil Output Flow Rate		Valve	Valve	Current	Motor	Sound	Mainht		
Size	Capacity	Product Code	1st Stage	2nd Stage	1st Stage	2nd Stage	туре	Function	Draw	Voltage	Level	Weight
(hp)	(gal)		(р	si)	(in³/	min)			(amps)	(volts)	(dBA)	(lbs)
0.5	1.0	JHW5EA05H1G	350	10,000	233	18	2-way, 2-position	*Advance/ Return	9	115	80	66.2

^{*} Holds pressure in advance position when motor is off.

ELECTRIC PUMP WITH AUTO RETURN VALVE DIMENSIONS

Product Code			Dir	nensions (in)		
Frouuct coue	A	В	C	D	E	F	G
JHW5EA05H1G	12.76	10.28	19.09	4.72	5.79	7.36	12.36

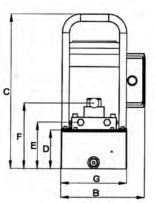


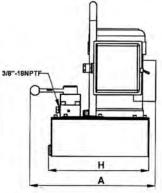
ELECTRIC PUMPS WITH PENDANT SWITCH

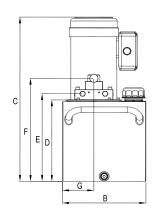
- · Quiet operation meets OSHA regulations (80dBA)
- 2 speed operation allows for faster cylinder advance
- Full load starting capacities
- Internal filter keeps contamination from damaging pump
- 10 foot hand held remote control allows user to control cylinder in up or down position

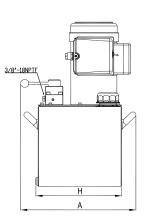
• Metal reservoirs are made of steel or aluminum alloy and resists cracks and leaking











ELECTRIC PUMP WITH SOLENOID VALVE SPECIFICATIONS

Used with	Motor Size	Usable Oil Capacity	Product	Pressur	e Rating	Oil Output	Flow Rate	Valve	Valve	Current Draw	Motor Voltage	Weight
Cylinder	(hp)	(gal)	Code	1st Stage (psi)	2nd Stage (psi)	1st Stage (in³/min)	2nd Stage (in³/min)	Туре	Function	(amps)	(volts)	(lbs)
	0.5	1.0	JHW5E05H1GR	350		293	18		Advance/	9		59.5
Single Acting	1.0	2.0	JHW5E10H2GR		10,000	397	37	3-way, 3-position	Hold/	12	115	70.5
	1.5	3.0	JHW5E15H3GR	700		476	61	o pooriion	Return	17		88.5

ELECTRIC PUMP WITH SOLENOID VALVE DIMENSIONS

Product Code	Dimensions (in)										
Floundt Gone	A	В	C	D	E	F	G	Н			
JHW5E05H1GR	14.92	10.28	19.10	4.72	5.67	7.99	8.07	12.36			
JHW5E10H2GR	16.65	12.01	17.83	5.94	6.89	9.21	4.53	12.36			
JHW5E15H3GR	16.65	12.01	19.72	7.24	8.19	10.51	4.53	12.36			











GAS ENGINE PUMP

- Gas pump will provide 10,000 psi hydraulic force at remote locations
- Industrial grade 5.5 hp Honda gas engine
- Manual control valve for use with single or double acting cylinders or tools
- Two speed pump designed for rapid cylinder advance
- Gas pump features a sturdy protective roll cage for use in the toughest environments
- Metal reservoirs are made of steel or aluminum alloy and resists cracks and leaking



DIESEL ENGINE PUMP

- Diesel engine pumps will provide 10,000 psi at remote locations
- Industrial grade 5.5 hp Honda gas engine
- Locking solenoid control valve for use with single or double acting cylinders or tools
- Two speed pump designed for rapid cylinder advance
- Ideal for application when diesel fuel in remote environments is required
- Comes standard with electric start
- Metal reservoirs are made of steel or aluminum alloy and resists cracks and leaking

ENGINE PUMP SPECIFICATIONS

Motor Size	Usable Oil Capacity	Product Code		Pressure Rating Oil Output Flow Rate (psi) (in³)		Valve Type	Valve Function	Rotation Speed	Sound Level	
(hp)	(gal)		1st Stage	2nd Stage	1st Stage	2nd Stage			(rpm)	(dBA)
10.2	10.0	JHW5G102H5G (Gas)	700	10,000	600	200	4-way 3-position	Advance/Hold/Return	3600	93
7.3	10.0	JHW5D73H10G (Diesel)	700	10,000	600	200	4-way 3-position	Advance/Hold/Return	3600	93



Applifast.

AIR & HAND PUMPS AND SINGLE-ACTING CYLINDER MATCHING CHART

Capacity (Tons) ► Stroke (Inches) ▼	5	10	15	25	30	55	75	100
<1.00								
1.00								
2.00								
3.00								
4.00								
5.00								
6.00								
7.00								
8.00								
9.00								
10.00								
12.00								
13.00								
14.00								
Svennsky Svennsky Mirrory Svennsky	JHW5AS60		Want Want	JHW5AS	150	JHW5AS380	MS - saf F	

Note: Selection based on oil capacity requirements of cylinders.

Not Recommended

HAND PUMP / E-PUMP AND SINGLE-ACTING CYLINDER MATCHING CHART

TIAND FOME / L-FOM	AILD OILLG	LL-AOTHIG (TEHADEH W	ATOTING OF	1/31111			
Capacity (Tons) ► Stroke (Inches) ▼	5	10	15	25	30	55	75	100
<1.00								
1.00								
2.00								
3.00								
4.00								
5.00								
6.00								
7.00								
8.00								
9.00								
10.00								
12.00								
13.00								-
14.00								
Name of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last of the last o	JHW5HS2S35	JHW5HS2S100	ILLICANS	JHW5HS2S200	MILIAMS	JHW5E10H2G	T. P. P. P. P. P. P. P. P. P. P. P. P. P.	OLLIAMS)

Note: Selection based on oil capacity requirements of cylinders.







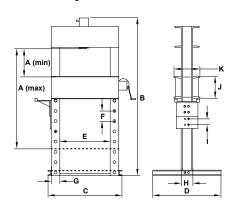






55/100 TON SHOP PRESS

- Heavy steel welded construction
- Multi-position bed for work height adjustment
- Ideal for the removal or installation of gears, universal joints, pulleys, wrist pins, and other press jobs
- Excellent for bending, bonding or straightening applications
- Pump, cylinder, hose and fittings are included



Made in U.S.A.

All press frames are made in the USA and meet ISO 9001/2008 and CDI certification.

55/100 TON SHOP PRESS SPECIFICATIONS

Product Code	Capacity (Tons)	Pump Model	Pump Type	Stroke Length	Bed Position	Product Size (H X L X W)	Working Space (A Min. / A Max.) (in)	Weight (lbs)
JHW9A55T06		JHW5AS150	AIR	6				
JHW9E55T06		JHW5E05H1GR	ELECTRIC	6	9	79" X 56" X 30"	14" ~ 55-½"	
JHW9H55T06	55	JHW5HS25200	MANUAL	6				760
JHW9A55T13		JHW5AS380	AIR	13				
JHW9E55T13		JHW5E05H1GR	ELECTRIC	13				
JHW9E100T10	100	JHW5E10H2GR	ELECTRIC	10	8	89" X 63" X 30"	11-¼" ~ 51"	1550

55/100 TON SHOP PRESS DIMENSIONS

Product	Dimensions (in)											
Code	A (Min.)	A (Max.)	В	C	D	E	F	G	Н	1	J	K
JHW9A55T06												
JHW9E55T06												
JHW9H55T06	14	55.5	79	56	30	35.4	6	4	9	3	10	14.8
JHW9A55T13												
JHW9E55T13												
JHW9E100T10	11.3	51	89	63	30	35.5	8	N/A	10	N/A	12	16

SHOP PRESS ACCESSORIES



55 Ton Press Accessory Kit S/A

Product Code JHW55TKSA

Contents Include:

(1) Ram forcing cap (1) Threaded adapter (1) 1-1/2" push adapter (1) 1-1/4" push adapter (1) V push adapter (1pair) 55T Arbor plates



55 Ton & 100 Ton Shop Press Guard

Product Code JHW55100SPG



V-Blocks 100 Ton - Pair

Product Code JHW100TAP

V-Blocks 55 Ton - Pair **Product Code**



MINI JACKS

- Low profile mini jack
- Compact and lightweight
- Convenient for storage
- Interchangeable saddle on model JHW3M05T75 and JHW3M05T150









JHW3M10T160

MINI JACK DIMENSIONS

mu short bininitoiono											
Capacity	Product Code			Hydraulic Lifting	Base Size (L x W)	Weight					
(tons)		(in)	(in)	(in)	(in)	(lbs)					
5	JHW3M05T75	2.37	3.13	0.76	4.13 x 4.00	4.6					
3	JHW3M05T150	3.37	4.88	1.51	4.13 x 4.00	5.3					
10	JHW3M10T160	4.75	6.25	1.63	4.88 x 4.38	12.5					
20	JHW3M20T160	5.13	6.75	1.63	5.38 x 4.75	16.7					









Toll Free 1 800 563 1293

TOE JACKS

· Heat treated and chrome plated medium-carbon steel cylinder

VILLIAN

- Chrome plated ram promotes longer seal life and optimum performance
- U.S. Patented by-pass device protects hydraulic system from over traveling damage

TOE JACK DIMENSIONS

		Toe Sad	ldle	Head	Destarate.		
Capacity	Product Code	Min. Height	Max. Height	Min. Height	Max. Height	Hydraulic Lifting	
(tons)		(in)	(in)	(in)	(in)	(in)	
6	JHW4T06T	0.88	6.00	10.50	15.63	E 19	
10	JHW4T10T	1.13 6.25		11.00	16.13	5.13	

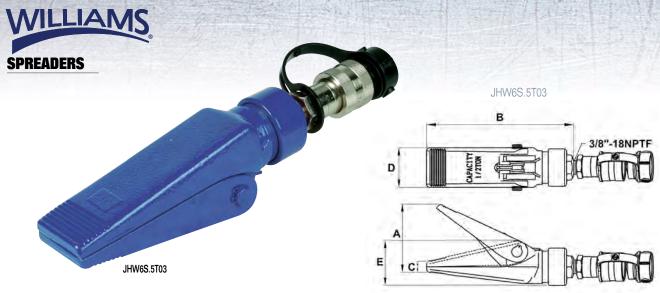


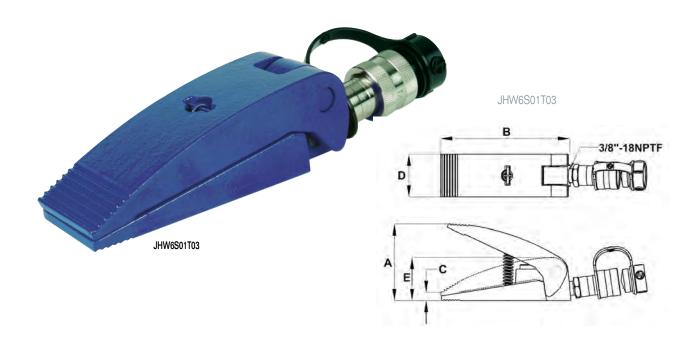
SIDE PUMP BOTTLE JACK

- Hydraulic system is protected from internal damage by a patented by-pass mechanism
- · Machined and polished cylinders with die-cut threads provide non-abrasive leak-free, durable performance
- Fabricated from hard-cast steel with heat-treated critical stress areas
- Serrated heat-treated saddle provides generous lifting area and secure grip
- Heat-treated extension screw allows low pick-up height adjustment and maximum lift height
- U.S. patented built-in by-pass device protects hydraulic system from overpumping damage
- Unique cross-type forged release valve assures positive control
- · A wide, rugged base provides stability and strength
- Critical stress points are reinforced in all models for added durability and dependability
- · Economically priced for maximum value

SIDE PUMP BOTTLE JACK DIMENSIONS

Capacity	Product Code	Min. Height	Max. Height	Extension Screw	Hydraulic Lifting	Base Size (L x W)
(tons)		(in)	(in)	(in)	(in)	(in)
12	JHW3T12TV	9.50	18.63	3.13	6.00	5.25 x 5.13
12	JHW3S12TV	6.00	10.63	1.63	3.00	3.23 X 3.13
20	JHW3T20TV	9.50	18.63	3.13	6.00	6.25 x 5.88
20	JHW3S2OTV	6.50	11.25	1.63	3.13	U.LU X J.UU





SPREADER DIMENSIONS

Cylinder Capacity	Product Code	Cylinder Effective Area	Oil Capacity		D	imensions (in]	
(tons)		(in²)	(in³)	A	В	G	D	E
0.5	JHW6S.5T03	1.22	0.58	3.54	7.57	0.51	2.05	2.36
1	JHW6S01T03	1.09	0.86	3.90	6.57	0.47	2.17	2.20









- Sets are portable for easy use in the plant or on the job site
- Custom fitted, rugged blow molded storage case
- 10 ton set has wheels for easy movement
- Designed for applications of pushing, spreading, pressing and more
- Pumps are rated from 8,000 to 10,000 psi



MAINTENANCE KITS

	Product	Code
Contents of Kit	JHW4M04T	JHW4M10T
Hand Pump	Х	X
Ram	Х	X
Hose Assembly	Х	Х
Hose Coupler	Х	X
Ram Coupler	X	X
Case	X	X
Hydraulic Spreader	X	X
Combination Head (90°)	X	X
Rubber Head	X	X
Ram Toe	X	X
Plunger Toe	Х	X
Flat Base	X	X
Serrated Saddle	X	X
Wedge Head	Х	X
Male Connector	Х	Х
	3"	4"
Future in Take	6 1/8"	10"
Extension Tubes Included	8 ½"	18"
Included	16 ½"	27"
	19 1/2"	

		R		
Capacity	Product	Collapsed	Extended	Number of
	Code	Height	Height	Attachments
(tons)		(in²)	(in³)	
4	JHW4M04T	11.00	15.75	14
10	JHW4M10T	13.63	19.75	13

^{*}When extension tubes and/or offset attachments are used, the capacity is reduced.



GAUGES, ADAPTERS, HOSES & HYDRAULIC OIL



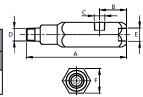
GAUGE SPECIFICATIONS

Wet	JHW8G04W	4.00	1⁄4"-18NPTF	0-10,000	0-700	2,000	200	100	10
Was	JHW8G025W	2.50	1/11 1011077	0 10 000	0.700	1,000	100	100	10
		(in)	(in)	(psi) (bar)		(psi)		(bar)	
Gauge Type	Product Code	Dia.	Thread	Range		Major	Minor	Major	Minor
		Face		Press	ure	Graduation			



GAUGE ADAPTER SPECIFICATIONS

Product	Dimensions (in)							
Code	A	В	C	D	E	F		
JHW8FG38MF	5.12	1.38	1⁄4"-18NPTF	¾"-18NPTF	¾"-18NPTF	1.25		







JHW8FR38M25F JHW8FB25F38M

ADAPTER SPECIFICATIONS

Description	Product Code	Male Thread	Female Thread	Dimensions (in)	
		C	D	A	В
Adapter	JHW8FR38M25F	1⁄4"-18NPTF	3∕8"-18NPTF	1.39	0.91
Bushing	JHW8FB25F38M	3∕8"-18NPTF	1⁄4"-18NPTF	0.87	0.67





HOSE SPECIFICATIONS

Hose I.D.	Product Code	Hose End	Operating Pressure	Hose Length	Weight
(in)	Guue	Fittings	(psi)	(ft)	(lbs)
	JHW8H2525D06	1⁄4"-18NPTF		6	2.5
1/4"	JHW8H3825D06	%"-18NPTF	10,000	6	3.0
74	JHW8H3825D10			10	5.0
	JHW8H3825D20			20	10.5
	JHW8H2538D06	1/4"-18NPTF		6	3.2
3/8"	JHW8H3838D06			6	3.5
9/8	JHW8H3838D10	3∕8"-18NPTF		10	6.5
	JHW8H3838D20		20	13.5	



HYDRAULIC OIL

Volume	Product	Viscosity Index	Viscosity @ 100°F	Viscosity @ 210°F	ASTM	Flash Point	Pour Point	API
(gal)	Code	(min)	(S.U.S.)	(S.U.S.)	Grade	(°F)	(°F)	Gravity
1	JHW8H1G	168	215	47	215	410	-54	31.4









COUPLINGS/MALE CONNECTORS

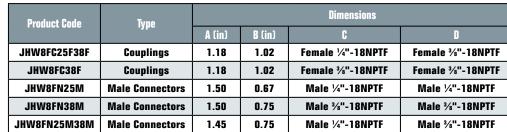
COUPLERS







Toll Free 1 800 563 1293





JHW8FC38F



JHW8RH38D (JHW8RH38DM & JHW8RH38DF)

JHW8R38D (JHW8R38DM & JHW8R38DF)

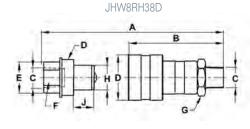
COUPLER DIMENSIONS

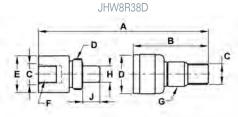
	Product code		Dimensions (in)					
Coupler Type	Complete Set	Male Half	Female Half	A *	В	C	D	E
High-Flow Coupler	JHW8RH38D	JHW8RH38DM	JHW8RH38DF	3.35	2.84	3/8"-18NPTF	1 3/16"-16	1.10
Regular-Flow Coupler	JHW8R38D	JHW8R38DM	JHW8R38DF	3.15	2.2	3/8"-18NPTF	¹⁵ ⁄16"-20	1.04
Zinc Regular- Flow Coupler	JHWZCS1418	JHWZCM1418	JHWZCF1418	2.42	1.67	14"-18NPTF	0.95	0.83

^{*} Value A is total length when male and female valves are connected.



JHWCPB05T / JHWCPB10T







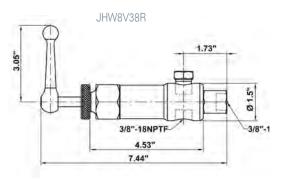
CYLINDER ACCESSORIES

CYLINDER DIMENSIONS

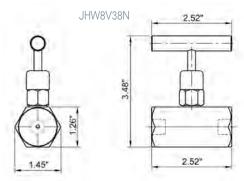
Product Code	Clevis Type	For use with Cylinder Capacity (Tons)
JHWCP05T	Plunger	5
JHWCP15T	Plunger	10
JHWCP25T	Plunger	25
JHWCPB05T	Plunger & Base	JHW6CP05T05
JHWCPB10T	Plunger & Base	JHW6CP10T06











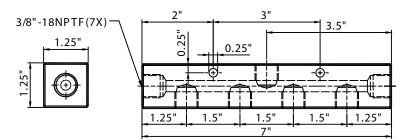
VALVE SPECIFICATIONS

Valve Type	Product Code	Ports	Application	Hydraulic Symbol
Needle Valve	JHW8V38N	3/8"-18NPTF	Controls cylinder speed and treats as temporary shut-off valve for load holding.	#
Pressure Relief Valve	JHW8V38R	3/8"-18NPTF	Controls pressure developed by the pump in hydraulic loop. By-pass occurred when pre-set pressured is reached. Turns clockwise to increase pressure, counter clockwise to decrease.	

MANIFOLDS



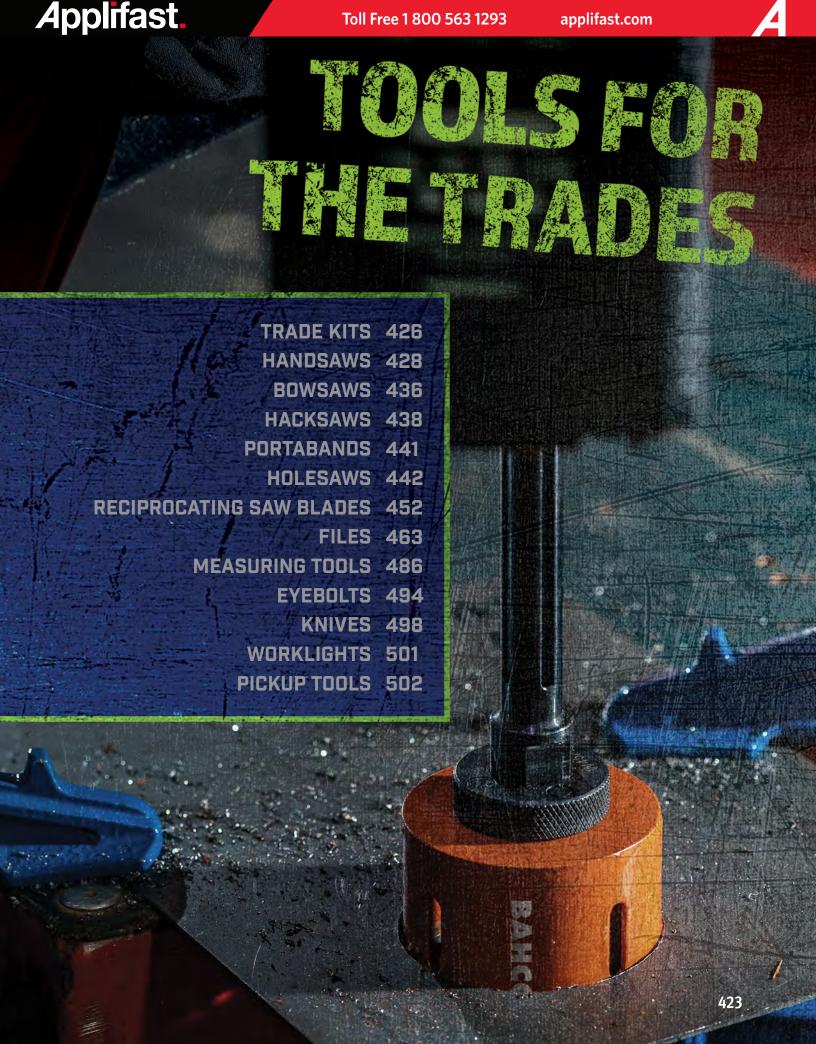
Manifold Type	Product Code	Number of Parts	Port Size	Mounting Hole
7" Long Manifold	JHW8M7L7P	7	3/8" - 18NPTF	1/4" - 20UNC
14" Long Manifold	JHW8M14L7P	7	3/0 - IONFIF	1/4 - 200NG





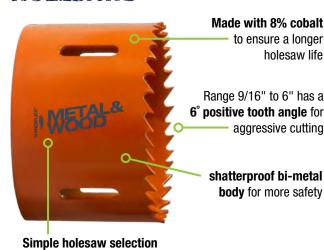






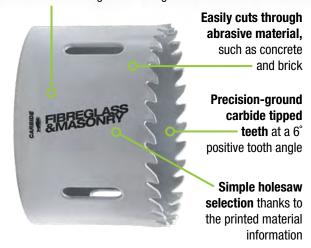


BI-METAL SANDFLEX HOLESAWS



CARBIDE-TIPPED HOLESAWS

Ideal for making high-precision holes in hard material such as ceramic tiles, stone, fiberglass, laminate, hardwood and high demanding steel materials



QUICK-EJECT ARBOR

MULTI-CONSTRUCTION SUPERIOR™ HOLESAWS Permanent laser Wide gullets for fast and effective chip minimizes heat

thanks to the printed material

information



Cutting depth of 2 13/16"

Printed material information makes holesaw selection simple

Precision tooth geometry provides instant penetration



TOOLS FOR THE TRADES

FAST, CLEAN, ACCURATE CUTS.

RECIPROCATING SAW BLADES

BLADES FOR METAL

Virtually unbreakable

Sandflex® bi-metal blades



Simple saw blade selection thanks to the printed material information

Sharp long-life teeth (HSS 8% Cobalt) **Easier penetration** thanks to precision-ground tooth geometry

BLADES FOR WOOD AND METAL

BAHCO

Virtually unbreakable

Sandflex® bi-metal blades



Specially made for aggressive straight cuts

Long-life teeth (HSS 8% Cobalt)

BLADES FOR WOOD AND PLASTIC

Simple saw blade selection thanks to the printed material information steel blades minimizes heat generation

Bevel-ground wood-cutting toothingallows faster cross-cutting and rip-cutting

Long-lasting induction-hardened teeth

SABRE SAW BLADES FOR SPECIAL APPLICATIONS

Simple saw blade selection thanks

Carbide tipped teeth are ideal

For fast and agg

to the printed material information

Carbide tipped teeth are idea for demanding applications

For fast and aggressive straight cuts



BAHCO® 42 PIECE ELECTRICIAN'S KIT

Product Code	Description	
4750FB3-12TS4	42 Piece Large Electrician's Kit	

Contents Include:

12" Electrician's Bag with Hard Bottom Flat File Ergo™ 8" Second 36 TPI Round File Ergo™ 8" Second 36 TPI 10mm Combination Wrench 13mm Combination Wrench

Long Ball End Hexagon Key Set, Metric

Diagonal Cutting Plier 6 1/4"

Wire stripping pliers - copper wire and cable

Cable cutting and stripping pliers

Nose Plier 6 1/4"

Side Cutting Combo Plier 7" Junior Hacksaw Plastic Handle 6" Professional Light Hacksaw Frame

Center Punch

Flat Chisel

Chisel

Spirit Level Claw Hammer

Warrington Hammer

Precision Screwdrivers; slotted

Black Adjustable Wrench 6"
Black Adjustable Wrench 8" Quick Adjust Water Pump Plier

Insulated Slotted Screwdriver (6) Insulated Pozidriv Screwdriver (2)

Multipurpose Knife

Screwdriver Robertson # 1

Screwdriver Robertson # 2

Screwdriver Robertson # 3

Features

- . This Electrician's kit provides the tools necessary for many electrical applications
- · Kit contains an assortment of pliers, screwdrivers, adjustable wrench, combination wrenches, files and knife
- · Packed in an Electrician's bag with a hard bottom and double stitching reinforcement that is 100% waterproof and easy to clean





4750FB3-12TS4

BAHCO® 13 PIECE BASIC MAINTENANCE KIT

Product Code	Description	
4750-UP-1TS5	13 Piece Basic Maintenance Kit	
Contents Include:		
Universal Pouch	10mm Combination Wrench	
Diagonal Cutting Plier 6 1/4"	11mm Combination Wrench	
Side Cutting Combo Plier 7"	13mm Combination Wrench	
Nose Plier Grins 6 1/4"	Screwdriver Robertson # 1	

Slotted Screwdriver Screwdriver Robertson # 2 Phillips PH1 Screwdriver Screwdriver Robertson # 3 Black Adjustable Wrench 10"

Features

- This basic maintenance kit provides the tools necessary for many general service and maintenance applications
- · Kit contains an assortment of pliers, screwdrivers, adjustable wrench and combination wrenches
- · Packed in a universal pouch with leather slots and two deep multi purpose open pockets



4750-UP-1TS5











BAHCO® 30 PIECE PLUMBERS KIT

Product Code	Description
3100TBTS4	30 Piece Plumbers Kit

Contents Include:

17" Open Tote Caddy Tool Bag Organizer Screwdriver Slotted Ergo™ 8 ³/4 x 4 x ⁵/₃²" Screwdriver Ergo™ Pozidriv® #2 Screwdriver Slotted Ergo™ 9 ³/4 x 5 x ¹/4"

Screwdriver Phillips® Ergo™ #1

Hex Keys Stubby Awl

Junior Hacksaw Non-Slip Handles 12"
Junior Hacksaw Plastic Handle 6"
Homeowner's File Ergo^{TMTMTM} 8" 41 & 36 TPI

Spirit Level

Claw Hammer

Universal Pipe Wrench 11"
Universal Pipe Wrench 14 1/2"

Adjustable Joint Pliers 10"

Tube Cutter

Tube Cutter

Wheel Reemer

Multipurpose Knife

Wrecking Knife

Black Adjustable Wrench 8"

Black Adjustable Wrench 6"

Cold Chisel Pencil

Features

- This plumbers kit provides the tools necessary for many plumbing applications
- This set is geared for industrial plumbers. It includes an assortment of hand tools such as screwdrivers, wrenches, hacksaws and tube cutters
- · Packed in a open tote caddy tool bag organizer, ideal for storing and carrying tools, parts and supplies



3100TBTS4

BAHCO® 52 PIECE GENERAL PURPOSE KIT

Product Code	Description
4750PTB65TS4	52 Piece General Purpose Kit

Contents Include:

Plastic Tool Box

Knife

Wrecking Knife
Torpedo Level
Ergo™ Claw Hammer
31 Piece Bit set in Plastic Case

Screwdriver Set 6 Pieces

Square

Sliding Bevel

Prize Cut 22" Handsaw, (Qty. 2)

Tape Measure

Pencil

Nail Punches

Snap-off Knife

Screwdriver Robertson # 1 Screwdriver Robertson # 2

Screwdriver Robertson # 3

- . This general purpose kit provides the tools necessary for many general service and repair applications
- · Kit contains an assortment of screwdrivers, hammer, tape measure and knives
- · Packed in a heavy duty plastic tool box that is perfect for organizing items



BAHCO® LAPLANDER FOLDING SAW AND MULTIPURPOSE KNIFE

General Purpose Folding Saw

Product Code	Blade Length (Inch)	Teeth Per Inch
396-LAP	9	7

Multipurpose Knife

Product Code	Overall Length (Inch)	
2444-LAP	9	

Saw and Knife Set

Product Code	Description
LAP-KNIFE	Folding saw & Multipurpose Knife

Features

- A general purpose folding saw for cutting both green and dry wood, plastic, bone etc.
- · Specially designed for wild-life enthusiasts, hunting and campers.
- XT toothing, 7TPI. Blade specially coated for rust protection and low friction
- Two-component plastic handle for perfect grip, with leather strap.
- · Safety lock, locked also when folded



Cut on Pull Stroke

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)
PC-12-14-PS	12	14
PC-11-19-PS	11	19
PC-9-9/17-PS	9	9/17

Features

- Razor sharp teeth allows this pull saw to make clean cuts with little effort.
- Perfect for rip and cross-cut to flush-cutting moldings, treated lumber, door casings, PVC, ABS pipe, hard and soft woods, plywood, drywall and plastic pipe.
- This pull-to-cut saw allows undercutting with fast and accurate cuts.

BAHCO® PRIZECUT TOOLBOX HANDSAW

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)	
300-14-F15/16-HP	14	15/16	

Features

- The universal toothing is strong and hard wearing, suitable for both rip and cross cutting in all types of wood
- · Hard Point for longer life, rust protection lacquered
- One-component solid handle
- . Comes with reusable plastic patented tooth protector

BAHCO® PROFCUT TOOLBOX HANDSAW

Special-purpose Handsaw

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)
PC-15-TBX	15	11

Features

- . Toolbox saw for fine cutting
- . Fine GT toothing, 11 TPI
- Super sharp GT-toothing is specially developed for high cutting performance
- The 3-sided ground tooth form ensures excellent results in all types of wood
- Comfortable-two component handle
- . Comes with reusable plastic patented tooth protector















BAHCO® ERGO™ SUPERIOR LAMINATOR SAW

Ergo™ handle - Unique XT toothing -Low Friction Coating

	Blade Length	Teeth Per Inch	
Product Code	(Inch)	(TPI)	Type of cut
SUP-20-LAM	20	11/12	Fine

Features

- A handsaw for cutting laminate and wooden floors
- Bevel ground teeth on thick blade for high precision and straight cutting with exceptionally good stability
- Screwed, one piece two-component Ergo™ handle
- Handle placement provides even distribution of power along the tooth line
- Low-friction, rust-protective coating
- Comes with reusable plastic patented tooth protector



BAHCO® PROFCUT GENERAL PURPOSE HANDSAWS

Comfortable two-component handle

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)
PC-19-GT7	19	7
PC-22-GT7	22	7
PC-22-FILE-U7	22	7 (Fileable)

Features

- Super sharp GT-toothing is specially developed for high cutting performance
- The 3-sided ground tooth form ensures excellent results in all types of wood
- Comfortable-two component handle
- Comes with reusable plastic patented tooth protector



BAHCO® PRIZECUT UNIVERSAL SAW

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)
NP-16-U7/8-HP	16	7
NP-19-U7/8-HP	19	7
NP-22-U7/8-HP	22	7

Features

- The universal toothing is strong and hard wearing, suitable for both rip and cross cutting in all types of wood
- Hard Point for longer life, rust protection lacquered
- Two-component solid handle
- . Comes with reusable plastic patented tooth protector



BAHCO® SUPERIOR HANDSAWS WITH XT TOOTHING

Ergo™ handle - Unique XT toothing - Low Friction Coating

J -					
Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)	Type of cut		
Fine Tooth Patt	Fine Tooth Pattern for smooth, consistent cuts through most materials				
2600-16-XT11-HP	16	11	Fine		
2600-22-XT-HP	22	9	Medium		
Aggressive tooth pattern for faster cuts through thick material					
2700-22-XT7-HP	22	7	Aggressive		
2700-24-XT7-HP	24	7	Aggressive		

Features

- · Hard point saw with substantially thicker blade which results in less powerconsuming side vibrations
- Bevel ground teeth on thick blade for height precision and straight cutting with exceptionally good stability
- Screwed, one piece two-component Ergo™ handle
- Handle placement provides even distribution of power along the tooth line
- . Comes with reusable plastic patented tooth protector



Ergo™ handle - Unique XT toothing - Low Friction Coating

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)	Type of cut
3090-20-XT11-HP	20	11	Fine

Features

- Bevel ground teeth on thick blade for high precision and straight cutting with exceptionally good stability
- Screwed, one piece two-component Ergo™ handle
- Handle placement provides even distribution of power along the tooth line
- Comes with reusable plastic patented tooth protector

BAHCO® PROFESSIONAL HANDSAWS WITH XT TOOTHING

Ergo™ handle - Unique XT toothing - Low Friction Coating

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)	Type of cut
2500-16-XT-HP	16	9	Medium
2500-19-XT-HP	19	9	Medium
2500-22-XT-HP	22	9	Medium

Features

- · For medium thick materials, such as plywood, ordinary wood, fiber and chipboard or plastics
- · Hard point saw with substantially thicker blade which results in less powerconsuming side vibrations
- Screwed, one piece two-component Ergo™ handle
- . Handle placement provides even distribution of power along the tooth line
- · Comes with reusable plastic patented tooth protector

BAHCO® PROFCUT TOOLBOX HANDSAW

Comfortable two-component handle

Product Code	Blade Length (Inches)	Teeth Per Inch (TPI)
PC-15-GNP	15	15

Features

- . Toolbox saw for general purpose cutting
- . Fine FT toothing, 15 TPI
- · Saw blade for cutting plastics, laminates, wood and soft metals like aluminum Fleam toothing, hardpoint teeth for long lasting sharpness
- Comfortable-two component handle
- Comes with reusable plastic patented tooth protector





2500-16-XT-HP









BAHCO® SUPERIOR BACKSAW WITH XT TOOTHING Ergo™ handle - Unique XT toothing -

Low Friction Coating

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)	Type of cut
3180-14-XT11-HP	14	11	Fine

Features

Toll Free 1 800 563 1293

- · Specially adapted for cutting of small-diameter timber and miter guide sawing of all sizes of materials
- · Bevel ground teeth on thick blade for high precision and straight cutting with exceptionally good stability
- Screwed, one piece two-component Ergo™ handle
- · Handle placement provides even distribution of power along the tooth line
- · Comes with reusable plastic patented tooth protector

BAHCO® PROFCUT BACKSAW

For Straight and Miter Cuts

Product Code	Blade Length (Inch)	leeth Per Inch (IPI)
PC-12-TEN	12	11
		-

Features

- · Specially adapted for cutting of small-diameter timber and miter guide sawing of all sizes of materials
- Fine UT toothing with 11 TPI
- . The universal toothing is strong and hard wearing, suitable for both rip and cross cutting in all types of wood
- 3-sided ground tooth form ensures excellent results in all types of wood
- Comfortable-two component handle
- Comes with reusable plastic patented tooth protector

BAHCO® PRIZECUT BACKSAW

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)
NP-12-TEN	12	13

Features

- · Specially adapted for cutting of small-diameter timber and miter guide sawing, all sizes of materials
- The universal toothing is strong and hard wearing, suitable for both rip and cross cutting in all types of wood
- Hard Point for longer life, rust protection lacquered
- One-component solid handle
- · Comes with reusable plastic patented tooth protector

BAHCO® PROFCUT DOVETAIL HANDSAWS

Fine Cut Detail Saws

		Blade Length	
Product Code	Style	(Inch)	Teeth Per Inch (TPI)
PC-10-DTF	Reversible handle for left / right sawing	10	15/16
PC-10-DTR	Angled / flush cutting	10	13/14

Features

- · Special-purpose saw for wood and plastic materials
- · Fine universal toothing with hard point teeth and light steel back for rigidity
- Blade width is 2-3/8"
- · Comes with reusable plastic patented tooth protector





BAHCO® SUPERIOR VENEER SAW WITH XT TOOTHING

Ergo™ handle - Unique XT toothing -**Low Friction Coating**

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)	Type of cut
3240-14-XT11-HP	14	11	Fine

Features

- . For fine and medium thick materials, such as plywood, laminates and plastics
- . Bevel ground teeth on thick blade for high precision and straight cutting with exceptionally good stability
- · Curved, toothed nose for starting cuts in the middle of the surface of the work piece
- Screwed, one piece two-component Ergo[™] handle
- · Handle placement provides even distribution of power along the tooth line
- . Comes with reusable plastic patented tooth protector



BAHCO® PROFCUT VENEER SAW

For Veneer and Other Fine Sawing

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)
PC-12-VEN	12	11

Features

- . For fine and medium thick materials, such as plywood, laminates and plastics
- Fine UT toothing with 11 TPI
- Rounded cutting nose for pocket cuts
- The universal toothing is strong and hard wearing, suitable for both rip and cross cutting in all types of wood
- · 3-sided ground tooth form ensures excellent results in all types of wood
- Comfortable-two component handle
- . Comes with reusable plastic patented tooth protector



BAHCO® PRIZECUT VENEER SAW

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)
NP-12-VEN	12	13

Features

- . For fine and medium thick materials, such as plywood, laminates and plastics
- The universal toothing is strong and hard wearing, suitable for both rip and cross cutting in all types of wood
- Hard Point for longer life, rust protection lacquered
- Two-component solid handle
- . Comes with reusable plastic patented tooth protector









BAHCO® SUPERIOR COMPASS SAW WITH XT TOOTHING

Unique XT toothing - Low Friction Coating

	Teeth Per Inch		
Product Code	Blade Length (Inch)	(TPI)	Type of cut
3150-12-XT9-HP	12	9	Medium

Features

- For all kinds of woods and plastics
- Bevel ground teeth on thick blade for high precision and straight cutting
- . Exceptionally good stability, working more on pull than on push
- Handle placement provides even distribution of power along the tooth line
- · Comes with reusable plastic patented tooth protector



BAHCO® PROFCUT COMPASS HANDSAWS

For Contour Cuts

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)
PC-12-COM	12	9

Features

- For all kinds of wood and plastic material
- Long lasting sharpness from the unique XT-toothing, hardpoint teeth
- Handle placement provides even distribution of power along the tooth line
- · Comfortable-two component handle
- Comes with reusable plastic patented tooth protector



BAHCO® PRIZECUT COMPASS HANDSAWS

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)
NP-12-COM	12	7

Features

- For all kinds of wood and plastic material
- The universal toothing is strong and hard wearing, suitable for both rip and cross cutting in all types of wood
- Hard Point for longer life, rust protection lacquered
- · One-component solid handle
- Comes with reusable plastic patented tooth protector



BAHCO® DRY WALL SAW

Jab Saw Product Code Blade Length (Inch) PC-6-DRY 6

- Cuts drywall, wallboard, plywood, and plastic
- Blade cuts in both directions (push and pull)
- Sturdy blade with sharp point for punching through drywall



BAHCO® PROFCUT INSULATION SAW

Special Purpose Saw

DC 22 INS 22 WT Toothing	Product Code	Blade Length (Inch)	Teeth Per Inch
FG-22-ING 22 WI looding	PC-22-INS	22	WT Toothing

Features

- Specially designed for cutting insulation material
- Mineral wood
- Cuts plastic up to 3/4" thick
- Cuts Styrofoam up to ¾" thick
- . Handsaw has a wave formed sharpened edge (WT toothing) that allows it to slice through the material creating minimal wast
- Should be stored in sleeve for rust protection



BAHCO® PROFCUT TIMBER SAW

Comfortable two-component handle with Fileable Blade

Product Code	Blade Length (Inch)	Teeth Per Inch
PC-24-TIM	24	3 1/2

Features

- . A handsaw for cutting Timber
- Fleam-toothed, non-hardpoint
- Can be re-sharpened by using the file 272 Effective on the push as well as on the pull stroke
- Comfortable-two component handle
- . Comes with reusable plastic patented tooth protector



BAHCO® PROFCUT POLYSTYRENE, FOAM HANDSAW

Special-purpose handsaw

Product Code	Blade Length (Inch)	Teeth Per Inch (TPI)
PC-16-DECO	16	Special

- Special toothing for cutting polystyrene and foam
- Specially developed toothing with very fine ground teeth and gullets designed to combine excellent finish with minimized clogging
- Comfortable-two component handle
- · Comes with reusable plastic patented tooth protector



BAHCO® PROFCUT LAMINATOR SAW

Special-purpose handsaw

Product Code	Blade Length (Inch)	Teeth Per Inch
PC-20-LAM	20	11/12

- . A handsaw for cutting laminate and wooden floors
- Long lasting sharpness from the unique XT-toothing, hardpoint teeth
- · Comfortable-two component handle
- . Comes with reusable plastic patented tooth protector











BAHCO® PROFCUT PLASTER SAW

Special-purpose Handsaw

Product Code	Blade Length (Inch)	Teeth Per Inch
PC-24-PLS	24	7

Features

Toll Free 1 800 563 1293

- A handsaw for cutting plaster
- Super sharp GT-toothing is specially developed for high cutting
- . The 3-sided ground tooth form ensures excellent results in all types of wood
- · Comfortable-two component handle
- . Comes with reusable plastic patented tooth protector



BAHCO® STRADIVARIUS - MUSICAL SAW

Specially made for musical applications

Product Code	Blade Length (Inch)
296	30

Features

- $\bullet~$ Polished blade with flat back and un-ground teeth, total length 34 $^{1/4}{}^{\rm H}$
- Specially made for musical applications
- Traditional wood handle with brass hardware



BAHCO® COPING SAW

Wooden beech handle

Product Code	Description	Blade Length (Inch)	Teeth Per Inch
301	Coping Saw	6 1/2	14
303-5P	Coping Saw Blades (5 Pack)	6 ¹ / ₂	14
216-150-R	Rod Blade	6	Grit

- Nickel-plated steel frame. Orange-lacquered, wooden beech handle
- Interchangeable blade fitted on retaining pins, turnable 360°
- . Blade of hardened and tempered carbon steel, teeth milled and set, 14 TPI

Applifast.



BAHCO® MINI BOWHACK

Durable Metal Handle

Product Code	Blade Length (Inch)	Type of Wood	
9-12-51/3806-KP	12	Dry Wood and Lumber	

Features

- Toolbox sized mini-bow saw is easy to stow away and is ideal for plumbers and electricians
- · Made of lightweight, high quality steel tubing for durability and easy handling
- High impact orange enamel paint protects from rust and corrosion
- . Comes with 12" blade for wood cutting and a bi-metal hacksaw blade
- Equipped with durable metal handle



BAHCO® ECONOMY BOW SAWS

Durable Metal Handle

Product Code	Blade Length (Inch)
SE-16-21	21
SE-15-24	24
SE-15-30	30

Features

- . Made of lightweight, quality steel tubing for durability and easy handling
- High impact orange enamel paint protects from rust and corrosion
- · Pointed nose on 21" model ideal for use in tight spaces
- · Durable metal handle

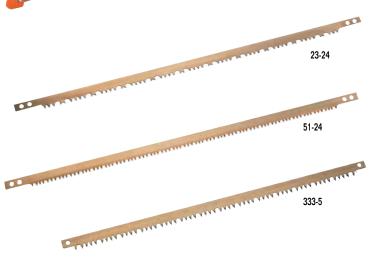


BAHCO® BOW SAW BLADES

Replacement blades

Product Code	Blade Length (Inch)	Type of Wood	Type of Toothing
23-21	21	Green Wood	Raker
23-24	24	Green Wood	Raker
23-30	30	Green Wood	Raker
23-36	36	Green Wood	Raker
51-12	12	Dry Wood and Lumber	Peg
51-21	21	Dry Wood and Lumber	Peg
51-24	24	Dry Wood and Lumber	Peg
51-30	30	Dry Wood and Lumber	Peg
51-36	36	Dry Wood and Lumber	Peg
51-42	42	Dry Wood and Lumber	Peg
333-5	14	Dry Wood	Raker

- · Rust-prevention treated
- · Packed in individual sleeve printed with graphically illustrated text for correct blade selection













BAHCO® ERGO™ BOW SAWS

Ergonomically designed handle

Product Code	Blade Length (Inch)	Type of Wood
10-21-51	21	Dry Wood and Lumber
10-24-51	24	Dry Wood and Lumber
10-24-23	24	Green Wood
10-30-23	30	Green Wood
10-30-51	30	Dry Wood and Lumber
9-36-23-KP*	36	Dry Wood and Lumber

^{*} Equipped with non-Ergo™ metal handle

Features

- . Designed for demanding applications and tough environments of construction sites
- . Innovative tensioning mechanism for high blade tension and straight cutting
- Ergo[™] handle with knuckle protector provides comfort and safety
- Made of lightweight, high quality steel tubing for durability and easy handling
- High impact orange enamel paint protects from rust and corrosion
- Strong blade fitting for easy and safe blade storage



BAHCO® BOW SAWS - POINTED NOSE

Durable Handle

Product Code	Blade Length (Inch)	Type of Wood	Handle
332-21-51	21	Dry Wood and Lumber	Ergo™
331-21-51-KP	21	Dry Wood and Lumber	Standard

Features

- . Small and handy bow saw for all around use
- · Pointed nose makes the saw ideal for use in tight spaces
- Used for pruning and roofing work
- Model 332 is equipped with an Ergo[™] handle



BAHCO® BOW SAW - QUICK CHANGE

Equipped With Raker Blade for Cutting Dry Wood

-4a.bboa	. Hand Diago for Calling 21, 1100a		
Product Code	Blade Length (Inch)		
333	14		
333-5	Replacement Blade		

- The steel frame has special blade holders with a extra strong blade attachment mechanism
- Reversible blade, hardened for durability which can be rotated around its long axis
- · Equipped with durable plastic handle
- · Handle releases for quick blade changes



pplifast

BAHCO® ERGO™ PROFESSIONAL HAND HACKSAW

Ergonomic Handles Maximize Cutting Control and Power

Product Code	Description	Blade Length (Inches)
325	Ergo™ Hand Hacksaw	12

Features

- . Ergonomically designed with extremely high blade tension for straight, accurate and fast cuts
- · Centered blade for correct balance and reduced cutting effort
- Alternative 55° blade mounting for flush cutting
- Supplied with reliable and shatterproof 12 inch bi-metal blade, 24 TPI
- Single touch spring loaded blade release mechanism for fast blade changes
- . Winner of the Silver Award from the Industrial Designers Society of America



BAHCO® PROFESSIONAL HAND HACKSAW

Non-Slip Handles Ensures a Solid and Secure Grip.

Product Code	Description	Blade Length (Inches)
319	Professional Hand Hacksaw	12

Features

- Alternative 55° blade mounting for flush cutting
- Offers a strong steel frame that is covered with a protective dual component plastic
- Comfortable, non-slip back handle and front grip ensures a solid, secure grip
- Tension mechanism is fully integrated into the handles so there is no obstruction during use
- . Supplied with reliable and shatterproof 12 inch bi-metal blade, 24 TPI



BAHCO® TRADESMAN'S HAND HACKSAW

Durable Aluminum Handle

Product Code	Description	Blade Length (Inches)
317	Tradesman's Hand Hacksaw	12

Features

- · Alternative 90° blade mounting
- · Light and comfortable frame for difficult-to-reach applications
- Durable aluminum handle
- Metal tensioning lever designed to be comfortable and unobtrusive
- Supplied with BAHCO® Bimetal blade for safety and efficiency



BAHCO® TRADITIONAL HAND HACKSAW

Heavy Duty Frame with Blade Storage

Product Code	Description	_	Blade Length (Inches)	
225-PLUS	Traditional Hand Hacksaw		12	

- . Allows very high blade tension for accurate and fast cuts
- Strong rectangular back section for blade storage with easy-to-handle retaining screws
- Can also be used as a compass saw
- . Alternative 55° blade mounting for flush cutting
- . Supplied with reliable and shatterproof 12 inch bi-metal blade, 24 TPI





















BAHCO® LIGHTWEIGHT HAND HACKSAW

Durable Aluminum Handle

Product Code	Description	Blade Length (Inches)
306	Lightweight Hand Hacksaw	10 & 12

Features

- Alternative 90° blade mounting.
- · Accepts both 10" and 12" blades.
- Ultra light, only 11 ounces.
 Supplied with BAHCO® Bimetal blade for safety and efficiency.

BAHCO® MINI HACKSAW

Frame with Solid Steel Profile **Product Code** Description Blade Length (Inches) 268 Mini Hacksaw

Features

- . Chrome filled and fitted with a fiberglass handle to give a good and comfortable grip
- . Supplied with reliable and shatterproof 10 inch bi-metal blade, 24 TPI
- · Practical and simple blade-tensioning screw

BAHCO® MINI HACKSAW

Blade-Tensioning Handle				
Product Code	Description	Blade Length (Inches)		
228	Mini Hacksaw	6		
_				

Features

- · Simple and quick, twist-action, blade-tensioning handle, made of beech wood and orange lacquered
- . Complete with 6 inch, 32 TPI blade for metal cutting

BAHCO® MINI HACKSAW

Metal Cutting		
Product Code	Description	Blade Length (Inches)
218	Mini Hacksaw	6

Features

. Complete with 6 inch, 32 TPI blade for metal cutting

BAHCO® MINI EXTENDABLE HACKSAW

Perfect for Difficult to Reach Work			
Product Code	Description	Blade Length (Inches)	
208	Mini Extendable Hacksaw	10	

- . A mini-hacksaw frame for difficult to reach positions
- Supplied with reliable and shatterproof 10 inch bi-metal blade, 24 TPI
- . Blade position adjusts for maximum versatility



pplifast

BAHCO® TUNGSTEN CARBIDE HACKSAW BLADE

Metal Cutting

Product Code	Description	Blade Length (Inches)
3816-300	Carbide grit hacksaw blade	12

Features

- . Anti-corrosion treated, carbon steel blade back
- . Tungsten carbide grit toothing
- Fits all 12" metal saw frames

BAHCO® BIMETAL HAND HACKSAW BLADES

Virtually Unbreakable and Shatterproof Bimetal Blades for all Metal Sawing

Blades per Package (To order, add Pack Quantity to End of Product Code) Teeth **Product Code** Per Inch 100 10P 5P 3P 2P Length 3818-300-PROG-18/24/32 ** X 12 3906-250-18-10 18 X X 3906-250-24-10 24 X Χ 3906-250-32-10 32 X Χ Χ 3906-300-14-12 14 X X 3906-300-18-12 18 X X X X 24 X X X X 3906-300-24-12 3906-300-32-12 32 X X X X 3906-300-12 1 ea 18/24/32

Features

- . Blade back made of strong, flexible spring steel with a tooth line of high-alloyed super high speed steel
- Bimetal construction guarantees the blade to keep its sharpness for a long time
- Precision ground teeth for all kinds of metal sawing
- Combine extreme cutting performance and wear resistance with a high degree of flexibility
- · Vastly superior to all-hard high speed blades or conventional, flexible blades
- **Progressive tooth hacksaw blade features 3-tooth patterns for fast starting and cutting
- Improved painting techniques allows for better cutting from the start with no paint in the gullets

3816-300 Progressive Tooth Blade 3818-300-PROG-100 Hacksaw Blade, 18 TPI 3906-300-18-100 **50**.

100 Pack

228-15-5P

BAHCO® MINI HACKSAW BLADES

Anti-corrosion Treated, Carbon Steel Blades

Product Code	Blades per Package	Blade Length (Inches)	TPI	For Cutting
228-15-5P	5	6	15	Wood
228-32-5P	5	6	32	Metal

Features

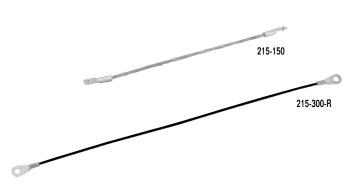
- · Made of hardened and tempered carbon steel
- · Teeth milled and set

BAHCO® ROD SAW BLADE

Suitable fo	Suitable for Cutting Glass, Ceramics, Porcelain and Steel							
Product Code	Blades per Package	Blade Length (Inches)	Fits					
215-150	1	6	Mini Hacksaws					
216-300-R	1	12	All 12" Hacksaws					

Features

· Base steel rod coated with cemented carbide







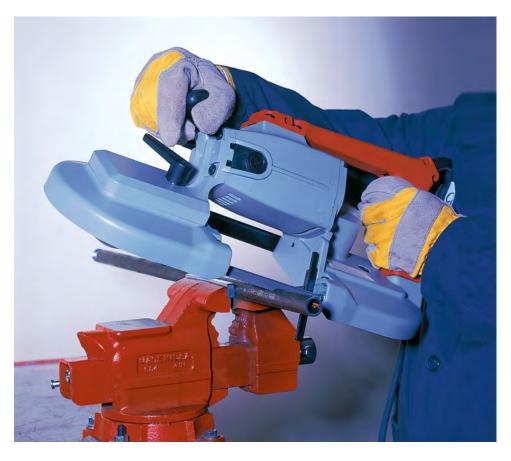




BI-METAL PORTABLE BANDSAW BLADES FOR HAND HELD MACHINES

	Dimer	Dimensions		Length		Teeth	
Product Code	(inch)	(mm)	(inch)	(mm)	Туре	per inch	5 Pack
Loops							
PB13-0.5-R-10-1140-5P	½ x 0.020	13 x 0.50	44 ⁷ / ₈	1140	Regular	10	Χ
PB13-0.5-R-14-1140-5P	½ x 0.020	13 x 0.50	44 1/8	1140	Regular	14	χ
PB13-0.5-R-18-1140-5P	½ x 0.020	13 x 0.50	44 ⁷ / ₈	1140	Regular	18	Χ
PB13-0.5-R-24-1140-5P	½ x 0.020	13 x 0.50	44 ⁷ / ₈	1140	Regular	24	χ
PB13-0.5-10/14-1140-5P	½ x 0.020	13 x 0.50	44 ⁷ / ₈	1140	Combo	10/14	χ
PB13-0.5-14/18-1140-5P	½ x 0.020	13 x 0.50	44 ⁷ / ₈	1140	Combo	14/18	Х

- A unique design for multipurpose and jobshop use that provides hand-held machines with fast cutting, easy feeding, exceptional control, and precision cutting on a variety of materials
- Perfect for cutting stainless steel, angle iron, bronze, copper, galvanized pipe, mild steel, aluminum, brass, chrome





BAHCO® Holesaws set the standard in precision, quality, durability and versatility. Whatever the job, you will find the Holesaws and accessories you need.

Each part of the Holesaw is designed to boost productivity and craftsmanship, from the design of the cutting edges to the technologies used in production. There is consistent quality and total control from making the Bi-Metal all the way to the finished Holesaw. In our own R&D department, we test and develop innovations to ensure that we stay ahead of the market. Our wide range of Holesaws and accessories will meet your needs for almost any material. They are compatible with all machine brands.

Complete Holesaw System

Looking for maximum performance and flexibility? BAHCO®'s line of arbors, extensions, pilot drills, ejector springs and adaptors are designed as a fully interchangeable system.

CUTTING SPEED RECOMMENDATIONS

To get maximum result out of each Holesaw, we recommend the following cutting speeds (RPM).

BI-METAL SANDFLEX HOLESAW

*AMFO			10			
вансо	FE	18/8	Cast iron	CuZn	Alu	Wood
9/16-3/4"	580-460	300-240	400-300	790-600	900-690	3000
25/32-1 3/16"	435-285	230-145	290-190	580-380	660-425	3000-2400
1 1/4-1 7/8"	275-180	140-90	180-120	360-240	410-270	2400-2100
2 - 3"	170-115	85-55	115-75	230-150	255-170	2000-1500
3 1/8 - 4 1/8"	110-80	55-40	70-55	140-110	165-120	1500-1000
4 1/4-6"	80-55	40-25	55-35	110-75	120-75	900-800

CARBIDE TIPPED HOLESAW

BANCO	Fiberglass	Laminate	Brick	Tiles
19/16-3/4"	2380-1790	1360-1020	1705-1280	680-510
25/32-1 3/16"	1700-1130	970-640	1210-810	480-320
1 1/4-1 7/8"	1070-710	610-410	770-510	310-205
2-3"	670-450	380-260	480-320	190-130
3 1/8-4 1/8"	430-320	250-185	310-235	125-92
4 1/4-6"	310-220	180-130	230-160	90-65







HOLESAW RANGE

	Multi-Construction Superior Holesaws	BI-Metal Sandflex Holesaws	Carbide tipped holesaw			
Range	BANCO BANCO 3/4"-6"	9/16"-6"	вансо Вансо 9/16"-6"			
Application						
Sets	~	~				
Quick-Eject Arbors	3834-ARBR-930EL 3834-ARBR-9100EL	3834-ARBR-930ESM 3834-ARBR-9100ESM	3834-ARBR-930ES 3834-ARBR-9100ES			
Standard Arbors	3834-ARBR-630 3834-ARBR-730 3834-ARBR-930 3834-ARBR-1130					
Quick Change Arbors	3834-ARBR-91000	QC 3834-ARBR-11152QC 383	4-ARBR-16152QC			
Power Driver™ Arbors	3834-ARBR-9	100 3834-ARBR-11152 3834	-ARBR-16152			
Arbors with SDS+ shank	3834	ARBR-SD30 3834-ARBR-SD15	2QC			
Pilot Drills Quick-Eject Arbors	3834-DRL-EL	3834-DRL-EL	3834-DRL-ES			
Pilot Drills Standard Arbors	3834-DRL-L	3834-DRL	3834-DRL-CT			
Upsize Adaptor		3834-UPSIZE				
Ejector Spring		3834-ES				
Arbor Adaptor		3834-ADP				
Arbor Extensions		3834-EXT				

Toll Free 1 800 563 1293

ARBOR SELECTION DEPENDS ON THE SIZE OF THE HOLESAW. LOOK FOR THE OVER VIEW ON PAGE 450



pplīfast



BAHCO® Superior™ Holesaws 3/4" (19mm) to 6-17/64" (159mm)

The Superior holesaw from BAHCO® is perfect for making holes in wood, including manufactured wooden materials like MDF, as well as brick, lightweight concrete, plasterboard and hard plastics. The holesaws have an extreme cutting depth of 2-3/4" (71mm) which allows the user to go through many materials such as studs in one cut! The precision ground carbide tips and the superior low friction coating cut smoothly and require less pressure. The multi construction assortment offers a wide range of sizes and is a perfect match with the Quick-eject arbor.

BAHCO® QUICK EJECT ARBORS

Product Code	Fits Holesaws	Drill
3834-ARBR-930ES	Bimetal up to 30 mm	3834-DRL-ES
3834-ARBR-930EL	Superior up to 30 mm	3834-DRL-EL
3834-ARBR-9100ES	Bimetal 32 mm and larger	3834-DRL-ES
3834-ARBR-9100EL	Superior 32 mm and larger	3834-DRL-EL

Features

- . Allows the user to save time by releasing the core from the holesaw in one simple, fast and efficient operation without burning your fingers on a hot holesaw or release adapter
- · Quick eject arbors provides stable drilling in challenging environments
- . Arbor comes with a solid round carbide tipped drill and there is no need to change the drill between applications



For Superior[™] holesaw in combination with standard arbor.







Applifast.













BAHCO® 10 PIECE SUPERIOR™ HOLESAW SET

Product Code	Description
3833-SET-101	10 Piece Superior Holesaw Set

Contents Include:

Toll Free 1 800 563 1293

- Superior Holesaw: $^{3}/_{4}$, $^{7}/_{8}$, 1 $^{1}/_{8}$, 1 $^{3}/_{8}$, 1 $^{3}/_{4}$, 2, 2 $^{1}/_{2}$
- Arbors: 3834-ARBR-930EL, 3834-ARBR-9100EL
- Pilot Drill: 3834-DRL-EL

BAHCO® 13 PIECE SUPERIOR™ HOLESAW SET

Product Code	Description
3833-SET-201	10 Piece Superior Holesaw Set

Contents Include:

- Superior Holesaw: $^3/_4$, $^{25}/_{32}$, 1, 1 $^1/_4$, 1 $^5/_8$, 2, 2 $^7/_8$, 3, 3 $^1/_4$, 3 $^3/_8$
- Arbors: 3834-ARBR-930EL, 3834-ARBR-9100EL
- Pilot Drill: 3834-DRL-EL

BAHCO® INDIVIDUAL SUPERIOR™ HOLESAWS

	Diam	neter
Product Code	(inch)	(mm)
3833-19-C	3/4	19
3833-20-C	25/32	20
3833-22-C	7/8	22
3833-25-C	1	25
3833-27-C	1 1/16	27
3833-29-C	1 1/8	29
3833-30-C	1 3/16	30
3833-32-C	1 1/4	32
3833-35-C	1 ³ /8	35
3833-38-C	1 ½	38
3833-40-C	1 9/16	40
3833-41-C	1 ⁵ /8	41
3833-44-C	1 3/4	44
3833-48-C	1 7/8	48
3833-51-C	2	51
3833-54-C	2 ¹/8	54
3833-57-C	2 1/4	57
3833-60-C	2 ³ / ₈	60
3833-64-C	2 ¹ / ₂	64
3833-65-C	2 ⁹ / ₁₆	65
3833-67-C	2 ⁵ /8 2 ¹¹ / ₁₆	67
3833-68-C 3833-70-C	2 11/16 2 3/4	68 70
3833-73-C	2 ⁷ / ₈	70 73
3833-76-C	3	73 76
3833-77-C	3 ¹ / ₃₂	77
3833-79-C	3 1/8	77 79
3833-83-C	3 1/4	83
3833-86-C	3 ³ / ₈	86
3833-89-C	3 ¹ / ₂	89
3833-92-C	3 5/8	92
3833-95-C	3 ³ / ₄	95
3833-98-C	3 7/8	98
3833-102-C	4	102
3833-105-C	4 ¹ /8	105
3833-108-C	4 1/4	108
3833-109-C	4 19/64	109
3833-111-C	4 ³ / ₈	111
3833-114-C	4 ¹ / ₂	114
3833-121-C	4 3/4	121
3833-127-C	5	127
3833-140-C	5 ¹ / ₂	140
3833-152-C	6	152
3833-159-C	6 17/64	159

- . SUPERIOR Holesaws are perfect for cutting holes in wood, brick, concrete, plasterboard and hard plastics
- $\bullet~$ The holesaws have an extreme cutting depth of 2 $^3/_4$ " (71mm)
- The precision ground carbide tips and superior low friction coating cut smoothly and require less pressure



BI-METAL SANDFLEX HOLESAWS

RESEARCHED, DEVELOPED AND MANUFACTURED BI-METAL HOLESAWS BY BAHCO®

BAHCO® Bi-Metal Holesaws

BAHCO® was the first to create a successful bi-metal blade that combines a flexible, shatter-resistant spring steel back with a high speed steel cutting edge to provide faster, more durable cutting power. With the latest generation of bi-metal holesaws, we take the technology even further.

The cutting edge (with 4 to 6 teeth per inch) is electron beam-welded to a tough alloy back, and then the teeth are precision ground to further increase cutting efficiency. The result is a holesaw that can cut clean, accurate holes in virtually any machinable material. Vertical slots allow easy core removal.



Made with 8% cobalt to ensure a longer holesaw life

Range 14-152 mm has a 6° positive tooth angle for aggressive cutting

Range 168-210 mm has a **0° tooth angle** to simplify cutting

BAHCO® INDIVIDUAL BI-METAL HOLESAWS

Product Code	Dia. (inch)	Dia. (mm)	Product Code	Dia. (inch)	Dia. (mm)
Individual Pack			3830-41-VIP	1 ⁵ / ₈	41
3830-14-VIP	9/16	14	3830-43-VIP	1 11/16	43
3830-16-VIP	5/8	16	3830-44-VIP	1 3/4	44
3830-17-VIP	11/16	17	3830-46-VIP	1 ¹³ /16	46
3830-19-VIP	3/4	19	3830-48-VIP	1 ⁷ /8	48
3830-20-VIP	25/32	20	3830-51-VIP	2	51
3830-21-VIP	13/16	21	3830-52-VIP	2 1/16	52
3830-22-VIP	7/8	22	3830-54-VIP	2 ¹ /8	54
3830-24-VIP	15/16	24	3830-56-VIP	2 ³ / ₁₆	56
3830-25-VIP	1	25	3830-57-VIP	2 1/4	57
3830-27-VIP	1 1/16	27	3830-59-VIP	2 ⁵ /16	59
3830-29-VIP	1 1/8	29	3830-60-VIP	2 ³ / ₈	60
3830-30-VIP	1 ³ / ₁₆	30	3830-64-VIP	2 1/2	64
3830-32-VIP	1 1/4	32	3830-65-VIP	2 ⁹ / ₁₆	65
3830-33-VIP	1 5/16	33	3830-67-VIP	2 ⁵ /8	67
3830-35-VIP	1 ³ / ₈	35	3830-68-VIP	2 11/16	68
3830-37-VIP	1 7/16	37	3830-70-VIP	2 3/4	70
3830-38-VIP	1 1/2	38	3830-73-VIP	2 ⁷ /8	73
3830-40-VIP	1 9/16	40	3830-76-VIP	3	76

Product Code	Dia. (inch)	Dia. (mm)
3830-79-VIP	3 1/8	79
3830-83-VIP	3 1/4	83
3830-86-VIP	3 3/8	86
3830-89-VIP	3 ¹ / ₂	89
3830-92-VIP	3 ⁵ / ₈	92
3830-95-VIP	3 3/4	95
3830-98-VIP	3 ⁷ /8	98
3830-102-VIP	4	102
3830-105-VIP	4 ¹ / ₈	105
3830-108-VIP	4 ¹ / ₄	108
3830-111-VIP	4 ³ / ₈	111
3830-114-VIP	4 1/2	114
3830-121-VIP	4 3/4	121
3830-127-VIP	5	127
3830-133-VIP	5 ¹ / ₄	133
3830-140-VIP	5 ¹ / ₂	140
3830-146-VIP	5 ³ / ₄	146
3830-152-VIP	6	152

BAHCO® 9 PIECE PLUMBER'S HOLESAW SET

The sizes that plumbers need most, with the cutting power that produces faster, cleaner holes.

Product Code	Description
862209	9 Piece Plumber's Holesaw Set

Contents Include:

• Holesaws: 3/4", 7/8", 1 1/8", 1 1/2", 1 3/4", 2 1/4"

Arbors: 3834-ARBR-730 and 3834-ARBR-1152QC

Fits holesaws %16"-13/16", 1 1/4"-6"

Extension: 3834-EXT-1

BAHCO® 9 PIECE ELECTRICIAN'S HOLESAW SET

The holesaws electrician's use every day. Offering superior performance and convenience.

Product Code	Description	
862109	9 Piece Electrician's Holesaw Set	

Contents Include:

• Holesaws: 7/8", 1 1/8", 1 3/8", 1 3/4", 2", 2 1/2"

• Arbors: 3834-ARBR-730 and 3834-ARBR-1152QC

• Fits holesaws %16"-13/16", 1 1/4"-6"

• Extension: 3834-EXT-1





862209









862007

pplīfast



862013



862017



862021



BAHCO® Bimetal Holesaw Sets

Assortments of holesaws and accessories most commonly used by the trades, especially electricians and plumbers. Each packed in a durable plastic carrying case for convenience.

BAHCO® 7 PIECE HOLESAW SET

Product Code	
862007	

Contents Include:

- Holesaws: 7/8", 1", 1 1/8", 1 1/4", 1 1/2"
- Arbor: 3834-ARBR-730
- Adapter: 3834-ADP
- Fits holesaws %16"-13/16", 1 1/4"-6"

BAHCO® 13 PIECE HOLESAW SET

Product Code	
862013	

Contents Include:

- $\bullet \quad \text{Holesaws: $\frac{3}{4}$", $\frac{7}{8}$", 1 $\frac{1}{8}$", 1 $\frac{3}{8}$", 1 $\frac{1}{2}$", 1 $\frac{3}{4}$", 2", 2 $\frac{1}{4}$", 2 $\frac{1}{2}$"}$
 - Arbors: 3834-ARBR-730 and 3834-ARBR-1152QC
- Fits holesaws %16"-1 3/16", 1 1/4"-6"
- Adapter: 3834-ADP
- Pilot Drill: 3834-DRL-1

BAHCO® 17 PIECE HOLESAW SET

Product Code	
862017	

Contents Include:

- Holesaws: 5%", 34", 7%", 1", 1 1/8", 1 1/4", 1 3%", 1 1/2", 1 34", 2", 2 1/2", 3"
- Arbors: 3834-ARBR-730 and 3834-ARBR-11152QC
- Fits holesaws %16"-13/16", 1 1/4"-6"
- Adapter: 3834-ADP
- Pilot Drill: 3834-DRL-1 (3 pcs)

BAHCO® 21 PIECE HOLESAW SET

Product Code 862021

Contents Include:

- Holesaws: ¾", ½", 1", 1 ½", 1 ¾", 1 ½", 1 ¾", 2", 2 ¼", 2 ½", 3", 3 ¼", 3 ½", 3 ¾", 4 ½", 4 ¾"
- Arbors: 3834-ARBR-1130 and 3834-ARBR-11152QC
- Fits holesaws %16"-13/16", 1 1/4"-6"
- Pilot Drill: 3834-DRL-1 (3 pcs)



pplifast

CARBIDE-TIPPED HOLESAWS

HIGHLY WEAR RESISTANT

BAHCO® Carbide-Tipped Holesaws

BAHCO® carbide holesaws are designed to quickly and cleanly cut precise holes in ceramics, bricks, slate, laminate, fiberglass and hardwood.

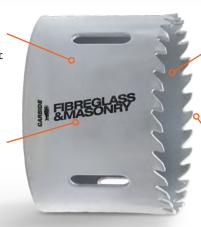
With 4 precision ground carbide tips per inch — fusion-welded to an alloy steel back — these holesaws provide an impressive combination of strength, cutting power and durability.

Equipped with vertical slots for easy core removal, carbide-tipped holesaws are available in diameters from 9/10" to 6"; cutting depth for all holesaws is 1 1/2".

Ideal for making highprecision holes in hard material such as ceramic tiles, stone, fiberglass, laminate and hardwood

Simple holesaw selection

thanks to the printed material information



Easily cuts through abrasive material, such as concrete and brick

Precision-ground carbide tipped teeth at a 6° positive tooth angle

BAHCO® Carbide Tipped Holesaw Sets

For the professional who works with a wide variety of non-metallic surfaces, this set will cut through anything from hardwood to bricks.

BAHCO® 7 PIECE HOLESAW SET

Product Code

863307

Contents Include:

- Holesaws: 1/8", 1", 1 1/8", 1 1/4", 1 1/2"
- Arbor: 3834-ARBR-730
- Fits holesaws %16"-13/16"
- · Adapter: 3834-ADP

BAHCO® 13 PIECE HOLESAW SET

Product Code 863313

Contents Include:

- Holesaws: ¾", ¾", 1 ½", 1 ¾", 1 ½", 1 ¾", 2", 2 ¼", 2 ½"
- Arbors: 3834-ARBR-730 and 3834-ARBR-1152QC
- Adapter: 3834-ADP
- Pilot Drill: 3834-DRL-1



863307



















BAHCO ®	INUIVIUUAL	CAKRIDE
	Di	ameter
Product Code	(inch)	(mm)
Individual Pa	ck	
3832-14	9/16	14
3832-16	5/8	16
3832-17	11/16	17
3832-19	3/4	19
3832-20	25/32	20
3832-21	13/16	21
3832-22	7/8	22
3832-24	15/16	24
3832-25	1	25
3832-27	1 1/16	27
3832-29	1 1/8	29
3832-30	1 ³ / ₁₆	30
3832-32	1 ¹ / ₄	32
3832-33	1 5/16	33
3832-35	1 3/8	35
3832-37	1 7/16	37
3832-38	1 1/2	38
3832-40	1 9/16	40
3832-41	1 ⁵ / ₈	41
3832-43	1 11/16	43
3832-44	1 3/4	44
3832-46	1 13/16	46
3832-48	1 7/8	48
3832-51	2	51 50
3832-52	2 ¹ / ₁₆ 2 ¹ / ₈	<u>52</u> 54
3832-54 3832-56	2 ³ / ₁₆	56
3832-57	2 1/16 2 1/4	56 57
3832-59	2 ⁷⁴ 2 ⁵ / ₁₆	59
3832-60	2 ³ / ₈	60
3832-64	2 1/2	64
3832-65	2 9/16	65
3832-67	2 ⁵ /8	67
3832-68	2 11/16	68
3832-70	2 ³ / ₄	70
3832-73	2 7/8	73
3832-76	3	76
3832-79	3 ¹ /8	79
3832-83	3 ¹ / ₄	83
3832-86	3 3/8	86
3832-89	3 1/2	89
3832-92	3 ⁵ /8	92
3832-95	3 ³ / ₄	95
3832-98	3 7/8	98
3832-102	4	102
3832-105	4 ¹ / ₈	105
3832-108	4 1/4	108
3832-111	4 ³ / ₈ 4 ¹ / ₂	111
3832-114 3832-121	4 1/2 4 3/ ₄	114 121
3832-121	4 ³/4	127
3832-127	5 1/4	133
3832-140	5 ¹ / ₂	140
3832-146	5 ³ / ₄	146
3832-152	6	152
0002-102		102



Applifast.

ARBORS & PILOT DRILLS

ADAPT TO EACH SITUATION FOR THE BEST RESULTS

			8	1 8 1	1 8 1
	Arbors	Pilot Drills		T W	ВАН
	Arbors with Quick-Eject function for easily removing the core				
	3834-ARBR-930EL	3834-DRL-EL	~		
3/16"	3834-ARBR-930ESM	3834-DRL-HSS-ES		✓	
TO 1 3	3834-ARBR-930ES	3834-DRL-ES			~
UP	Standard Arbors 3834-ARBR-630	3834-DRL-L	~		
HOLE SIZE	3834-ARBR-730 3834-ARBR-930	3834-DRL		✓	
HOLE	3834-ARBR-1130	3834-DRL-CT			~
	Arbors with SDS+ shank For machines with Quick-Change chucks	3834-DRL-L	~		
	3834-ARBR-SD30	3834-DRL		~	
		3834-DRL-CT			~
	Arbors with Quick-Eject function for taking out the core easily				
	3834-ARBR-9100EL	3834-DRL-EL	~		
	3834-ARBR-9100ESM	3834-DRL-HSS-ES		✓	
ER	3834-ARBR-9100ES	3834-DRL-ES			~
AND BIGGER	Quick-Change Arbors for easy Holesaw changes	3834-DRL-L	~		
AND E	3834-ARBR-9100QC 3834-ARBR-11152QC	3834-DRL		~	
-	3834-ARBR-16152QC	3834-DRL-CT			~
HOLE SIZE 1 1/4"	Power Driver™ Arbors for optimal stability	3834-DRL-L	~		
LE SI	3834-ARBR-9100 3834-ARBR-11152	3834-DRL		✓	
НО	3834-ARBR-16152	3834-DRL-CT			~
	Arbors with SDS+ shank For machines with	3834-DRL-L	~		
	Quick-Change chucks 3834-ARBR-SD152QC	3834-DRL		✓	
		3834-DRL-CT			~





BAHCO® PILOT DRILLS

Product Code	Description
3834-DRL	For Non Quick Eject Arbors for Bi-Metal Holesaws
3834-DRL-CT	For Non Quick Eject Arbors for Carbide Holesaws
3834-DRL-L	For Non Quick Eject Arbors for Superior Holesaws
3834-DRL-ES	Carbide Tipped for Quick Eject Arbors (ES & ESM) & Carbide Holesaws
3834-DRL-HSS-ES	High Speed Steel for Bi-metal Holesaws
3834-DRL-EL	All Round Carbide Tipped for Quick Eject Arbors & Superior Holesaws

Choose the right pilot drill for your application

• Pilot drills make a hole in the workpiece before the teeth of the holesaw become engaged, guiding and keeping the holesaw in the correct position duuring the sawing operation

BAHCO® UPSIZE ADAPTOR

Product Code	Description
3834-UPSIZE	For enlarging existing holes

Features

- · Attached to the pilot drill with the hexagon screw
- To be use on both small and large holesaws
- . Works excellent with the Quick-Eject arbors

BAHCO® ARBOR ADAPTOR

Product Code	Description
3834-ADP	Fits arbors 630, 730, 930, 1130

· Adapts small arbor threads to accommodate large holesaw threads

BAHCO® CORE EJECTION SPRING

Product Code	Description
3834-ES	For Pilot drills, to facilitate core removal



BAHCO® QUICK EJECT ARBORS

Product Code	Fits Holesaws
3834-ARBR-930ES	Carbide Tipped up to 1 3/16
3834-ARBR-930EL	Superior up to 1 3/16
3834-ARBR-930ESM	Bimetal up to 1 3/16
3834-ARBR-9100ES	Carbide Tipped 1 1/4 and Larger
3834-ARBR-9100EL	Superior 1 1/4 and Larger
3834-ARBR-9100ESM	Bimetal 1 1/4 and Larger

Features

Toll Free 1 800 563 1293

- Allows the user to save time by releasing the core from the holesaw in one simple, fast and efficient operation without burning your fingers on a hot holesaw or release adapter
- · Quick eject arbors provides stable drilling in challenging environments
- ESM Arbors include HSS drills, ES & EL Arbors include all round carbide drills

BAHCO® ARBORS

Standard Arbors - Fits holesaw 9/16" to 1-3/16

Product Code	Dia. (Inch)	
3834-ARBR-630	1/4 HEX	
3834-ARBR-730	%32 TRI	
3834-ARBR-930	11/ ₃₂ HEX	
3834-ARBR-1130	7/16 HEX	

- Includes HSS drill be use for Metal & Wood Applications
- Arbors can be used for Carbide and Multi-Construction holesaw but requires changing the drill

Quick-Change Arbor - Fits holesaw 1-1/4" and bigger

3834-ARBR-9100QC	11/ ₃₂ HEX	
3834-ARBR-11152QC	7/16 HEX	
3834-ARBR-16152QC	% HEX	

Features

- Arbors have a quick-change mechanism where no additional tools are needed to change the holesaw
- Includes HSS drill be use for Metal & Wood Applications
- Arbors can be used for Carbide and Multi-Construction holesaw but requires changing the drill

Power Driver™ Arbors for Optimal Stability - Fits holesaws 1-1/4" and bigger

3834-ARBR-9100	11/ ₃₂ HEX	
3834-ARBR-11152	7∕16 HEX	
3834-ARBR-16152	% HEX	

Features

- Includes HSS drill be use for Metal & Wood Applications
- Power Driver[™] increases the strength and eliminates play of the holesaw by redistributing the load from the thread to the solid cap
- Arbors can be used for Carbide and Multi-Construction holesaw but requires changing the drill

Arbors with SDS+ shank - for Quick Change Chucks

3834-ARBR-SD30	Fits holesaws up to 1-3/16"
3834-ARBR-SD152QC	Fits holesaws up to 1-1/4" and larger

Features

• All arbors are hardened for maximum strength. Pilot drill is included.

BAHCO® ARBOR EXTENSIONS

Product Code	Fits Arbors	Length (Inches)
3834-EXT-1	1130, 11152, 11152QC	12
3834-EXT-2	930, 9100, 9100QC	12

Features

· For reach in difficult to cut surroundings

RECIPROCATING SAW BLADES

FULL OF POWER

BAHCO® has an exceptional range of reciprocating saw blades. Each category has a wide range of shapes, lengths and toothing, with one for every application.

Our Bi-Metal (Sandflex®) blades are famous for their high quality and time-saving performance, and are highly respected by professionals. Our tough carbide tipped blades deliver impressive cutting power in any situation. Whatever the task, you will produce faster, cleaner and more accurate cuts, time after time.



SELECT THE RIGHT TOOTHING (TPI)

TEETH PER INCH

Material thickness	≤ 1/8"	1/8" to 3/8"	3/8" to 3/4"	3/4" to 2"	≥ 2"
Metal Saw Blades	24	18	14 - 10 - 8/12	8/12	
Metal and Wood Saw Blades		10/14	10 - 8/12	6 - 5/8	4/6
Wood Saw Blades		11	7	7 - 5	5
Special Saw Blades		GRIT	6	6	3

SAW BLADE SHAPES

Our range of reciprocating saw blades includes a variety of blade shapes for different styles of cutting.

STANDARD (ST)

For fast and aggressive straight cuts, but still flexible for narrow cutting.

SCROLL (SC)

For contour sawing and sawing in difficult-to-reach places.

DEMOLITION (DSL)

Extra thick and wide saw blades for demolition and heavy-duty work.

HIGH SLOPE (HSL)

The wide body makes it highly resistant to bending, allowing straight cuts in wood.

HEAVY STANDARD (HST)

The wide body makes it highly resistant to bending, allowing straighter cuts.

SLOPE (SL)

Thick blades with a narrow nose for sawing in tight spots, but highly resistant to bending.

PALLET REPAIR (PR)

The rounded front design prevents the blade from getting stuck.









FULL RANGE OF RECIPROCATING SAW BLADES AVAILABLE

6		
/ 69	-	6
100		
1 4		













RECIPROCATING **SAW BLADES FOR METAL**

									10
4"-12"	~	~	~	~	~	~	~	~	
6"-12"	~	~	~	~	~	~			~
4" and 6"		~			~	~			
4"		~			~		~	~	













FOR WOOD & METAL RECIPROCATING **SAW BLADES**

6"-12"	~	~	~			
6"-12"	~		~	~		
9"	~		~	~	~	~
9 ⁿ	~	~				









3	

RECIPROCATING **SAW BLADES** FOR WOOD

9" and 12"		~	~			
9" and 12"	~	~				
9"			~	~		~
6"-12"			~		~	



RECIPROCATING **APPLICATIONS SAW BLADES FOR SPECIAL**

6"-12"	~	>	>			
12"				>		
4" and 6"					>	~

TOOLS FOR THE TRADES



Improved blade design based on the application



Simple saw blade selection thanks to the printed material information

Sharp long-life teeth (HSS 8% Cobalt) **Easier penetration** thanks to precision-ground tooth geometry

BAHCO® BI-METAL BLADES FOR CUTTING METAL

pplifast

		length	Blade-th		Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3940-100-14-ST-2P	4	100	0.035	0.9	14	2
3940-100-14-ST-5P	4	100	0.035	0.9	14	5
3940-100-14-ST-10P	4	100	0.035	0.9	14	10
3940-100-18-ST-2P	4	100	0.035	0.9	18	2
3940-100-18-ST-5P	4	100	0.035	0.9	18	5
3940-100-18-ST-10P	4	100	0.035	0.9	18	10
3940-150-14-ST-2P	6	150	0.035	0.9	14	2
3940-150-14-ST-5P	6	150	0.035	0.9	14	5
3940-150-14-ST-10P	6	150	0.035	0.9	14	10
3940-150-14-ST-100P	6	150	0.035	0.9	14	100
3940-150-18-ST-2P	6	150	0.035	0.9	18	2
3940-150-18-ST-5P	6	150	0.035	0.9	18	5
3940-150-18-ST-10P	6	150	0.035	0.9	18	10
3940-150-18-ST-100P	6	150	0.035	0.9	18	100
3940-228-14-ST-2P	9	228	0.035	0.9	14	2
3940-228-14-ST-5P	9	228	0.035	0.9	14	5
3940-228-14-ST-10P	9	228	0.035	0.9	14	10
3940-228-14-ST-100P	9	228	0.035	0.9	14	100
3940-228-18-ST-2P	9	228	0.035	0.9	18	2
3940-228-18-ST-5P	9	228	0.035	0.9	18	5
3940-228-18-ST-10P	9	228	0.035	0.9	18	10
3940-228-18-ST-100P	9	228	0.035	0.9	18	100
3940-300-14-ST-2P	12	300	0.035	0.9	14	2
3940-300-14-ST-5P	12	300	0.035	0.9	14	5
3940-300-14-ST-10P	12	300	0.035	0.9	14	10
3940-300-14-ST-100P	12	300	0.035	0.9	14	100
3940-300-18-ST-2P	12	300	0.035	0.9	18	2
3940-300-18-ST-5P	12	300	0.035	0.9	18	5
3940-300-18-ST-10P	12	300	0.035	0.9	18	10
3940-300-18-ST-100P	12	300	0.035	0.9	18	100

Features

- . The metal blade family is designed for demanding metal cutting
- The standard-shaped (ST) blades with high performance and precisionground teeth
- Standard-shape (ST) for fast and aggressive straight cuts but still flexible for narrow cutting



BAHCO® BI-METAL BLADES FOR METAL PRECISION CUTTING

	Blade	Blade-length		Blade-thickness		Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3940-100-14-SC-2P	4	100	0.035	0.9	14	2
3940-100-14-SC-5P	4	100	0.035	0.9	14	5
3940-100-18-SC-2P	4	100	0.035	0.9	18	2
3940-100-18-SC-5P	4	100	0.035	0.9	18	5
3940-100-24-SC-2P	4	100	0.035	0.9	24	2
3940-100-24-SC-5P	4	100	0.035	0.9	24	5

- The Precision Metal scroll-shaped blades with high performance and precision-ground teeth
- Scroll (SC) shape for contour sawing and in difficult-to-reach places











BAHCO® BI-METAL BLADES FOR CUTTING FINE METAL

	Blade-length		Blade-th	Blade-thickness		Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3940-100-24-ST-2P	4	100	0.035	0.9	24	2
3940-100-24-ST-5P	4	100	0.035	0.9	24	5
3940-100-24-ST-10P	4	100	0.035	0.9	24	10
3940-150-24-ST-2P	6	150	0.035	0.9	24	2
3940-150-24-ST-5P	6	150	0.035	0.9	24	5
3940-150-24-ST-10P	6	150	0.035	0.9	24	10
3940-150-24-ST-100P	6	150	0.035	0.9	24	100

Features

- . The Fine Metal blade family is designed for metal cutting in thin materials
- . The standard-shaped (ST) blades with high performance and precisionground teeth
- Standard-shape (ST) for fast and aggressive straight cuts but still flexible for narrow cutting
- . Slope-shaped nose for various types of cuts

BAHCO® BI-METAL BLADES FOR CUTTING HEAVY METAL

Toll Free 1 800 563 1293

	Blade-length		Blade-th	ickness	Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3940-150-10-ST-2P	6	150	0.035	0.9	10	2
3940-150-10-ST-5P	6	150	0.035	0.9	10	5
3940-150-10-ST-10P	6	150	0.035	0.9	10	10
3940-150-10-ST-100P	6	150	0.035	0.9	10	100
3940-150-8/12-ST-2P	6	150	0.035	0.9	8/12	2
3940-150-8/12-ST-5P	6	150	0.035	0.9	8/12	5
3940-150-8/12-ST-10P	6	150	0.035	0.9	8/12	10
3940-150-8/12-ST-100P	6	150	0.035	0.9	8/12	100
3940-150-10-HST-2P	6	150	0.042	1.07	10	2
3940-150-10-HST-5P	6	150	0.042	1.07	10	5
3940-150-10-HST-10P	6	150	0.042	1.07	10	10
3940-150-14-HST-2P	6	150	0.042	1.07	14	2
3940-150-14-HST-5P	6	150	0.042	1.07	14	5
3940-150-14-HST-10P	6	150	0.042	1.07	14	10
3940-150-18-HST-2P	6	150	0.042	1.07	18	2
3940-150-18-HST-5P	6	150	0.042	1.07	18	5
3940-150-18-HST-10P	6	150	0.042	1.07	18	10
3940-228-10-ST-2P	9	228	0.035	0.9	10	2
3940-228-10-ST-5P	9	228	0.035	0.9	10	5
3940-228-10-ST-10P	9	228	0.035	0.9	10	10
3940-228-10-ST-100P	9	228	0.035	0.9	10	100
3940-228-10-HST-2P	9	228	0.042	1.07	10	2
3940-228-10-HST-5P	9	228	0.042	1.07	10	5
3940-228-10-HST-10P	9	228	0.042	1.07	10	10
3940-228-14-HST-2P	9	228	0.042	1.07	14	2
3940-228-14-HST-5P	9	228	0.042	1.07	14	5
3940-228-14-HST-10P	9	228	0.042	1.07	14	10
3940-228-18-HST-2P	9	228	0.042	1.07	18	2
3940-228-18-HST-5P	9	228	0.042	1.07	18	5
3940-228-18-HST-10P	9	228	0.042	1.07	18	10
3940-228-8/12-ST-2P	9	228	0.050	1.3	8/12	2
3940-228-8/12-ST-5P	9	228	0.050	1.3	8/12	5
3940-228-8/12-ST-10P	9	228	0.050	1.3	8/12	10
3940-228-8/12-ST-100P	9	228	0.050	1.3	8/12	100
3940-300-10-HST-2P	12	300	0.042	1.07	10	2
3940-300-10-HST-5P	12	300	0.042	1.07	10	5
3940-300-10-HST-10P	12	300	0.042	1.07	10	10
3940-300-14-HST-2P	12	300	0.042	1.07	14	2
3940-300-14-HST-5P	12	300	0.042	1.07	14	5
3940-300-14-HST-10P	12	300	0.042	1.07	14	10
3940-300-18-HST-2P	12	300	0.042	1.07	18	2
3940-300-18-HST-5P	12	300	0.042	1.07	18	5
3940-300-18-HST-10P	12	300	0.042	1.07	18	10

- The Heavy Metal blade family is designed for demanding metal cutting in thick materials
- Heavy standard (HST) Bi-Metal blades with precision ground teeth are a series of extra thick blades with a wider body that makes it more rigid and has a higher resistance to fracturing and bending, allowing straighter cuts
- Standard (ST) Bi-Metal blades with coarse precision ground teeth are a series of flexible blades with a standard body that makes it more flexible and easy to bend into position



BAHCO® RECIPROCATING SAW BLADES FOR WOOD & METAL

MADE FOR BOTH THE EMERGENCY SERVICES AND PROFESSIONAL CRAFTSMEN



BAHCO® BI-METAL BLADES FOR CUTTING WOOD AND METAL

	Blade-length		Blade-th	Blade-thickness		Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3940-150-6-ST-2P	6	150	0.035	0.9	6	2
3940-150-6-ST-5P	6	150	0.035	0.9	6	5
3940-150-6-ST-10P	6	150	0.035	0.9	6	10
3940-150-4/6-SC-2P	6	150	0.050	1.3	4/6	2
3940-150-4/6-SC-5P	6	150	0.050	1.3	4/6	5
3940-150-4/6-SC-10P	6	150	0.050	1.3	4/6	10
3940-150-5/8-SL-2P	6	150	0.050	1.3	5/8	2
3940-150-5/8-SL-5P	6	150	0.050	1.3	5/8	5
3940-150-5/8-SL-10P	6	150	0.050	1.3	5/8	10
3940-150-5/8-SL-100P	6	150	0.050	1.3	5/8	100
3940-228-6-SL-2P	9	228	0.050	1.3	6	2
3940-228-6-SL-5P	9	228	0.050	1.3	6	5
3940-228-6-SL-10P	9	228	0.050	1.3	6	10
3940-300-6-SL-2P	12	300	0.050	1.3	6	2
3940-300-6-SL-5P	12	300	0.050	1.3	6	5
3940-300-6-SL-10P	12	300	0.050	1.3	6	10
3940-300-8/12-SL-2P	12	300	0.050	1.3	8/12	2
3940-300-8/12-SL-5P	12	300	0.050	1.3	8/12	5
3940-300-8/12-SL-10P	12	300	0.050	1.3	8/12	10
3940-300-8/12-SL-100P	12	300	0.050	1.3	8/12	100

- The Wood and Metal blade family is designed for demanding cutting in wood, even with embedded nails, but it can also be used for thick metal materials
- Slope-shaped (SL) Bi-Metal blades with precision ground teeth are a series of thicker blades with a narrow nose that makes it accessible in narrow places but still rigid and has a higher resistance to fracturing and bending, allowing straighter cuts
- Standard (ST) Bi-Metal blades with coarse precision ground teeth are a series of flexible blades with standard body that makes it more flexible and easy to bend into position









BAHCO® BI-METAL BLADES FOR FIRE AND RESCUE

	Blade-	length	Blade-th	ickness	Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3940-228-10-DSL-2P	9	228	0.062	1.6	10	2
3940-228-10-DSL-5P	9	228	0.062	1.6	10	5
3940-228-10-DSL-10P	9	228	0.062	1.6	10	10

Features

Toll Free 1 800 563 1293

• The Fire & Rescue bi-metal blade with precision ground teeth is an extra heavy duty blade for metal/demolition applications, to be used in extreme conditions

BAHCO® BI-METAL BLADES FOR DEMOLITION

	Blade-length		Blade-th	Blade-thickness		Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3940-150-5/8-DSL-2P	6	150	0.062	1.6	5/8	2
3940-150-5/8-DSL-5P	6	150	0.062	1.6	5/8	5
3940-150-5/8-DSL-10P	6	150	0.062	1.6	5/8	10
3940-228-5/8-DSL-2P	9	228	0.062	1.6	5/8	2
3940-228-5/8-DSL-5P	9	228	0.062	1.6	5/8	5
3940-228-5/8-DSL-10P	9	228	0.062	1.6	5/8	10
3940-300-5/8-DSL-2P	12	300	0.062	1.6	5/8	2
3940-300-5/8-DSL-5P	12	300	0.062	1.6	5/8	5
3940-300-5/8-DSL-10P	12	300	0.062	1.6	5/8	10

Features

- The Sandflex® Demolition slope (DSL) Bi-Metal blades are a series of extra thick and wide saw blades for demolition and heavy-duty work
- · Perfect for nail-embedded wood

BAHCO® BI-METAL BLADES FOR PALLET REPAIR

	Blade-	length	Blade-th	ickness	Teeth	Pack	
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY	
3940-228-10/14-PR09-10P	9	228	0.035	0.9	10/14	10	
3940-228-10/14-PR09-100P	9	228	0.035	0.9	10/14	100	
3940-228-10/14-PR13-100P	9	228	0.035	0.9	10/14	100	
3940-228-8/12-PR13-100P	9	228	0.050	1.3	8/12	100	

Features

- The pallet repair blade is developed in close co-operation with pallet
- The unique front design prevents the blade front from getting stuck in close by wood beams when cutting nails in damaged parts of the pallet
- By increasing the shank radius we have improved the fatigue strength
- 10/14 TPI has proved to be the most popular toothing amongst users in pallet repair shops. This toothing has good material removal rate in wood with nails and high strength to tooth breakage



PALLET BALLET



BAHCO® RECIPROCATING SAW BLADES FOR WOOD & PLASTIC

SPECIAL TOOTHING FOR FAST CROSS-CUTTING AND RIPPING

Simple saw blade selection thanks to the printed material information

Strong high-carbon steel blades

Improved blade design based on the application

Low-friction coating minimises heat generation



Bevel-ground wood-cutting toothing allows faster cross-cutting and rip-cutting

Long-lasting induction-hardened teeth

BAHCO® HIGH CARBON STEEL BLADES **FOR CUTTING WOOD**

	Blade-length		Blade-th	ickness	Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3942-228-7-HSL-2P	9	228	0.039	1	7	2
3942-228-7-HSL-5P	9	228	0.039	1	7	5
3942-228-7-HSL-10P	9	228	0.039	1	7	10
3942-300-7-HSL-2P	12	300	0.039	1	7	2
3942-300-7-HSL-5P	12	300	0.039	1	7	5
3942-300-7-HSL-10P	12	300	0.039	1	7	10

- Unique bevel-ground teeth provide a guick cut and deliver the best results in wood
- The blade is made of High Carbon Steel and the teeth are induction hardened for a very long life before being coated for minimum friction
- The toothing allows considerably faster cutting compared to traditional blades; 7 for all-round wood cut

BAHCO® HIGH CARBON STEEL BLADES **FOR CUTTING COARSE WOOD**

	Blade-length		Blade-th	Blade-thickness		Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3942-228-5-HSL-2P	9	228	0.039	1	5	2
3942-228-5-HSL-5P	9	228	0.039	1	5	5
3942-228-5-HSL-10P	9	228	0.039	1	5	10
3942-300-5-HSL-2P	12	300	0.039	1	5	2
3942-300-5-HSL-5P	12	300	0.039	1	5	5
3942-300-5-HSL-10P	12	300	0.039	1	5	10

Features

- · Unique bevel-ground teeth provide a quick cut and deliver the best results in coarse wood
- . The toothing allows considerably faster cutting compared to traditional blades; 5 for coarse and very fast cuts

BAHCO® HIGH CARBON STEEL BLADES **FOR CUTTING WOOD & PLASTIC**

	Blade-length		Blade-thickness		Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3942-228-11-HSL-2P	9	228	0.039	1	11	2
3942-228-11-HSL-5P	9	228	0.039	1	11	5
3942-228-11-HSI-10P	9	228	0.039	1	11	10

- . The blade is made of High Carbon Steel and the teeth are induction hardened for a very long life before being coated for minimum friction
- . Unique bevel-ground teeth provide a quick cut and deliver the best results in wood and plastic
- . The toothing allows considerably faster cutting compared to traditional blades; 11 for fine cut











BAHCO® BI-METAL BLADES FOR CUTTING PLASTER AND BOARDS

	Blade-	-length	Blade-th	ickness	Teeth	Pack	
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY	
3942-150-7-SL-2P	6	150	0.043	1.1	7	2	_
3942-150-7-SL-5P	6	150	0.043	1.1	7	5	
3942-150-7-SL-10P	6	150	0.043	1.1	7	10	
3942-228-7-SL-2P	9	228	0.043	1.1	7	2	
3942-228-7-SL-5P	9	228	0.043	1.1	7	5	
3942-228-7-SL-10P	9	228	0.043	1.1	7	10	
3942-300-7-SL-2P	12	300	0.043	1.1	7	2	
3942-300-7-SL-5P	12	300	0.043	1.1	7	5	
3942-300-7-SL-10P	12	300	0.043	1.1	7	10	_

Features

- . The Plaster and Board Bi-Metal blade is designed for demanding cutting in both plaster and different types of wooden chip boards
- Slope (SL) shape for various types of cuts
- . The toothing allows considerably faster cutting compared to traditional blades
- The blade is coated for minimum friction

BAHCO® RECIPROCATING SAW BLADES FOR FOR SPECIAL APPLICATIONS

SPECIALIZED BLADES FOR INDUSTRY-SPECIFIC APPLICATIONS



BAHCO® STAINLESS STEEL BLADES FOR CUTTING MEAT AND ICE

	Blade-	length	Blade-th	ickness	Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3944-300-3-MEAT-1P	12	300	0.049	1.25	3	1

Features

· Reciprocating blade made for cutting meat/bone and frozen materials

BAHCO® BI-METAL CAR BODY SAW BLADES

	Lenath	Material Thickness	Teeth	Pack
Product Code	(inch)	Capacity (Inches)	per inch	QTY
3845-18-10P	3 1/2	Over 0.20	18	10
3845-18-100P - Bulk	3 ½	Over 0.20	18	100
3845-24-10P	3 1/2	0.08 to 0.20	24	10
3845-24-100P - Bulk	3 1/2	0.08 to 0.20	24	100
3845-32-10P	3 1/2	0 to 0.08	32	10
3845-32-100P - Bulk	3 1/2	0 to 0.08	32	100

- · Car-body saw blades for pneumatic or electric reciprocating body shop saws
- . Mainly used in automotive body shops
- · Bulk packed for heavy usage applications



oplifast

BAHCO® RECIPROCATING CARBIDE-TIPPED SAW BLADES

BLADES FOR HEAVY-DUTY APPLICATIONS

Simple saw blade selection thanks to the printed material information

Highly-resistant body allows straighter cuts even at heavy-duty work

Improved blade design based on the application



Carbide teeth withstand heat and can work long under extreme conditions

Sharp, long-life teeth carbide technology

BAHCO® CARBIDE TIPPED BLADES FOR WOOD WITH NAIL AND WALL DEMOLITION

	Blade-length		Blade-thickness		Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3946-150-6-DSL-1P	6	150	0.050	1.3	6	1
3946-228-6-DSL-1P	9	228	0.050	1.3	6	1
3946-300-6-DSL-1P	12	300	0.050	1.3	6	1

Features

- . Demolition shape extra thick and wide saw blades for demolition and heavy duty work
- Long life with high performance due to the carbide teeth design, making it suitable for work in extreme conditions
- · Universal shank fits any type reciprocating saw
- Carbide tipped blades withstand heat and work long under extreme conditions

BAHCO® CARBIDE TIPPED BLADES FOR DEMANDING METAL CUTTING

	Blade-	Blade-length		Blade-thickness		Pack	
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY	
3946-150-8-HST-1P	6	150	0.050	1.3	8	1	
3946-228-8-HST-1P	9	228	0.050	1.3	8	1	
3946-300-8-HST-1P	12	300	0.050	1.3	8	1	

Features

- Heavy standard shape's wide body makes it highly resistant to bending, allowing straighter cuts even in heavy duty work
- Long life with high performance due to the carbide teeth design, making it suitable for work in extreme conditions
- . Universal shank fits any type reciprocating saw
- Blades are suitable for applications with high-strength steel and for tubes or profiles 5/32 to 1/2" thick

BAHCO® CARBIDE TIPPED BLADES FOR DEMANDING STAINLESS STEEL CUTTING

	Blade-length		Blade-thickness		Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3946-150-10-HST-1P	6	150	0.050	1.3	10	1
3946-228-10-HST-1P	9	228	0.050	1.3	10	1
3946-300-10-HST-1P	12	300	0.050	1.3	10	1

- Heavy standard shape's wide body makes it highly resistant to bending, allowing straighter cuts even in heavy duty work
- Long life with high performance due to the carbide teeth design, making it suitable for work in extreme conditions
- · Universal shank fits any type reciprocating saw
- Blades are suitable for cutting stainless steel and tubes or profiles 3/16 to 3/8" thick















	Blade-length		Blade-thickness		Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3946-100-DG-ST-2P	4	100	0.050	1.2	Grit	1
3946-150-DG-ST-2P	6	150	0.050	1.2	Grit	1

Features

- . Standard Shep for fast and aggressive straight cuts, but still flexible for narrow cutting
- . Special design to cut Cement Cast Iron and the only blade that can cut pipes from cemented case iron
- . Diamond grip blades withstand heat and can work in extreme conditions
- . Universal shank fits any type reciprocating saw

BAHCO® CARBIDE GRIT BLADES FOR CUTTING TILE AND GLASS

	Blade-	length	Blade-th	ickness	Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3946-100-G-ST-2P	4	100	0.035	0.9	Grit	2
3946-150-G-ST-2P	6	150	0.035	0.9	Grit	2

Features

· Carbide Grit for cutting hard materials such as tiles, ceramics and glass Shape Standard (ST)

BAHCO® CARBIDE TIPPED BLADES FOR DEMANDING BRICK CUTTING

	Blade-length		Blade-thickness		Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3946-300-2-CB-1P	6	300	0.06	1.5	CB	1
3946-457-2-CB-1P	18	457	0.06	1.5	CB	1

Features

- . Special blade design with an extra wide body that makes it highly resistant to bending, allowing straight cuts
- . Designed for cutting through the roughest abrasive materials such as bricks, LECA and aerated concrete
- · Universal shank fits any type reciprocating saw

BAHCO® CARBIDE TIPPED BLADES FOR CUTTING STONE MATERIALS

	Blade-	length	Blade-th	ickness	Teeth	Pack
Product Code	(inch)	(mm)	(inch)	(mm)	per inch	QTY
3946-150-6-SL-1P	6	150	0.035	0.9	6	1
3946-228-3-ST-1P	9	228	0.035	0.9	3	1
3946-228-6-ST-1P	9	228	0.050	1.3	6	1
3946-300-3-ST-1P	12	300	0.060	1.5	3	1
3946-300-6-ST-1P	12	300	0.050	1.3	6	1

- . A new wide range of 3 and 6 TPI carbide tipped blades for cutting of nonferrous materials such as lightweight concrete, bricks, fiberglass
- . Comes in two shapes, Slope (SL) shape for various types of cuts and Standard (ST) shape for fast and aggressive straight cuts
- · Universal shank fits any type reciprocating saw





pplifast

BAHCO® 7 PIECE SOFT GRIP PUNCH AND CHISEL SET

Soft Grip

Product Code	Description
3654BMS/7	7 Piece Soft Grip Punch and Chisel Set

Contents Include:

Description	Point Diameter	Description	Point Diameter
Pin Punch	1/16	Chisels	5/8
Pin Punch	1/8	Chisels	3/4
Pin Punch	3/16	Center	1/4
Pin Punch	1/4		

BAHCO® 7 PIECE SOFT GRIP PIN PUNCH SET

Soft Grip

Product Code	Description
3734BMS/7	7 Piece Soft Grip Pin Punch Set

Contents Include:

Description	Point Diameter	Description	Point Diameter
Pin Punch	1/16	Pin Punch	1/4
Pin Punch	1/8	Pin Punch	5/16
Pin Punch	3/16	Pin Punch	3/8
Pin Punch	3/16		

Features

- Soft grip handle provides a powerful grip, is more comfortable in cold work environments and reduces strike vibration
- Semispherical striking area controls mushrooming to help reduce chipping and splitting
- · Cutting edges on chisels are hand ground to consistently produce a quality edge
- Black oxide coated
- · Manufactured from special alloy steel that is differentially heat treated to increase durability

BAHCO® POINTED CHISELS

Safety impact head

Product Code	Length (Inches)
3739H-250	10
3739H-300	12
3739H-400	15 ½

Features

· Safety impact head with plastic hand protection

BAHCO® SLITTING CHISEL

Safety impact head

Product Code	Length (Inches)
3750H	10

Features

· Safety impact head with plastic hand protection

BAHCO® MASON'S CHISEL

Safety impact head

Product Code	Length (Inches)	Tip Width (Inches)
3736MH-250	10"	1"
3736MH-300	12	1"
3736MH-400	15 ½	1"

Features

• Safety impact head with plastic hand protection







3734BMS/7











*A*pplifast







BAHCO® ERGO™ 6 PIECE ENGINEERING FILE SET

With Bi-Molded ERGO™ Handle

1-476-04-3-2	6 Piece Engineering File Set			
Contents Include:	Contents Include:			
Description	Length (Inch)	Type of Cut		
Hand Smooth	4	Smooth		
Warding Smooth	4	Smooth		
Square Smooth	4	Smooth		
Three Square Smooth	4	Smooth		
Half Round Smooth	4	Smooth		
Round Smooth	4	Smooth		

Features

Product Code

- Files are smooth, double cut and designed for the fine filing and polishing applications
- Supplied with pouch

BAHCO® ERGO™ 5 PIECE ENGINEERING FILE SET

With Bi-Molded ERGO™ Handle

Product Code	Description	
1-478-08-1-2	5 Piece Engineering File Set	

Contents Include:

Description	Length (Inch)	Type of Cut	
Hand Bastard	8	Bastard	
Hand Second	8	Second	
Square Bastard	8	Bastard	
Half Round Bastard	8	Bastard	
Round Bastard	8	Bastard	

Features

- Files are coarse, double cut and designed for high removal rate
- Supplied with pouch

BAHCO® ERGO™ 3 PIECE ENGINEERING FILE SET

With Bi-Molded ERGO™ Handle

Product Code	Description
1-473-06-2-2	3 Piece Engineering File Set

Contents Include:

Description	Length (Inch)	Type of Cut
Hand Second	8	Second
Half Round Second	8	Second
Round Second	8	Second

- Files are medium coarse, double cut and designed for high removal rate
- Supplied with pouch



Applifast.

BAHCO® NEEDLE FILE SETS

Product		Length	Teeth Per Inch	Туре
Code	# of Pieces	(Inch)	(TPI)	of Cut
2-472-14-2-0	12	5 ½	97	Smooth
2-472-16-0-0	12	6 1/4	64	Bastard
2-472-16-1-0	12	6 1/4	79	Second
2-472-16-2-0	12	6 1/4	97	Smooth
2-471-16-1-0	9	6 1/4	79	Second
2-470-14-2-0	6	5 ½	97	Smooth
2-470-14-4-0	6	5 ½	142	Dead Smooth
2-470-16-1-0	6	6 1/4	79	Second

Features

- Files in snap shut plastic wallet with hanging hole
- Includes one handle 9-488-02-10
- 12 Piece contains one file each of: hand, flat, three square, square, half round, crossing, round, knife, barrette, slitting, round-edge joint and marking
- 9 Piece contains one file each of: hand, flat, half round, round, three square, square, oval, crossing, knife
- 6 Piece contains one file each of: hand, flat, half round, round, three square and square



BAHCO® ERGO™ HOMEOWNER'S FILE SET

With Bi-Molded ERGO™ Handle

	Length	Width	Height	Type
Product Code	(Inch)	(Inch)	(Inch)	of Cut
4-154-08-2-2	8	1	5/32	Bastard + Second

Features

 Set contains one 4-152 Homeowner's file for wood and one 4-153 Homeowner's file for metal











1-100-10-1-0

1-104-10-2-0

BAHCO® ERGO™ MILL FILE (USA TYPE)-TWO FLAT EDGES

Hand File					
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
With Bi-Mo	lded ERG	O™ Handle	•		
1-100-06-1-2	6	5/8	5/32	30	Bastard
1-100-06-2-2	6	5/8	5/32	43	Second
1-100-08-1-2	8	25/32	13/64	25	Bastard
1-100-10-1-2	10	1	7/32	23	Bastard
1-100-10-2-2	10	1	7/32	30	Second
Without ha	ndle				
1-100-04-1-0	4	15/32	1/8	38	Bastard
1-100-04-2-0	4	15/32	1/8	53	Second
1-100-04-3-0	4	15/32	1/8	74	Smooth
1-100-06-1-0	6	5/8	5/32	30	Bastard
1-100-06-2-0	6	5/8	5/32	43	Second
1-100-06-3-0	6 6	5/8	5/32	61	Smooth
1-100-08-1-0	8	25/32	13/64	25	Bastard
1-100-08-2-0	8	25/32	13/64	38	Second
1-100-08-3-0	8	25/32	13/64	53	Smooth
1-100-10-1-0	10	1	7/32	23	Bastard
1-100-10-2-0	10	1	7/32	30	Second
1-100-10-3-0	10	1	7/32	45	Smooth
1-100-12-1-0	12	1 3/16	5/64	18	Bastard
1-100-12-2-0	12	1 3/16	5/64	25	Second
1-100-12-3-0	12	1 3/16	5/64	38	Smooth
1-100-14-1-0	14	1 3/8	15/64	15	Bastard
1-100-14-2-0	14	1 3/8	15/64	23	Second
1-100-14-3-0	14	1 3/8	15/64	30	Smooth

Features

Toll Free 1 800 563 1293

- · For filing flat surfaces, sharp corners and shoulders as well as for deburring
- To work in high-alloy tool steels, for sharpening of heavy implements
- File surfaces are double cut while the edges have one side single cut and one side uncut

BAHCO® LATHE FILE

Engineering File						
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut	
1-104-10-2-0	10	31/32	7/32	30	Second	
1-104-10-3-0	10	31/32	7/32	43	Smooth	
1-104-12-2-0	12	15/32	1 11/64	25	Second	
1-104-12-3-0	12	15/32	15/64	36	Smooth	
1-104-14-3-0	14	1%	15/64	30	Smooth	

Features

- For polishing and deburring work in lathes
- Releases chips easily and produces smooth surfaces
- File surface is single cut while edges are uncut



BAHCO® ERGO™ HAND FILE

Engineerin	g File				
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
With Bi-Mo	Ided ERG	O™ Handle	•		
1-106-08-1-2 1-106-10-1-2	8 10	²⁵ / ₃₂ ³¹ / ₃₂	13/ ₆₄ 13/ ₆₄	25 23	Bastard Bastard
Without ha	ndle				
1-106-08-1-0	8	²⁵ / ₃₂	13/64	25	Bastard
1-106-10-1-0	10	31/32	13/64	23	Bastaro
1-106-12-1-0	12	3/16	13/16	18	Bastaro

- For polishing and deburring work in lathes
- Releases chips easily and produces smooth surfaces
- File surface is oberg cut while the edges have one side single cut and one side uncut



pplifast

BAHCO® ERGO™ FLAT FILE

Engineerin	g File				
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
With Bi-Me	olded ER	GO™ Ha	ndle		
1-110-08-1-2	8	25/32	13/64	25	Bastard
1-110-08-2-2	8	25/32	13/64	38	Second
1-110-10-1-2	10	1	7/32	23	Bastard
1-110-10-2-2	10	1	7/32	30	Second
1-110-10-3-2	10	1	7/32	43	Smooth
Without ha	andle				
1-110-04-1-0	4	15/32	1/8	38	Bastard
1-110-04-2-0	4	15/32	1/8	53	Second
1-110-04-3-0	4	15/32	1/8	74	Smooth
1-110-06-1-0	6	5/8	5/32	30	Bastard
1-110-06-2-0	6	5/8	5/32	43	Second
1-110-06-3-0	6	5/8	5/32	61	Smooth
1-110-08-1-0	8	²⁵ / ₃₂	13/64	25	Bastard
1-110-08-2-0	8	²⁵ /32	13/64	38	Second
1-110-08-3-0	8	²⁵ /32	13/64	53	Smooth
1-110-10-1-0	10	1	7/32	23	Bastard
1-110-10-2-0	10	1	7/32	30	Second
1-110-10-3-0	10	1	7/32	43	Smooth
1-110-12-1-0	12	1 3/16	15/64	18	Bastard
1-110-12-2-0	12	1 3/16	15/64	25	Second
1-110-12-3-0	12	1 ¾16	15/64	38	Smooth
1-110-14-1-0	14	1 3/8	15/64	38	Bastard

Features

- Pointed shape enables user to reach into angles and corners
- Edges are tapered towards the point with surfaces being parallel
- File surfaces is double cut while the edges are single cut



BAHCO® WARDING FILE

Engineerii	ng File				
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
Without ha	andle				
1-111-04-1-0	4	25/64	3/64	43	Bastard
1-111-04-2-0	4	25/64	3/64	53	Second
1-111-04-3-0	4	25/64	3/64	74	Smooth
1-111-06-1-0	6	19/32	5/64	38	Bastard
1-111-06-2-0	6	19/32	5/64	43	Second
1-111-06-3-0	6	19/32	5/64	61	Smooth
1-111-08-1-0	8	3/4	3/32	30	Bastard
1-111-08-2-0	8	3/4	3/32	38	Second
1-111-08-3-0	8	3/4	3/32	53	Smooth

- Designed for filing narrow grooves, and passages such as filing cuts on keys
- Edges are tapered towards the point with surfaces being parallel
- File surfaces is double cut while the edges are single cut









Engineerin	ng File				
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
With Bi-M	olded ER	RGO™ Ha	ndle		
1-143-06-1-2	6	5/8	7/64	48	Bastard
1-143-06-2-2	6	5/8	7/64	53	Second
1-143-08-1-2	8	25/32	1/8	44	Bastard
1-143-10-1-2	10	1	1 43/64	40	Bastard
1-143-10-2-2	10	1	5/32	44	Second
Without h	andle				
1-143-04-1-0	4	7/16	5/64	53	Bastaro
1-143-04-2-0	4	7/16	5/64	62	Second
1-143-04-3-0	4	7/16	5/64	75	Smooth
1-143-06-1-0	6	5/8	7/64	48	Bastaro
1-143-06-2-0	6	5/8	7/64	53	Second
1-143-06-3-0	6	5/8	7/64	62	Smooth
1-143-08-1-0	8	25/32	1/8	44	Bastaro
1-143-08-2-0	8	25/32	1/8	48	Second
1-143-08-3-0	8	25/32	1/8	57	Smooth
1-143-10-1-0	10	1	5/32	40	Bastaro
1-143-10-2-0	10	1	5/32	44	Second
1-143-10-3-0	10	1	5/32	53	Smooth
1-143-12-1-0	12	1 ¹³ / ₁₆	3/16	37	Bastaro
1-143-12-2-0	12	1 ¹³ / ₁₆	3/16	40	Second
1-143-12-3-0	12	1 13/16	3/16	48	Smooth

Features

Toll Free 1 800 563 1293

- Surfaces and edges are single cut
- Suitable for engineering and sharpening file applications
- Can be used for polishing and deburring work in lathes
- Widely used for sharpening tools and implements such as spades, shovels, hoes, scrapers, etc.





BAHCO® PLASTIC CUT FILE

Engineerin	ng File				
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
Without ha	andle				
1-145-12-0-0	12	31/32	13/64	39	Smooth
1-145-14-0-0	14	1 11/64	3/16	23	Second

- Designed for fast and easy cutting on plastic laminates
- Excellent for edge finishing
- Single cut



plifast

BAHCO® ERGO™ SQUARE FILE

Engineerin	na File				
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
With Bi-Me	olded ER	GO™ Ha	andle		
1-160-06-1-2	6	15/32	15/64	33	Bastard
1-160-06-2-2	6	15/32	15/64	46	Second
1-160-08-1-2	8	5/16	5/16	25	Bastard
1-160-08-2-2	8	5/16	5/16	36	Second
1-160-10-1-2	10	²⁵ / ₆₄	23/64	23	Bastard
Without ha	andle				
1-160-04-1-0	4	11/64	11/64	43	Bastard
1-160-04-2-0	4	11/64	11/64	56	Second
1-160-04-3-0	4	11/64	11/64	71	Smooth
1-160-06-1-0	6	15/32	15/64	33	Bastard
1-160-06-2-0	6	15/32	15/64	46	Second
1-160-06-3-0	6	15/32	15/64	56	Smooth
1-160-08-1-0	8	⁵ /16	⁵ /16	25	Bastard
1-160-08-2-0	8	5/16	5/16	36	Second
1-160-08-3-0	8	5/16	5/16	46	Smooth
1-160-10-1-0	10	²⁵ /64	23/64	23	Bastard
1-160-10-2-0	10	²⁵ / ₆₄	23/64	30	Second
1-160-10-3-0	10	²⁵ / ₆₄	23/64	41	Smooth
1-160-12-1-0	12	15/32	15/32	20	Bastard
1-160-12-2-0	12	15/32	15/32	28	Second

Features

- Designed for filing grooves, rectangular holes, inside corners and for fine-adjustments of cutting tools
- Surfaces are tapered towards the point and has a double cut

BAHCO® ERGO™ THREE SQUARE FILE

Engineering File

9	-9							
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut			
With Bi-M	With Bi-Molded ERGO™ Handle							
1-170-06-1-2	6	7/16	7/16	33	Bastard			
1-170-06-2-2	6	7/16	7/16	46	Second			
1-170-08-1-2	8	5/8	5/8	25	Bastard			
1-170-08-2-2	8	5/8	5/8	36	Second			
1-170-10-1-2	10	11/16	11/16	23	Bastard			
1-170-10-3-2	10	11/16	11/16	41	Smooth			
Without h	andle							
1-170-04-3-0	4	1/4	1/4	71	Smooth			
1-170-06-1-0	6	7/16	7/16	33	Bastard			
1-170-06-2-0	6	7/16	7/16	46	Second			
1-170-06-3-0	6	7/16	7/16	56	Smooth			
1-170-08-1-0	8	5/8	5/8	25	Bastard			
1-170-08-2-0	8	5/8	5/8	36	Second			
1-170-08-3-0	8	5/8	5/8	46	Smooth			
1-170-10-1-0	10	11/16	11/16	23	Bastard			
1-170-10-2-0	10	11/16	11/16	30	Second			
1-170-10-3-0	10	11/16	11/16	41	Smooth			

- Ideal for deburring and filing angles and inner corners. Can be used for filing of holes, large fillets and concave surfaces
- Shaped in an equilateral triangle that tapers towards the point and has double surface cuts















BAHCO® ERGO™ HALF-ROUND FILE

Engineerin	g File				
Product	Length	Width	Height	Teeth Per Inch	Type
Code	(Inch)	(Inch)	(Inch)	(TPI)	of Cut
With Bi-Me	olded ER	GO™ Han	dle		
1-210-06-1-2	6	5/8	3/16	33	Bastard
1-210-06-2-2	6	5/8	5/8	46	Second
1-210-06-3-2	6	5/8	5/8	56	Smooth
1-210-08-1-2	8	13/16	13/16	25	Bastard
1-210-08-2-2	8	13/16	13/16	36	Second
1-210-10-1-2	10	1 3/64	1 3/64	23	Bastard
1-210-10-2-2	10	1 3/64	1 3/64	30	Second
1-210-12-1-2	12	1 7/32	1 7/32	20	Bastard
1-210-12-2-2	12	17/32	17/32	28	Second
Without ha	andle				
1-210-04-1-0	4	25/64	1/8	43	Bastard
1-210-04-2-0	4	25/64	1/8	56	Second
1-210-04-3-0	4	²⁵ /64	1/8	71	Smooth
1-210-06-1-0	6	5/8	3/16	33	Bastard
1-210-06-2-0	6	5/8	5/8	46	Second
1-210-06-3-0	6	5/8	5/8	56	Smooth
1-210-08-1-0	8	13/16	13/16	25	Bastard
1-210-08-2-0	8	¹³ / ₁₆	13/16	36	Second
1-210-08-3-0	8	13/16	13/16	46	Smooth
1-210-10-1-0	10	1 3/64	1 3/64	23	Bastard
1-210-10-2-0	10	1 3/64	1 3/64	30	Second
1-210-10-3-0	10	1 3/64	1 3/64	41	Smooth
1-210-12-1-0	12	1 7/32	1 7/32	20	Bastard
1-210-12-2-0	12	1 7/32	1 7/32	28	Second
1-210-12-3-0	12	1 7/32	1 7/32	36	Smooth
1-210-14-1-0	14	1 %	1 %	18	Bastard

Features

- · Used for filing concave and flat surfaces as well as large holes and deburring requirements
- Edges and surfaces are tapered towards the point and has double surface cuts

BAHCO® ERGO™ ROUND FILE

Engineering	, File				
Product	Length	Width	Height	Teeth Per Inch	Туре
Code	(Inch)	(Inch)	(Inch)	(TPI)	of Cut
With Bi-Mo	ded ERGC	O™ Hand	le		
1-230-06-1-2	6	15/32		33	Bastard
1-230-06-2-2	6	15/32		46	Second
1-230-08-1-2	8	5/16		25	Bastard
1-230-08-2-2	8	5/16		36	Second
1-230-10-1-2	10	25/64	-	23	Bastard
1-230-10-2-2	10	25/64	-	30	Second
1-230-10-3-2	10	25/64		41	Smooth
Without ha	ndle				
1-230-04-1-0	4	9/64		43	Bastard
1-230-04-2-0	4	9/64		56	Second
1-230-04-3-0	4	9/64		71	Smooth
1-230-06-1-0	6	15/32		33	Bastard
1-230-06-2-0	6	15/32		46	Second
1-230-06-3-0		15/32	-	56	Smooth
1-230-08-1-0	6 8	5/16		25	Bastard
1-230-08-2-0	8	5/16		36	Second
1-230-08-3-0	8	5/16		46	Smooth
1-230-10-1-0	10	25/64		23	Bastard
1-230-10-2-0	10	²⁵ /64		30	Second
1-230-10-3-0	10	25/64		41	Smooth
1-230-12-1-0	12	15/32	-	20	Bastard
1-230-12-2-0	12	15/32		28	Second
1-230-12-3-0	12	15/32	-	36	Smooth

Features

· Regularly used for filing holes, large fillets and concave surfaces File is tapered to a point and has a double cut



BAHCO® HAND NEEDLE FILES

Product Code	Length (Inch)	Teeth Per Inch (TPI)	Type of Cut
Without ha	ndle		
2-300-14-0-0	5 ½	56	Bastard
2-300-14-2-0	5 ½	86	Smooth
2-300-14-4-0	5 ½	122	Dead Smooth
2-300-16-0-0	6 1/4	56	Bastard
2-300-16-1-0	6 1/4	66	Second
2-300-16-2-0	6 1/4	86	Smooth
2-300-16-4-0	6 1/4	122	Dead Smooth
2-300-18-0-0	7	56	Bastard
2-300-18-2-0	7	86	Smooth

Features

- · Perfect for fine filing and polishing jobs
- Used by engravers, precision engineers, instrument makers, watchmakers and goldsmiths
- Edges and surfaces are parallel
- . Surfaces double cut, edges single cut

BAHCO® FLAT NEEDLE FILES

Product Code	Length (Inch)	Teeth Per Inch (TPI)	Type of Cut
Without handle			
2-301-14-0-0	5 ½	56	Bastard
2-301-14-2-0	5 ½	86	Smooth
2-301-14-4-0	5 ½	122	Dead Smooth
2-301-16-0-0	6 1/4	56	Bastard
2-301-16-1-0	6 1/4	66	Second
2-301-16-2-0	6 1/4	86	Smooth
2-301-16-4-0	6 1/4	122	Dead Smooth
2-301-18-2-0	7	86	Smooth

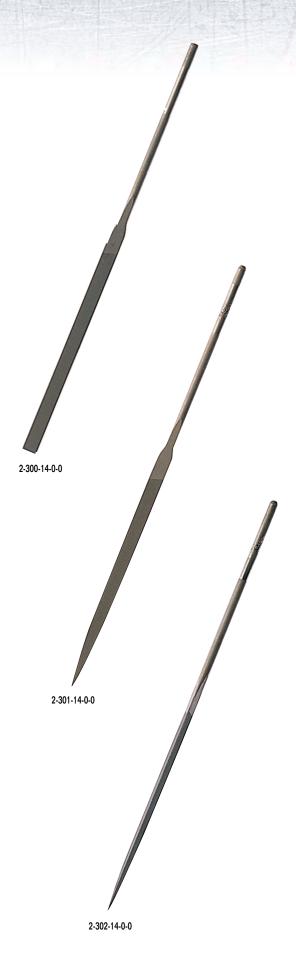
Features

- Perfect for fine filing and polishing jobs
- Used by engravers, precision engineers, instrument makers, watchmakers and goldsmiths
- Surfaces parallel, edges taper to a point
- Surfaces double cut, edges single cut

BAHCO® THREE SQUARE NEEDLE FILES

Product Code	Length (Inch)	Teeth Per Inch (TPI)	Type of Cut
Without hand	lle		
2-302-14-0-0	5 ½	56	Bastard
2-302-14-2-0	5 1/2	86	Smooth
2-302-14-4-0	5 ½	102	Dead Smooth
2-302-16-0-0	6 1/4	56	Bastard
2-302-16-1-0	6 1/4	66	Second
2-302-16-2-0	6 1/4	86	Smooth
2-302-16-4-0	6 1/4	122	Dead Smooth
2-302-18-0-0	7	56	Bastard
2-302-18-2-0	7	86	Smooth

- Perfect for fine filing and polishing jobs. Used by engravers, precision engineers, instrument makers, watchmakers and goldsmiths
- Triangular, surfaces taper to a point
- Surfaces double cut













Product Code	Length (Inch)	Teeth Per Inch (TPI)	Type of Cut
Without han	dle		7.
2-303-14-2-0	5 ½	86	Smooth
2-303-14-4-0	5 ½	122	Dead Smooth
2-303-16-0-0	6 1/4	56	Bastard
2-303-16-1-0	6 ¹ / ₄	66	Second
2-303-16-2-0	6 ¹ / ₄	86	Smooth
2-303-16-4-0	6 1/4	122	Dead Smooth
2-303-18-0-0	7	56	Bastard
2-303-18-2-0	7	86	Smooth

Features

Toll Free 1 800 563 1293

- Perfect for fine filing and polishing jobs. Used by engravers, precision engineers, instrument makers, watchmakers and goldsmiths
- Square shape, surface tapered to a point. Surfaces double cut

BAHCO® HALF ROUND NEEDLE FILES

Product Code	Length (Inch)	Teeth Per Inch (TPI)	Type of Cut
Without han	dle		
2-304-14-0-0	5 ½	56	Bastard
2-304-14-2-0	5 ½	86	Smooth
2-304-14-4-0	5 ½	122	Dead Smooth
2-304-16-0-0	6 1/4	56	Bastard
2-304-16-1-0	6 1/4	66	Second
2-304-16-2-0	6 1/4	86	Smooth
2-304-16-4-0	6 1/4	122	Dead Smooth
2-304-18-0-0	7	56	Bastard
2-304-18-2-0	7	86	Smooth

Features

- · Perfect for fine filing and polishing jobs. Used by engravers, precision engineers, instrument makers, watchmakers and goldsmiths
- · Surfaces taper to a point. Flat and convex surfaces double cut

BAHCO® MILL SAW FILE

Engineerin	g Files				
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
Without ha	ndle - Or	e Round I	Edges		
4-138-08-1-0	8	25/32	1/8	46	Bastard
4-138-10-1-0	10	1	5/32	41	Bastard
4-138-12-1-0	12	1 ¹³ / ₁₆	3/16	36	Bastard
Without ha	ndle - Tw	o Round I	dges		
4-140-06-1-0	6	5/8	7/64	46	Bastard
4-140-08-1-0	8	25/32	1/8	41	Bastard
4-140-10-1-0	10	1	5/32	36	Bastard

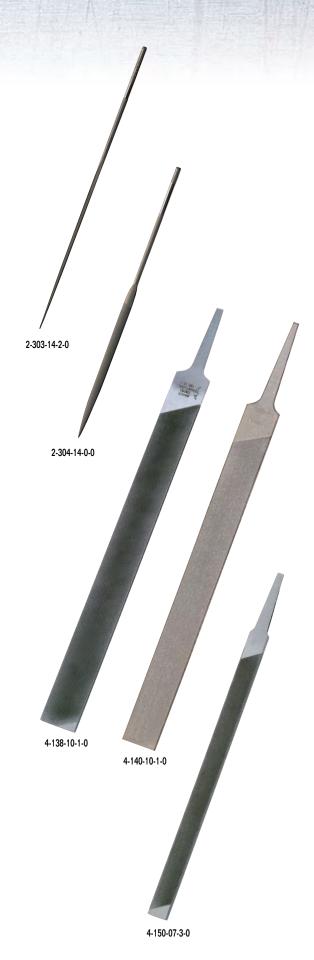
Features

- . Designed for circular, felling and gang saws with fine toothing, including bandsaws
- · Excels at draw and fine filing, polishing and deburring work
- . Used in the engineering industry as a lathe and deburring file
- · File is parallel and thin with surface and edge having single cut and one round

BAHCO® FLAT CHISEL BIT FILE

Engineering File Product Code	Length (Inch)	Width (Inch)	Height (Inch)
4-150-07-3-0	7	1/2	1/8

- . Designed for filing of square ground cutters
- · File is flat





BAHCO® ERGO™ HOMEOWNER'S FILE -**FOR WOOD OR METAL**

With Bi-Molded ERGO™ Handle

Product Code	Length (Inch)	Teeth Per Inch (TPI)	Type of Cut	Туре
4-152-08-2-2	8	41 + 36	Bastard Rasp & Double Second	Wood
4-153-08-1-2	8	25 + 41	Bastard Double & Single Second	Metal

Features

- Wood file has both rasp and double cut
- . Wood file is flat and parallel with two flat, uncut edges one side bastard rasp cut and the other side double second cut
- Metal file has both bastard double and single second cut
- . Metal file is flat and parallel with two flat, uncut edges

BAHCO® FARMER'S DOUBLE DUTY FILE

Handle has a hole for hanging.

Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
4-155-08-2-0	8	1	5/32	23	Second
4-155-10-2-0	10	1 13/16	7/32	18	Second

Features

- File is both double and single cut
- . Double cut is for filing flat surfaces and for rough sharpening of edges on spades, hoes, etc.
- . Single cut is for fine filing of flat surfaces and for fine sharpening of tools and implements
- . File has parallel edges with one being uncut one side is double cut bastard and the other side is single cut bastard

BAHCO® ERGO™ SHARPENING FILES -**TAPER SAW FILE**

Sharpenin	g File				
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
With Bi-M	olded ER	GO™ Ha	ndle		
4-183-04-2-2	4	21/64		50	Second
4-183-05-2-2	5	13/32		46	Second
4-183-06-2-2	6	15/32	-	43	Second
Without ha	andle				
4-183-06-2-0	6	15/32	-	43	Second
4-183-07-2-0	7	1/2		41	Second
4-183-08-2-0	8	19/32		41	Second
4-183-10-2-0	10	21/32		38	Second

- . Designed for sharpening saws with cross toothing and teeth at 60° angle
- · File is triangular with edges tapering towards the point with surface and edges single cut











BAHCO® ERGO™ SLIM TAPER FILE

Sharpenin	g File				
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
With Bi-Mo	olded ER	GO™ Ha	ndle		
4-186-04-2-2	4	9/64		58	Second
4-186-05-2-2	5	3/16	-	54	Second
4-186-06-2-2	6	15/64	-	50	Second
Without Ha	andle				
4-186-04-2-0	4	9/64		58	Second
4-186-05-2-0	5	3/16	-	54	Second
4-186-06-2-0	6	15/64	-	50	Second
4-186-07-2-0	7	17/64		46	Second
4-186-08-2-0	8	21/64	-	42	Second

Features

Toll Free 1 800 563 1293

- Used for sharpening of all types of saws with fine cross toothing
- . File is triangular with edges tapering towards the point with surface and edges single cut

BAHCO® ERGO™ EXTRA SLIM TAPER FILE

Sharpenin	g File			
Product Code	Length (Inch)	Width (Inch)	Teeth Per Inch (TPI)	Type of Cut
With Bi-M	olded EF	RGO™ H	landle	
4-187-06-2-2	6	3/16	54	Second
Without H	andle			
4-187-04-2-0	4	9/64	64	Second
4-187-06-2-0	6	3/16	54	Second
4-187-07-2-0	7	15/64	50	Second
4-287-06-2-0	6	13/64	54	Second

Features

- · Used for sharpening of all types of saws with fine cross toothing
- File is triangular with edges tapering towards the point
- Surfaces are single cut on 4-187 and double cut on 4-287
- Edges are single cut
- Section figures indicate the largest width of the file section

BAHCO® DOUBLE EXTRA SLIM TAPER

Sharpening File				
Product Code	Length (Inch)	Width (Inch)	Teeth Per Inch (TPI)	Type of Cut
Without Handle				
4-188-05-2-0	5	11/64	58	Second
4-188-06-2-0	6	11/64	58	Second
4-288-06-2-0	6	11/64	58	Second

- · Used for sharpening of all types of saws with fine cross toothing
- Triangular, with edges tapering towards the point
- Surfaces are single cut on 4-188 and double cut on 4-288
- · Edges are single cut
- . Width figures indicate the largest width of the file section





BAHCO® DOUBLE EDGE SAW FILE - "WASA"

Sharpeni	ing Files
Dundund	مانسسا

Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
Without ha	andle				
4-272-06-3-0	6	5/8	5/32	58	Smooth

Features

- . For sharpening saws with straight, fine toothing
- . Note that saws with hardened tooth points cannot be sharpened with a file
- · Parallel, rhombic
- . Surfaces and edges single cut

BAHCO® ERGO™ HALF ROUND RASPS

Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
olded EF	RGO™ H	andle		
8 8	⁵³ / ₆₄	5/16 5/16	64 104	Coarse Medium
andle				
8 10 12	⁵³ / ₆₄ ¹⁵ / ₁₆ 1 ½16	5/16 5/16 3/8	64 51 38	Coarse Coarse Coarse
	(Inch) olded EF 8 8 andle 8 10	(Inch) (Inch) olded ERGO TM H 8 53/64 8 53/64 andle 8 53/64 10 15/16	(Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) (Inch) ((Inch) (Inch) (Inch) (TPI) olded ERGO TM Handle 8 53/64 5/16 64 8 53/64 5/16 104 andle 8 53/64 5/16 64 10 15/16 5/16 51

Features

- Designed for work in wood, plywood, wall board, plastics and other soft materials
- File's edges and surfaces are tapered towards the point with surfaces rasp cut and edges single cut

BAHCO® CABINET RASPS

Rasps					
Product	Length	Width	Height	Teeth Per Inch	Type of Cut
Code	(Inch)	(Inch)	(Inch)	(TPI)	
Without ha	andle				
6-343-08-3-0	8	⁷ /8	⁷ / ₃₂	142	Fine
6-343-10-3-0	10	1 ¹/₁6	¹⁵ / ₆₄	117	Fine

- Designed for work in wood, plywood, wall board, plastics and other soft materials
- File is thin and half round edges and surfaces tapered towards the point Surface is rasp cut and edges are single cut











BAHCO® ERGO™ HAND RASPS

Rasps					
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut
With Bi-Molded ERGO™ Handle					
6-344-08-2-2	8	25/32	1/4	104	Medium

Features

- Designed for work in wood, plywood, wall board, plastics and other soft materials
- File's edges and surfaces are parallel with surface rasp cut and one edge single cut

BAHCO® ERGO™ ROUND RASP

Rasps						
Product Code	Length (Inch)	Diameter (Inch)	Height (Inch)	Teeth Per Inch (TPI)	Type of Cut	
With Bi-Mold ERGO™ Handle						
6-345-08-2-2	8	9/32	23/64	104	Medium	

Features

- Designed for work in wood, plywood, wall board, plastics and other soft materials
- File surface is rasp cut
- File is round and tapered towards the point

BAHCO® ERGO™ FILEMASTER

Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)
olded ERGO	™ Handle		
10	29/32	7/32	9 + 13
	lded ERGO	olded ERGO™ Handle	olded ERGO™ Handle

- Designed for shear cuts on steel, plastics, laminates and hard woods.
 Also good for finishing in most materials
- Has curved teeth for fast removal of soft metals, lead, aluminum, soft woods and fillers
- The edges are parallel and uncut, and the surface has milled teeth one side shear cut and one side curved teeth
- File coated with a protective layer of paint



BAHCO® ERGO™ HALF ROUND FILEMASTER

Hasps				
Product Code	Length (Inch)	Width (Inch)	Height (Inch)	Teeth Per Inch (TPI)
With Bi-Mo	olded ERGO	™ Handle		
HRFM10	10	29/32	1/8	12

Features

- · Designed for filing concave and flat surface, and large holes
- · Has curved teeth for fast removal of soft metals, lead, aluminum, soft woods and fillers
- · Edges are tapered towards the point and are uncut
- Half round surface are milled, curved teeth and concave back is uncut
- · File coated with a protective layer of paint

BAHCO® FILE CLEANER

Accessories

Product Code

9-467-00-0-0

Features

- In order to ensure a good filing result, files should periodically be cleaned during use
- · Has bristles on one side and a card of steel wire on the other
- Use the brush to clear clogged teeth
- . Doing this regularly will improve the stock removal efficiency of the file, and extend its useful life

BAHCO® ROUND CHAIN SAW FILES

Chain Saw Files

Product Code Diameter (Inch)

Each file is packed in a skin-pack, which can be used as a protective sleeve.

168-6-3.2-1P	6	1/8
168-6-3.5-1P	6	9/64
168-8-4.0-1P	8	5/32
168-8-4.5-1P	8	11/64
168-8-4.8-1P	8	3/16
168-8-5.2-1P	8	13/64
168-8-5.5-1P	8	7/32
168-8-6.3-1P	8	1/4

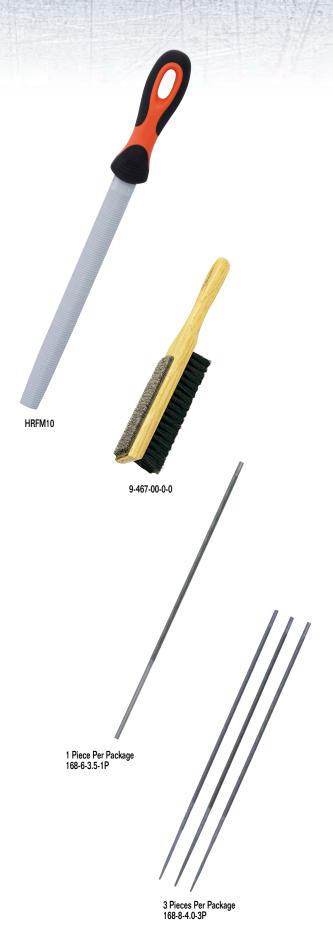
Files are packed in 3 piece protective skin-pack, with perforation for easy separation.

•	, .	
168-8-4.0-3P	8	5/32
168-8-4.8-3P	8	3/16
168-8-5.5-3P	8	7/32

Files are packed in 6 per paper box.

Features

. For sharpening of the cutting tooth on the saw chain











BAHCO® FLAT CHAIN SAW FILE

		_	
Ch	ain	Saw	File

Product Code	Length (Inch)	Width (Inch)	Height (Inch)					
With Bi-Mold ERGO® Handle								
166-6-16-2.5-12	6	5/8	3/32					

Features

Toll Free 1 800 563 1293

- Designed for filing of depth gauges on saw chains and for sharpening of brush cutter blades
- Files are packed 12 pieces per box
- · File is flat with single cut surface, edges are round and uncut



166-6-16-2.5-12

BAHCO® ERGO™ ROUND CHAIN SAW **FILE HANDLES**

Product Code	Handle Number	Туре	Packaging
9-486-C-10	С	ERGO™	10 Pack
9-486-C-1P	С	ERGO™	1 Individual
PH-6604-1P			1 Individual
PH-6604-25			25 Pack

Features

- . Handle 9-486 is ergonomically shaped bi-molded plastic handle that provides soft, textured grip for comfort and control
- Handle 9-486 can hold both round chain saw files (type 168) and flat chain saw file (type 166)
- . Handle PH-6604 is an all plastic handle designed for 8 inch round chain saw files with 3 integrated angle guides



BAHCO® PLASTIC FILE HANDLES

Comfortable	Grip	
Product Code	Packaging	
Files are pac	ked in 6 per paper be	DX.
9-484-3.2-1P	3.2	Individual
9-484-5.2-1P	5.2	Individual
9-484-3.2-10	3.2	10 Pack
9-484-5.2-10	5.2	10 Pack
9-488-02-10	Needle/Pansar	10 Pack

- The end covers the file tang and shoulder for safe and comfortable grip
- Plastic file handles designed for small sized files



oplifast

PATENTED DESIGN IMPROVES SAFETY AND COMFORT





BAHCO® ERGO™ FILE HANDLES

Bi-Molded ERGO™ Handles

Product Code Handle Number Packaging

Designed for files of rectangular shape (flat, hand, etc) and for half round files.

9-485-04-1P	04	Individual
9-485-05-1P	05	Individual
9-485-06-1P	06	Individual
9-485-09-1P	09	Individual
9-485-13-1P	13	Individual
9-485-06-10	06	10-Pack
9-485-09-10	09	10-Pack
9-485-13-10	13	10-pack

Designed for shaped files (round, square, three square, etc.)

9-486-3.2-1P	3.2	Individual
9-486-04-1P	04	Individual
9-486-05-1P	05	Individual
9-486-07-1P	07	Individual
9-486-04-10	04	10-Pack
9-486-05-10	05	10-Pack
9-486-08-10	08	10-Pack

- Ergonomically shaped bi-molded plastic handle provides soft, textured grip for comfort and control
- The end covers the file tang and shoulder for safe and comfortable grip









FILE SELECTION GUIDE ENGINEERING AND RASPS

Applifast.

Shape	Code	4"	6"	8"	10"	12"	14"
	1-100	5,2	06	09	09	13	13
	1-104				09	13	13
	1-106			09	09	13	
	1-110	5,2	06	09	09	13	13
***********	1-111	5,2	04	05			
	1-143	5,2	04	05	09	13	13
	1-210	5,2	06	09	09	13	
	1-320			09	09	13	
	6-342	5,2	06	09	09	13	
AND THE REAL PROPERTY.	6-343			08	09		
	6-344			09	09		
#	1-160	3,2	04	07	07	08	
*	1-170	3,2	04	07	07		
•	1-230	3,2	04	07	07	08	
*	6-345			07	07		

	Insert type	Handle tip	Handle size
Yellow field = Handle 9-484-XX-	3.2 5.2	Round shape	Small
Blue field = Handle 9-485-XX-	4, 5, 6, 8, 9	O al aliana	Medium
	13	Oval shape	Large
Orange field =	4, 5, 6, 8	Developer	Medium
Handle 9-486-XX-	5, 8	Round shape	Large



Example: Ergo Handle for file 1-100-12-1-0 should be 9-485-13-1P (1-pack) or 9-485-13-10 (10-pack)



FILE SELECTION GUIDE SHARPENING FILES AND CHAIN SAW FILES

Shape	Code	4"	5"	6"	7"	8"	10"	12"
####	166			04				
*******	4-138			04		05	09	13
**************************************	4-140			04		05	09	
	4-152					08		

	Insert type	Handle tip	Handle size
Handle 9-485-XX-	4, 5, 6, 8, 9	Oval abana	Medium
	13	Oval shape	Large



Example: Ergo Handle for file 166-6-16-2.5-12 should be 9-485-04-1P (1-pack) or 9-485-04-10 (10-pack)

FILE SELECTION GUIDE NEEDLE FILES AND PANSAR FILES

Shape	Code	140mm	160mm	180mm	12"	14"
	2-300	Х	Х	X		
	2-301	Х	Х			
*	2-302	Х	Х	Х		
#	2-303	Х	Х	Х		
******	2-304	Х	Х	Х		
	2-304-D	X	Х			



Handle 9-488-02-10

Example: Handle for file 2-300-14-0-0 should be 9-488-02-10 (10-pack)















BAHCO® ROTARY BURRS

Arch Pointed Nose			
Product Code	Diameter Of Head	Length of Head	Toothing
HSSG-G0618M	1/4	11/16	Medium
HSSG-G1220M	1/2	3/4	Medium
HSSG-G1225EC	1/2	1	Extra Coarse
HSSG-G1225M	1/2	1	Medium
HSSG-F0618M	1/4	11/16	Medium
HSSG-F1225M	1/2	1	Medium

Conical Pointed Nose				
Product Code	Diameter Of Head	Length of Head	Toothing	
HSSG-M0618M	1/4	11/16	Medium	
HSSG-M1227M	1/2	1 1/16	Medium	

Cylindrical			
Product Code	Diameter Of Head	Length of Head	Toothing
HSSG-A0616M	1/4	5/8	Medium
HSSG-A1020M	3/8	3/4	Medium
HSSG-A1225EC	1/2	1	Extra Coarse
HSSG-A1225M	1/2	1	Medium

Cylindrical Round Nose				
Product Code	Diameter Of Head	Length of Head	Toothing	
HSSG-C0616M	1/4	5%	Medium	
HSSG-C1020M	3/8	3/4	Medium	
HSSG-C1225EC	1/2	1	Extra Coarse	
HSSG-C1225M	1/2	1	Medium	

Oval			
Product Code	Diameter Of Head	Length of Head	Toothing
HSSG-E0614M	1/4	9/16	Medium
HSSG-E1222EC	1/2	7/8	Extra Coarse
HSSG-E1222M	1/2	7/8	Medium

Spherical			
Product Code	Diameter Of Head	Length of Head	Toothing
HSSG-D0606M	1/4	1/4	Medium
HSSG-D0807M	5/16	1/4	Medium
HSSG-D1009M	3/8	3/8	Medium
HSSG-D1211EC	1/2	7/16	Extra Coarse
HSSG-D1211M	1/2	7/16	Medium

Features

- High Speed Steel burrs used for deburring soft steel, bronze, and brass
- Used to deburr irregular objects and finishing work inside a confined space
- Medium Toothing for machining unhardened steel and other moderately hard materials under normal conditions
- Extra Coarse Toothing for soft materials when good stock removal is required. Counteracts chip build-up between teeth



BAHCO® WIRE BRUSH

Product Code	Description
782-U	Wire brush

Features

• General purpose utility wire brush for cleaning off durt, rust, paint etc....



BAHCO® ERGO™ SCRAPERS

ERGO™ Carbide Blade Scrapers

Product Code	Length (Inch)	Blade Included:
625	11	# 449 Triangle Shaped Carbide Blade
650	12	# 442 - 2" Carbide Blade
665	12	# 451 -2 1/2" Carbide Blade

Features

- . Two-component handle provides better grip and comfort during use
- · Scrapers for use on all kinds of surfaces for removal of paint, glue, varnish, rust, gaskets, chalk, grout, mortar, etc.
- . Four interchangeable carbide blades for precision work are available for different surface applications
- . 625 Scraper comes with convenient plastic holder
- . The heavy duty scraper head for models 650 and 665 is designed for wide material removal when extra strength is required
- Scraper 665 comes with large plastic knob for two-handed operation for heavy duty use
- . Blades stays sharp up to 50 times longer than conventional steel blades

BAHCO® REPLACEMENT CARBIDE SCRAPER BLADES

Carbide Blades				
Product Code	Length (Inch)	Description		
449	-	Triangle Shape, for 625 Scraper		
625-DROP		Drop Shape, for 625 Scraper		
625-PEAR		Pear Shape, For 625 Scraper		
625-ROUND		Round Shape, For 625 Scraper		
442	2	For 650 and 665 Scrapers		
451	2 1/2	For 650 and 665 Scrapers		
850-1	2	Wavy for 650 and 665 Scrapers		
865-1	2 1/2	Wavy for 650 and 665 Scrapers		

Features

· Blades stays sharp up to 50 times longer than conventional steel blades

GASKET SCRAPER

Plastic Handle

Product Code	Blade Length (Inch)	Overall Length	Blade Width
JHWGSC-12	8 7/8	13	1 1/2

Features

- Designed for removing gaskets and carbon
- · Comfortable four-sided yellow plastic handle
- · Blade coated to resist corrosion



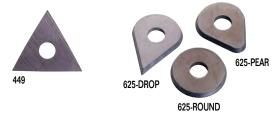
GASKET SCRAPER

Bi-Mold Comfort Grip Handle

Product Code	Blade Length (Inch)	Overall Length	Blade Width
JHW40000	6	9 ³ / ₄	7/8

- Bi-mold handle provides comfortable grip, reducing hand fatigue
- Ideal for gasket removal and cleaning rust and corrosion













474







BAHCO® CABINET SCRAPERS

For Carpentry Work

Product Code	Length (Inch)
474-125-0.60	5
474-125-0.80	5
474-150-0.80	6

Features

Toll Free 1 800 563 1293

- Blade of cold-rolled, hardened and tempered chrome-nickel steel
- White plastic edge protector

BAHCO® WOODWORKING CHISELS

Comfort Grip

Product Code	Overall Length (Inch)	Blade Length (Inch)	Tip Width (Inch)
424P-6	10 ½	5 ½	1/4
424P-10	10 ½	5 ½	3/8
424P-12	10 ½	5 ½	1/2
424P-18	10 ½	5 ½	3/4
424P-25	10 ½	5 ½	1
424P-32	10 ½	5 ½	1 1/4

Chisel Sets

Product C	ode	Description
424P-S6-F	P Includ	es chisel sizes: 1/4, 3/4, 1/2, 3/4, 1, 11/4 in Polyester Pouch
424P-S6-L	.R In	cludes sizes: 1/4, 3/4, 1/2, 3/4, 1, 11/4 in Leather Pouch

Features

- . Specially designed two-component handle maximizes control and comfort, giving an excellent grip
- Precision ground blade for maximum sharpness
- Varnished blade for increased rust resistance
- Hardened and tempered high quality steel for long lasting performance with 4 mm to 40 mm (5/32" to 1-9/16") size range
- Protective holster and tip protector included
- . Comfortable two-component handle fits comfortably into the hand, and provides a nonslip grip
- · Perfect for fine carpentry
- . Blade guard protects working edges of blade when not in use

BAHCO® ERGO™ CHISELS

High-Quality Steel

Product Code	Overall Length (Inch)	Blade Length (Inch)	Tip Width (Inch)
434-6	10 ¾	5 ½	1/4
434-10	10 ¾	5 ½	3/8
434-12	10 ¾	5 ½	1/2
434-18	10 ¾	5 ½	3/4
434-25	10 ¾	5 ½	1
434-28	10 ³ ⁄ ₄	5 ½	1 1/4
434-38	10 ³ ⁄ ₄	5 ½	1 ½

Chisel Sets

Product Code	Description
434-S3-EUR	Includes chisel sizes: ½, ¾, 1 in a Cardboard Box
434-S6-EUR	Includes chisel sizes: ¼, ¾, ½, ¾, 1, 1¼ in a Wooden Box

- Two component ergonomic grip handle
- Splitproof handle allows repeated hammer blows
- Safety guard and rounded shoulders for added security
- Precision ground blade for maximum sharpness
- Hardened and tempered for long lasting performance
- Honed and ready to use
- Polished blade for rust resistance
- Protective holster included



BAHCO® QUICK CLAMPS - QCB SERIES

Power Lever System

Product Code	Capacity (Inches)	Clamping Force
QCB-150	6	450 lbs
QCB-300	12	450 lbs
QCB-450	16	450 lbs
QCB-600	23	450 lbs
QCB-900	35	450 lbs
QCB-1250	49	450 lbs

Features

- Variable speed mechanism, which makes it easier to reach high clamping force
- Removable pads, with V-groove

BAHCO® QUICK CLAMPS - OCG SERIES

Product Code	Capacity Inches)	Clamping Force	
QCG-150	6	275 lbs	
QCG-300	12	275 lbs	

Features

- Easy access in more confined spaces thanks to the smaller body
- Easy to turn in to a spreader with the Spreader button
- Easy access release mechanism
- Comfortable handle from ALL angles, you can use upside down, front to back

BAHCO® SPRING CLAMPS

Product Code	Capacity (Inches)
420SC-25	1
420SC-50	2

Features

Handy spring clamps with a movable gripping surface for odd shapes

BAHCO® SCREW CLAMPS

Professional

Dead at Oak	Overall Length	Maximum Capacity
Product Code	(Inches)	(Inches)
420SH-50-100	4	2
420SH-50-200	8	2
420SH-60-120	5	2
420SH-60-300	12	2
420SH-80-160	6	3
420SH-100-200	8	4
420SH-120-250	10	5
420SH-120-300	12	5
420SH-120-400	16	5
420SH-120-500	20	5
420SH-120-600	24	5
420SH-120-800	31	5
420SH-120-1000	39	5
420SH-120-1250	49	5
420SH-120-1500	59	5
420SH-140-400	16	6
420SH-175-400	16	7

- Professional F clamp with one fixed and one sliding bracket, fitted to a galvanized profiled steel rail.
- Zinc plated screw with special, plastic covered ball swivel foot for secure and easy clamping of odd shapes.
- Tough and weather resistant, square shaped plastic grip













Bi-Mold Comfort Grip Handles

Product Code	Overall Length (Inches)
2744	7 ½

Toll Free 1 800 563 1293

Features
• Lightweight yet strong multi-purpose snip for cutting light sheet metal, leather, wire, plastic, wood, etc.



Bi-Mold Comfort Grip Handles Product Code

BAHCO® MINI BOLT CUTTER

Overall Length (Inches) 1520G

Features

- · Access tough to reach work
- Bi-mold comfort grips combine durability and a secure non-slip grip
- Cuts nails and bolts up to 1/4 diameter



Comfort Grip Handles

Product Code	Overall Length	Maximum Cutting Capacity For Rebar (Inch)	Replacement Jaw Kit (Includes Jaws, Bolts, and Steel Plates)
4559-12	12	1/4	4559-12B JC
4559-18	18	5/16	4559-18B JC
4559-24	24	3/8	4559-24B JC
4559-30	30	1/2	4559-30B JC
4559-36	36	5/8	4559-36B JC
4559-42	42	5/8	4559-42B JC

- Comfortable rubber grips combine durability and a secure non-slip grip
- . Lightweight steel tube handles provide ease of control while offering solid durability
- . Unique manufacturing method results in high-precision cutting edges





pplīfast

BAHCO® PUTTY KNIFE

Two component handle for better grip

Product Code	Overall Length (Inches)
2489	9

Features

- For the application and smoothing of adhesives, putties and body dent fillers
- Two component handle for better grip
- · Hardened stainless steel blade that extends through the handle



BAHCO® STUD REMOVER

Chrome Finish

Product Code	Overall Length (Inches)	Head Thickness
4553	12	3/8

Features

- . For holding and removing studs
- High-performance alloy steel
- Chrome plated finishing
- · Thick and round handle to increase strength
- · Electrode cap remover at the handle end of the wrench



BAHCO® SAFETY GLASSES

Product Code 3870-SG11

Features

- Scratch resistant
- Polycarbonate
- 99.9% UV protection



3870-SG11

TAPE MEASURE

Construction Grade Tape Rule

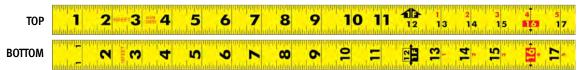
Product Code	Blade Length (Width and Length Inch)
JHWTM25X1	1 x 25
JHWTM16X1	1 x 16

Features

- Measurements on both sides of the blade
- · Auto lock feature
- Triple riveted stainless steel magnetic hook on the end of the blade



Measurements on both sides of the blade















	Conon action and ac	
Product Code	Blade Length	
LTS-30-E	100 ft (30 M)	
LTS-50-E	164 ft (50 M)	
LTS-100-E	328 ft (100 M)	

Features

- . SAE & Metric markings
- 5/8" (16 mm) Blade Width
- Strong fiberglass tape bonded with over 16,000 strands
- Double nylon blade coating for extra wear resistance

BAHCO® SLIDING COMBINATION SQUARES WITH METAL SCRIBER

Durable Polyester

Product Code	Overall Length (Inch)
CS150	6
CS300	12
CS400	16

Features

- Easy to use combination square with both metric and imperial markings
- Adjustable depth for repeated marking and scribing
- Built-in level bubble for approximate marking. Includes a metal scriber housed in the handle

BAHCO® RULERS, SQUARE, SLIDING BEVEL, PENCIL

Construction Grade SAE and Metric

Product Code	Overall Length (Inches)	Description
SR150-E	6	Ruler
SR200-E	8	Ruler
SR300-E	12	Ruler
SR600-E	24	Ruler
ST1000-E	39	Ruler
9045-B-250	10	Square, Metric Only
9572-200	8	Sliding bevel
P-HB		Pencil

BAHCO® LEVELS

Precision

FIECISIOII		
Product Code	Description	
426TOR9	9" Torpedo level	
416-400	16" Level	
416-600	24" Level	

- Solid aircraft grade aluminum
- 3 vials: plumb, horizontal and 45 degree
- V Groove base for use on pipes
- Rare earth magnets on base
- Accurate to 0.5 mm/m



BAHCO® THREE POUCH BELT SET

47F0 0DD 4	Product Code	Dimensions W x H (Inches)
4/50-3PB-1 2/ X 10	4750-3PB-1	27 x 10

Features

- · Strong construction with riveted reinforcement
- . Easy to adjust comfortable nylon belt with 2 inch quick release buckle

BAHCO® UNIVERSAL POUCH

Product Code	Dimensions W x H (Inches)
4750-UP-1	12 x 11

Features

- Riveted for unbreakable strength
- · Measuring tape clip
- Leather slots ideal for holding longer tools.
- Two deep multi purpose open pockets provide for quick tool recognition.

BAHCO® ELECTRICIANS POUCH

Product Code	Dimensions W x H (Inches)
4750-EP-1	10 x 12

Features

- Universal tool loop for larger tools to keep them organized
- · Chain hook for easy access to insulated tapes
- · Additional pocket for smaller tools
- · Main deep pocket for safe storage
- · Real leather slots on the sides

BAHCO® TWO POCKET POUCH

Product Code	Dimensions Wx H (Inches)
4750-2PP-1	9 x 11

Features

- Wide pockets hold plenty of tools
- · Pocket position prevents tools from falling out

BAHCO® HEAVY DUTY LEATHER BELT

Product Code	Description
4750-HDLB-1	Fits waist 28" to 50"

BAHCO® HAMMER HOLDER

Product Code	Dimensions Wx H (Inches)
4750-HHO-2	4 x 11

Features

- Fits BAHCO® heavy duty leather belt
- · Quick access to hammer

BAHCO® ANTI SLIP KNEE PADS

Product Code	Dimensions Wx H (Inches)
4750-KP-1	4 x 7

Features

- . Universal lightweight knee pads for different kinds of surfaces
- . Heavy duty cups ensure comfort and safety when used in difficult conditions









4750-KP-1

4750-HHO-2













4750FB4-18



BAHCO® PLASTIC TOOL BOXES

Product Code	Length (Inches)	Width (Inches)	Height (Inches)
4750PTB50	19 ½	10 ½	11 ½
4750PTB60	23 ½	11 1/2	12
4750PTB65	25 ½	11 ½	12

Features

- When lifted the aluminum handle blocks the bottom from accidentally opening
- Small Transparent detachable boxes are perfect for organizing small items
- Portable tray
- Heavy duty boxes made of virgin polypropylene are resistant to hot and cold temperatures
- Strong and sturdy boxes, 2 mm thick, can take high load capacity, even allowing the user to stand on them
- Metallic latches are galvanized making them durable and rust resistant
- Pad lock can be added to the box

BAHCO® PLASTIC TOOL BOX ON WHEELS

Product Code	Length (Inches)	Width (Inches)	Height (Inches)
4750PTW47	24 ¾	11 ½	18 ½

Features

- The upper box can be used as a regular tool box and the bottom box is perfect for heavier tools
- Wheels are made of PP and EVA, for smooth and silent rolling and absorbing of impacts
- Two small transparent detachable boxes are perfect for organizing small items
- Portable tray
- Heavy duty boxes made of virgin polypropylene are resistant to hot and cold temperatures
- Strong and sturdy boxes, 2 mm thick, can take high load capacity, even allowing the user to stand on them
- Metallic latches are galvanized making them durable and rust resistant
- Top and bottom sections are connected with latches

BAHCO® LAPTOP AND TOOL BAG WITH HARD BOTTOM

Product Code	Length (Inches)	Width (Inches)	Height (Inches)
4750FB4-18	17	6	13 ¾

- Material is a combination of Denier 600 and 1680 polyester that prevents the bag from damage and provides lightweight flexibility
- Plastic hard bottom and double stitching reinforcement is 100% waterproof and easy to clean
- Pockets provide easy access to tools
- Detachable compartments
- Padded compartment is ideal for laptop
- · Tools not included



pplīfast

BAHCO® 24" OPEN TOOL BAG WITH WHEELS

Product Code	Length (Inches)	Width (Inches)	Height (Inches)
4750FB2W-24A	24	12	15 ¾

Features

- Material is a combination of Denier 600 and 1680 polyester that prevents the bag from damage and provides lightweight flexibility
- Plastic hard bottom and double stitching reinforcement is 100% waterproof and easy to clean
- Heavy duty PVC zippers makes closing and opening quick and easy
- · Pockets provide easy access to tools
- · Big side pouches: left side is detachable and right side is fixed
- Special size pocket for 10" tablet
- Telescopic handle max 38"
- . Wheels provide easy quiet rolling



BAHCO® 19" OPEN TOOL BAG WITH HARD BOTTOM

Product Code	Length (Inches)	Width (Inches)	Height (Inches)
4750FB1-19A	19	9	14

Features

- Material is a combination of Denier 600 and 1680 polyester that prevents the bag from damage and provides lightweight flexibility
- Plastic hard bottom and double stitching reinforcement is 100% waterproof and easy to clean
- Heavy duty PVC zippers makes closing and opening quick and easy
- . Velcro straps store long tools on both upper sides of the bag
- Soft grip handles made of rubberized material provides a user friendly grip and isolates against cold temperature



BAHCO® 19" TOOL BAG WITH HARD BOTTOM

Product Code	Length (Inches)	Width (Inches)	Height (Inches)
4750FB1-19B	19	9	14

- Material is a combination of Denier 600 and 1680 polyester that prevents the bag from damage and provides lightweight flexibility
- Plastic hard bottom and double stitching reinforcement is 100% waterproof and easy to clean
- . Velcro straps store long tools on both upper sides of the bag
- Soft grip handles made of rubberized material provides a user friendly grip and isolates against cold temperature
- · Easy access to the handle through the cover
- · Pockets provide easy access to tools
- Internal detachable tool panel with Velcro system for quickly taking out and returning tools















BAHCO® CLOSED TOOL BAG WITH HARD BOTTOM

Product Code	Length (Inches)	Width (Inches)	Height (Inches)
4750FB2-19A	19	9	14
4750FB2-24A	24	10	15

Features

- 600 Denier polyester prevents the bag from damage and provides flexibility and is lightweight
- Plastic hard bottom and double stitching reinforcement is 100% waterproof and easy to clean
- . Heavy duty PVC zippers makes closing and opening quick and easy
- · Quick adjustable straps store long tools
- Multiple internal and external pockets

BAHCO® 12" ELECTRICIAN'S BAG WITH HARD BOTTOM

Product Code	Length (Inches)	Width (Inches)	Height (Inches)
4750FB3-12	11 ½	7 1/2	11 ½

Features

- 600 Denier polyester prevents the bag from damage and provides flexibility and is lightweight
- Plastic hard bottom and double stitching reinforcement is 100% waterproof and easy to clean
- · Pockets provide easy access to tools
- · Cable loop holder
- Central big compartment for bit tools and materials







4750FB5C

BAHCO® TOOL ORGANIZERS

Product Code	Length (Inches)	Width (Inches)	Height (Inches)
4750FB5B	13	10 ½	2 3/4
4750FB5C	16	12	3 ½

- Perfect for organizing tools
- Elastic straps for tool distribution in the bottom and upper side
- Card holder on the front and label holder on the side for quick identification



BAHCO® TOOL BACKPACK

Made from durable polyester

Product Code	Overall Length (Inch)
3875-BP1	16

Features

- Multiple inner compartments including a padded compartment for laptop
- · Made from durable polyester
- · Polypropylene straps to reinforce the structure
- · Zip closed and secured by hardwearing safety straps
- Reflecting band
- Adjustable shoulder strap
- · Foam padded polyester back
- · Color labels with maximum weight, safety guidelines and production order
- Tested as textile sling according to EN 1492-1+A1 2008
- . Suitable for working at height



BAHCO® 36" TOOL BAG

Product Code	(Inches)	(Inches)	(Inches)
AG-BAG-36	36	12	12

Features

- Two Handles
- Ideal for storing and toting tools, parts and supplies



BAHCO® 17" OPEN TOTE CADDY TOOL BAG ORGANIZER

Product Code	Length	Width	Height
	(Inches)	(Inches)	(Inches)
3100TB	17	10	13

- Hard plastic bottom keeps moisture out of organizer
- Two Handles
- · Ideal for storing and toting tools, parts and supplies













Toll Free 1 800 563 1293



JHW40150

UTILITY TOOLS AND SETS Mold Comfort Culo Hondles

Bi-Moid C	omfort Grip Handles	
Product Code	Description	Contents Include
JHW40201	4 Piece Mini Pick & Hook Set	Straight pick
		45° bent tip pick
		90° bent tip pick
		Full semi-circular hook
JHW40251	4 Piece Utility Tool Set	Gasket scraper
		Scratch awl
		Cotter pin puller
		Hose removal tool
.IHW40150	Magnetic nick-up tool with telescoping shaft	N/A

Features

- Bi-mold handles provide comfortable grip, reducing hand fatigue
- · Use for scribing, alignment, o-ring removal, and parts cleaning
- . Small size makes them ideal for hard to reach work surfaces
- Telescopic pick-up tool features powerful magnetic tip
- Magnetic pick-up tool extended length is 181/4, pick-up weight is 11/4 pounds
- 40201 Overall length: 6 inches, handle length: 2 3/4"





CREEPERS

Heavy Duty - Low Profile

Product Code	Description	Weight Capacity (lb)
JHW42301	Heavy-Duty Drop-Shoulder Creeper	570
JHW42302	Mechanic's Seat Creeper	380
JHW42304A	Adjustable-Height Swivel Seat-Creeper	380

Features - Heavy-Duty Drop-Shoulder Creeper

- . Low-profile design rests only 2" from the ground
- . Drop-rail design allows greater shoulder and arm clearance
- 16 gauge, 3/4" square-stock steel frame
- 1" padding on bed and 2" padding on headrest
- Six 2-1/2" diameter hooded casters shield user's clothing from dirt and grease

Features - Mechanic's Seat Creeper

- Seat is topped with comfortable 1-1/2" thick foam padding
- 1" square-stock steel frame
- Four 2-1/2" diameter hooded casters shield user's clothing from dirt and grease
- . Heavy-duty 3-section plastic pan stores tools and small parts

Features - Adjustable-Height Swivel Seat-Creeper

- Height adjusts from 17" to 22"
- Seat swivels a full 360°
- Four 2-1/2" diameter hooded casters shield user's clothing from dirt and grease
- · Steel tube frame supports cylinder for ultimate strength
- · Bottom pan serves as storage for tools and small parts



SET-UP WEDGES

pplifast

Heavy Duty	Machine Sho	op Tools	
Product Code	Length	Width	Thick End
JHWWG-3	3	1	1/4
JHWWG-5	5	1	1/2
JHWWG-6	6	1 1/4	3/4

Features

Set-up wedges are used for setting-up work on planers, shapers, milling machines and other similar applications





JHWWG-5

EYEBOLTS

Plain Pa	ttern							
Product Code	Shank Diameter (Inches)	Threads per Inch	Capacity of Vertical Load (lbs)	Length of Shank (Inches)	Inner Diameter (Inches)	Head Cross Section Thickness (Inches)	Overall Length (Inches)	Ultimate Strength (lbs)
JHWEB-1T	1/4	20	500	1	3/4	9/32	21/4	2500
JHWEB-2T	5/16	18	900	1 1/8	27/32	9/32	2 5/8	4500
JHWEB-3T	3/8	16	1,300	1 1/4	1 1/32	5/16	2 ²⁹ / ₃₂	6500
JHWEB-4T	7/16	14	1,800	1 ¾	1 1/16	3/8	3 1/4	9000
JHWEB-5T	1/2	13	1,400	1 1/2	1 1/8	5/32	3 %	12000
JHWEB-6T	9/16	12	3,000	1 %	1 1/4	1/2	3 ³¹ / ₃₂	15000
JHWEB-7T	5/8	11	4,000	1 3/4	1 5/16	9/16	4 %	20000
JHWEB-8T	3/4	10	5,000	2	1 17/32	5/8	4 ²⁵ / ₃₂	25000
JHWEB-9T	7/8	9	7,000	2 1/4	1 %	13/16	5 %6	35000
JHWEB-10T	1	8	9,000	2 1/2	1 3/4	29/32	6 1/8	45000
JHWEB-11T	1 1/8	7	12,000	2 ¾	1 ¹⁵ / ₁₆	1 1/16	6 %	60000
JHWEB-12T	1 1/4	7	15,000	3 ½	2 1/32	1 5/32	7 ½	75000
JHWEB-14T	1 1/2	6	21,000	3 ¾	2 7/16	1 ¹³ / ₃₂	8 ¹³ / ₁₆	105000
JHWEB-15T	1 3/4	5	28,000	3 ¾	2 ²⁵ / ₃₂	1 21/32	9 %	140000
JHWEB-16T	2	4 1/2	38,000	4	3 1/32	1 27/32	11	190000
JHWEB-17T	2 1/2	4	56,000	5	4	2 1/4	13 ½	280000
ANICI Casa, D1	0 1E 100E							



Features

- Forged from the best quality carbon steel, hardened and tempered to ensure increased strength and toughness and reduce liability or breakage
- Each lot is tested and inspected to insure conformance to specifications Available with UNC Class 2A thread only Plain pattern eyebolts must never be used to lift an angular load

- Eyebolt shanks should never be undercut or eyebolt shank diameters reduced
- To obtain greatest strength from an eye bolt, it must fit reasonably tight in the hole into which it is screwed to prevent unscrewing due to twist of cable Tightness and seating must be checked after initial load





EYEBOLTS

Shoulder	Shank Diameter	Threads per	Length of	Inner Diameter	Head Cross-Section	Overall	Shoulder Width	
Product Code	(Inches)	Inch	Shank (Inches)	(Inches)	Thickness (Inches)	Length (Inches)	(Inches)	(lbs)
JHWEB-21T	1/4	20	1	3/4	9/32	2 7/16	9/16	2500
JHWEB-22T	5/16	18	1 1/8	27/32	9/32	2 1/8	19/32	4500
JHWEB-23T	3/8	16	1 1/4	1	5/16	3 11/32	21/32	6500
JHWEB-24T	7/16	14	1 %	1 1/16	3/8	3 ²³ / ₃₂	²⁷ / ₃₂	9000
JHWEB-25T	1/2	13	1 1/2	1 5/32	7/16	4 1/32	29/32	12000
JHWEB-26T	9/16	12	1 %	1 11/32	7/32	4 13/32	¹⁵ / ₁₆	15000
JHWEB-27T	5/8	11	1 3/4	1 11/32	9/16	4 3/4	1 1/32	20000
JHWEB-28T	3/4	10	2	1 1/2	11/16	5 11/32	1 5/16	25000
JHWEB-29T	7/8	9	2 1/4	1 %	¹³ /16	6	1 7/16	35000
JHWEB-30T	1	8	2 ½	1 13/16	7/8	6 ¾	1 %	45000
JHWEB-31T	1 1/8	7	2 ¾	1 15/16	1 1/16	7 1/2	1 3/4	60000
JHWEB-32T	1 1/4	7	3	2 1/8	1 3/16	8 %	2 1/32	75000
JHWEB-34T	1 1/2	6	3 ½	2 19/32	1 ½	9 %	2 3/16	105000
JHWEB-35T	1 3/4	5	3 3/4	2 27/32	1 19/32	10 3/4	2 1/2	140000
JHWEB-36T	2	4 1/2	4	3 5/32	1 1/8	12	2 29/32	190000

ANSI Spec: B18.15 1985

- . Forged from the best quality carbon steel, hardened and tempered to ensure increased strength and toughness and reduce liability or breakage

- Each lot is tested and inspected to insure conformance to specifications
 Available with UNC Class 2A thread only
 Eyebolt shanks should never be undercut or eyebolt shank diameters reduced
- Shoulder eye bolts must be properly seated (should bear firmly against the mating part) otherwise the working loads must be reduced substantially
- A steel washer or spacer may be required for proper seating

 To obtain greatest strength from an eye bolt, it must fit reasonably tight in the hole into which it is screwed to prevent unscrewing due to twist of cable
- Tightness and seating must be checked after initial load











JHWEB-29T





EYEBOLT ANGULAR LOADING RATED CAPACITY

Material Data

Grade: Carbon Steel Heat Treat: Quench & Draw

Mechanical Properties

Grain Size: 5 or finer Tensile: 65,000 PSI Min Yield: 30,000 PSI Min Elongation: 30% Min Reduction of Area: 60% Min

					Angular Loading Rated Capacity (Pounds)			
Part Number Plain	Shank Diameter	Threads Per Inch	Capacity of Vertical Load (lbs)	Ultimate Strength (lbs)	0 Degree	30 Degree	60 Degree	90 Degree
JHWEB-1T	1/4	20	500	2,500				
JHWEB-2T	5/16	18	900	4,500				
JHWEB-3T	3/8	16	1,300	6,500				
JHWEB-4T	7/16	14	1,800	9,000				
JHWEB-5T	1/2	13	2,400	12,000				
JHWEB-6T	9/16	12	3,000	15,000				
JHWEB-7T	5/8	11	4,000	20,000				
JHWEB-8T	3/4	10	5,000	25,000				
JHWEB-9T	7/8	9	7,000	35,000				
JHWEB-10T	1	8	9,000	45,000				
JHWEB-11T	1 1/8	7	12,000	60,000				
JHWEB-12T	1 1/4	7	15,000	75,000				
JHWEB-14T	1 1/2	6	21,000	105,000				
JHWEB-15T	1 3/4	5	28,000	140,000				
JHWEB-16T	2	4 1/2	38,000	190,000				
JHWEB-17T	2 1/2	4	56,000	280,000				
JHWEB-21T	1/4	20	500	2,500	440	70	NR	NR
JHWEB-22T	5/16	18	900	4,500	720	170	NR	NR
JHWEB-23T	3/8	16	1,300	6,500	1,080	335	185	150
JHWEB-24T	7/16	14	1,800	9,000	1,480	435	275	215
JHWEB-25T	1/2	13	2,400	12,000	1,960	695	460	365
JHWEB-26T	9/16	12	3,000	15,000	3,140	1,220	735	600
JHWEB-27T	5/8	11	4,000	20,000	3,140	1,220	735	600
JHWEB-28T	3/4	10	5,000	25,000	4,600	1,950	1,095	960
JHWEB-29T	7/8	9	7,000	35,000	6,400	2,710	1,750	1,485
JHWEB-30T	1	8	9,000	45,000	8,400	3,595	2,450	2,160
JHWEB-31T	1 1/8	7	12,000	60,000	10,600	4,235	3,380	2,985
JHWEB-32T	1 1/4	7	15,000	75,000	13,400	5,540	3,675	3,285
JHWEB-34T	1 1/2	6	21,000	105,000	19,600	8,410	5,590	5,080
JHWEB-35T	1 3/4	5	28,000	140,000	28,000	12,100	8,250	7,370
JHWEB-36T	2	4 1/2	38,000	190,000	38,000	15,970	10,910	9,740

NR = Not Recommended.

- No greater load should be allowed than that given under rated capacity in each table of dimensional data
- Safety Factor: Rated capacity is figured with 5:1 safety factor for zero degree straight vertical pull



FLUTED SCREW EXTRACTORS

Straight, Tap	ered Flutes	
Product Code	Drill Size (Inches)	For Use on Bolt Sizes (Inches)
JHWEX-21A	1/8	1/4 to 5/16
JHWEX-21B	3/16	3/8
JHWEX-22A	7/32	7/16
JHWEX-24A	5/16	½ to %16
JHWEX-25B	3/8	5/8
JHWEX-25A	15/32	3/4
JHWEX-26A	9/16	7/8
JHWEX-28	21/32	1 to 1 1/8
JHWEX-29	13/16	1 ¼ to 1 ¾
JHWEX-30	1 1/16	1 ½

JHWEXS-30 6 Piece Screw Extractor Set **Contents Include:**

Product Code	Product Code	Product Code
JHWEX-21A	JHWEX-22A	JHWEX-25B
JHWEX-21B	JHWEX-24A	JHWEX-25A

JHWEXS-10 10 Piece Screw Extractor Set Contents Include:

Ountoing in	oluuc:			
Product Code	Product Code	Product Code	Product Code	Product Code
JHWEX-21A	JHWEX-22A	JHWEX-25B	JHWEX-26A	JHWEX-29
JHWFX-21B	.IHWFX-24A	.IHWFX-25∆	.IHWFX-28	.IHWFX-30

Features

- Designed for quick, easy removal of left or right-handed broken screws, bolts, studs or
- Drill bit sizes to be used are stamped on each extractor
 A hole is first drilled in the broken stem and the right size Williams extractor is then inserted





FEELER GAUGE SET

Heavy Duty	Machine Shop Tools		
Product Code	Description	Thickness	Number of Blades
JHWGS-1	Master Feeler Gauge Set	.0015 - 1/32	25

Features

- 25 blades 3-5/16* x 1/2* in the following thicknesses: .0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .018, .020, .022, .024, .025, .028, .030. .032. and .035
- Both decimal and equivalent metric size etched in each blade
- Gauges supplied in holder with knurled lock-nut which allows the user to select the required blade size and lock it into position

Product Code	Description	Thickness	Number of Blades
JHWGS-2	Standard Feeler Gauge Set	.002015	10

Features

- 10 blades 3" x 1/2" in the following thicknesses: .002, .003, .004, .005, .006, .007, .008,
- Both decimal and equivalent metric size etched in each blade Gauges supplied in holder with knurled lock-nut which allows the user to select the required blade size and lock it into position

Product Code	Description	Thickness	Number of Blades
JHWGS-3	Combination Feeler Gauge Set	.002025	22

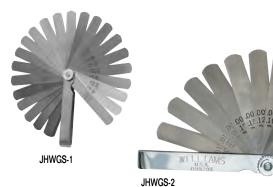
Features

- Contains total of 22 blades
- 10 blades 3" x 1/2" in the following thicknesses: .002, .003, .004, .005, .006, .007, .008, .010, .013, .015
- 12 blades 1-3/4" x 1/4" in the following thicknesses: .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .022, .025 Overall length 5"
- Both decimal and equivalent metric size etched in each blade
- Gauges supplied in holder with knurled lock-nut which allows the user to select the required blade size and lock it into position

Product Code	Description	Thickness	Number of Blades
JHWGS-4	Piston Feeler Gauge Set	.002015	8

- 8 blades 9" x 1/2" in the following thicknesses: .002, .003, .004, .005, .006, .008, .010, .015
- Both decimal and equivalent metric size etched in each blade Gauges supplied in holder with knurled lock-nut which allows the user to select the required blade size and lock it into position







JHWGS-4











BAHCO® PREMIUM WRECKING BARS WITH BENT AND FLAT END

Blunt Tip

Product Code	Overall Length (Inch)	
WBP300	12	
WBP500	20	
WBP625	25	
WBP710	28	
WBP900	36	

Features

- Octagonal bar
- 346 mm to 890 mm
- Steel SCM440

- Polished and given a grey coated
 Bent end and flat end
 Nail claw on one end especially designed for easy operation
- Uniform head treatment in the whole bar Uniform hardness: 49 HRC to 52.5 HRC

BAHCO® WRECKING BARS WITH BENT AND FLAT END

Blunt Tip

•		
Product Code	Overall Length (Inch)	
WBB400	12	
WBB500	21	
WBB600	24	
WBB700	28	

Features

- Hexagonal bar Steel C45E body
- Fully painted in orange RAL2009 Bent end and flat end body

- Heat treatment on the nail's areas Shaft hardness 25 HRC to 36 HRC, 45 HRC to 53 HRC in the nails



WBP500

WBB400

BAHCO® LAPLANDER FOLDING SAW AND MULTIPURPOSE KNIFE

General Purpose Folding Saw

Product Code	Blade Length (Inch)	Teeth Per Inch
396-LAP	9	7

Multipurpose Knife

Product Code	Overall Length (Inch)	
2444-LAP	9	

Saw and Knife Set

Product Code	Description
LAP-KNIFE	Folding saw & Multipurpose Knife

- A general purpose folding saw for cutting both green and dry wood, plastic, bone etc.
- Specially designed for wild-life enthusiasts, hunting and campers
- XT toothing, 7TPI
- Blade specially coated for rust protection and low friction
- Two-component plastic handle for perfect grip, with leather strap
- Safety lock, locked also when folded



BAHCO® RESCUE FLOATING KNIFE

Stainless Steel Blade

pplifast

Product Code 1446-FLOAT

Features

- . Floating knife with Stainless Steel blade and serrated cutting edge
- . The knives helps to prevent high recovery cost when it is dropped in the water and helps to avoid plastic in the aquatic environment
- . The knife is designed to float straight up for better visibility
- . To increase visibility in darkness the handle and holster luminizes when using UV light
- . The handle contains a hole to attached to a wrist strap or lanyard

BAHCO® SAFETY KNIFE WITH STAINLESS STEEL BLADES

Blunt Tip

Product Code	Overall Length (Inch)	
2446-SAFE	8 1/2	

Features

- Safety knife with blunt tip to avoid accidental injuries
- Comfortable two-component handle provides excellent grip
- Robust multipurpose knife with a solid stainless steel blade
- Supplied with a practical sheath for carrying on a belt
- . Holster includes a double fix button for attaching a holster with second knife

BAHCO® CARPENTER'S MULTI-PURPOSE **KNIFE WITH HOLSTER**

With Holster

Product Code	Description	Length (Inches)
1446	Multi Purpose Knife with Holster	9
2444	Carpenter's Multi-Purpose Knife with Holster	9
2446	Multi Purpose Knife with Holster	9

Features

- . Multi purpose knife with high quality steel and bi-component handle
- · Polished stainless steel blade
- Two component handle for comfortable grip
- Knife comes in plastic case with belt clip
- · Ideal for fishermen, hunters and for working in the garden

BAHCO® WRECKING KNIFE

With Holster

Product Code	Description	Length (Inches)
2448	Wrecking Knife	9

- · The wrecking chisel knife has been designed to be used like a regular chisel or when turned sideways a 4in wide knife
- . The blade is 4mm thick and made from hardened steel and can be used like a 4in chisel with a hammer on the back of the blade for added force
- . The handle has a curved guard to protect the knuckles while in use and can also be used with a hammer
- . The wrecking knife comes in handy for all those woodworking tasks
- . The knife comes complete with a holster with button clip























BAHCO® SPORTS KNIVES

Product Code	Description
KBTU-01	Knife with Twin Blade - Utility & Sports Blade
KBSK-01	Knife with 3 Inch Sport Blade-Only

Features

- Sports knives have an aluminum handle
- Stainless steel blade and mechanism
- Blade locks in position when fully unfolded
- . Unlock button to avoid accidental folding



BAHCO® ERGO™ SNAP BLADE KNIFE

Product Code	Description
KB18-01	18mm Snap Off Knife TPR
KE18-01	ERGO® 18 mm Snap Off Knife
KSBG18-10D	Replacement Snap Blade - 10 pack

Features

- ABS body with comfortable TPR grip
- Blade storage in backside of the body
- · Closed front of body to simplify blade snapping



BAHCO® SNAP BLADE KNIFE

Product Code	Description
KG09-01	9mm Snap Off Knife
KSBG09-10D	Replacement Snap Blade - 10 pack
KE18-01	ERGO® 18 mm Snap Blade Knife

Features

- ABS body smooth textured button
- Precise steel mechanism for distinct blade positioning







BAHCO® ERGO™ UTILITY KNIFE

Product Code	Description
KERU-01	ERGO® Retractable Utility Knife

- Integrated button for smooth action and to shift blade in three distinct positions
- Curved handle for wide variety of grips
- Smart button to replace blades
- Narrow head for optimal visibility and precision
- Ideal angle for minimized muscle stress
- . Optimized handle size and weight
- Smart button to store blades without opening the body



AUTOLOAD QUICK-BLADE UTILITY KNIFE

Includes Heavy-Duty .025" Thick 2-Notch Blades

JHW40052 Autoload Quick-Blade Utility	Knife

Features

- . Blade is easily removed or reversed from the front with push-button ease
- . New blade is automatically loaded from 5-blade magazine
- · Spring-loaded cover makes reloading quick and tool-free
- Includes (5) .025" blades



BAHCO® SQUEEZE GRIP SAFETY KNIFE

Bi-Mold Comfort Grip Handle

Product Code	Description	
SQZ150003	Squeeze Grip Safety Knife	
SQZ150003-HSBL	12 Pack Hook Blades	
SQZ150005-SBL	12 Pack Standard Blades	

Features

- . Automatically loads new knife blade with the squeeze of the handle
- Quick release button to remove blade
- Comfort handle with thumb groove for greater control and comfort
- . Extremely fast blade operation and change with side button for retraction and lower lever for extension
- . Single button press for blade removal, squeeze lower lever for new blade
- · Six spare blades stored in special compartment
- Includes: 6 heavy-duty blades



Load blade with

squeeze of handle



















DISPOSABLE SAFETY CUTTER

Product Code	Description	
JHW40082	Lightweight, ergonomic, ambidextrous disposable safety cutter	

Features

Toll Free 1 800 563 1293

- · Retracting safety hooded guard prevents cuts
- . NSF certified for food areas
- Safety point blade included standard
- Integrated tape splitterStainless steel blade for hygiene
- 3-button mechanism for top and side cuts
- Applications: multi purpose cutting, food processing areas, cuts corrugate, cartons, taped boxes, film and shrink

DISPOSABLE FILM CUTTER

Product Code	Description		
JHW40084	Durable plastic construction and a long-lasting super sharp blade		

Features

- · Suitable for use in food areas
- · Integrated tape slitter
- · Stainless steel blade for hygiene
- Applications: cuts tape, strapping, shrink wrap and film

ALUMINUM PEN LIGHT

UV Spotlight

Product Code	Overall Length (inch)
JHWLLED-150	7

- Premium slim aluminum design
- Compact size for easy carrying
- Built-in magnet on clip for hand free
- Main light provide 150lm output
- Spot light with UV LED for leak detection
- Micro-USB charge port
- Light in weight
- Design for mechanical



LED ROTATING WORKLIGHT

Product Code	Description
JHW5102	24 LED Rotating Magnetic Work light
JHW5103	48 LED Rotating Magnetic Work light

Features

- Rotating head allow directional positioning
- Powerful magnetic base for secure mounting
- · Includes alkaline batteries
- 5103 is two times as bright as 5102



BAHCO® MAGNETIC PICK-UP TOOL WITH LIGHT

Product Code	Description	Extended Length (Inches)
2535L	Magnetic Pick-up Tool with Light	30

Features

- Wide area lighting
- Soft grip handle
- Powerful magnetic tip
- Pick-up weight is 11/4 pounds

FLEXIBLE SPRING CLAW

Product Code	# of Claws	Max Jaw Opening (inches)	Flexible Section length, inches	Overall Length (inches)
JHW40159	4	3/4"	16"	23 1/2"

Features

- . Tightly wound, Flexible spring snakes into tight areas
- · Four-jaw claw opens wide to secure hard to reach objects



TELESCOPING MAGNETIC PICK UP TOOLS

Product Code	Lifts (lbs)	Overall Length (Inches)	Extends to
JHW40151	2 ½	6 5/8"	33 1/4"
JHW40152	5	6 ⁵ ⁄8"	33 ¹ / ₄ "
JHW40153	10	8 ¹ / ₄ "	30 1/4"
JHW40154	2 1/2	6 1/2"	25 1/2"
JHW40155	1 1/2	5 %"	25 %16"
JHW40155-30P		30 pack counter display	

- Stainless Steel Shaft
- JHW40154 and JHW40155 Chrome Shaft
- Black cushion grip will not slip in oily or wet hands
- Powercap® shields sides of magnet for focused lifting
- Includes pocket clip















Product Code	Mirror Diameter	Overall Length (Inches)	Extends to
JHW40255	2 3/8"	6 1/2"	37"
JHW40256	2 1/4" x 3 1/2"	6 1/2"	30 1/4"

Features

- Stainless Steel Shaft
- Cushion grip will not slip in oily or wet hands
- Batteries included



JHW40255

Applifast.

TELESCOPING INSPECTION MIRRORS

Product Code	Mirror Diameter	Overall Length (Inches)	Extends to
JHW40252	1 1/4"	6 1/2"	35"
JHW40253	2 1/4"	6 1/2"	36 ¾"
JHW40254	3 1/4"	6 1/2"	29 1/2"

Features

- Stainless Steel Shaft
- Cushion grip will not slip in oily or wet hands



SWIVEL INSPECTION RECTANGULAR MIRROR

Product Code	Mirror Diameter	Overall Length (Inches)	Extends to
JHW40257	2 1/8" x 3 1/2"	11 1/4"	15 1/4"

- Vinyl Grip
- Double ball joints allow mirror to swivel 360 degrees
- Glass Mirror
- Stainless Steel Mirror Back
- Non-rotating telescoping rods



BAHCO® NAIL PULLER/NAIL PUNCH

Nail Punch

Product Code	Description	Overall Length (Inches)
36	Nail Puller	9
SB-3732-2.5-1.25	Nail Punch	5

Features

- For fast easy removal of nails
- Black Industrial Finish
- Comfortable non-slip thermoplastic grip handle
- Patented internal spring to keep the jaws open
- · Wide striking area
- To be used with a claw hammer



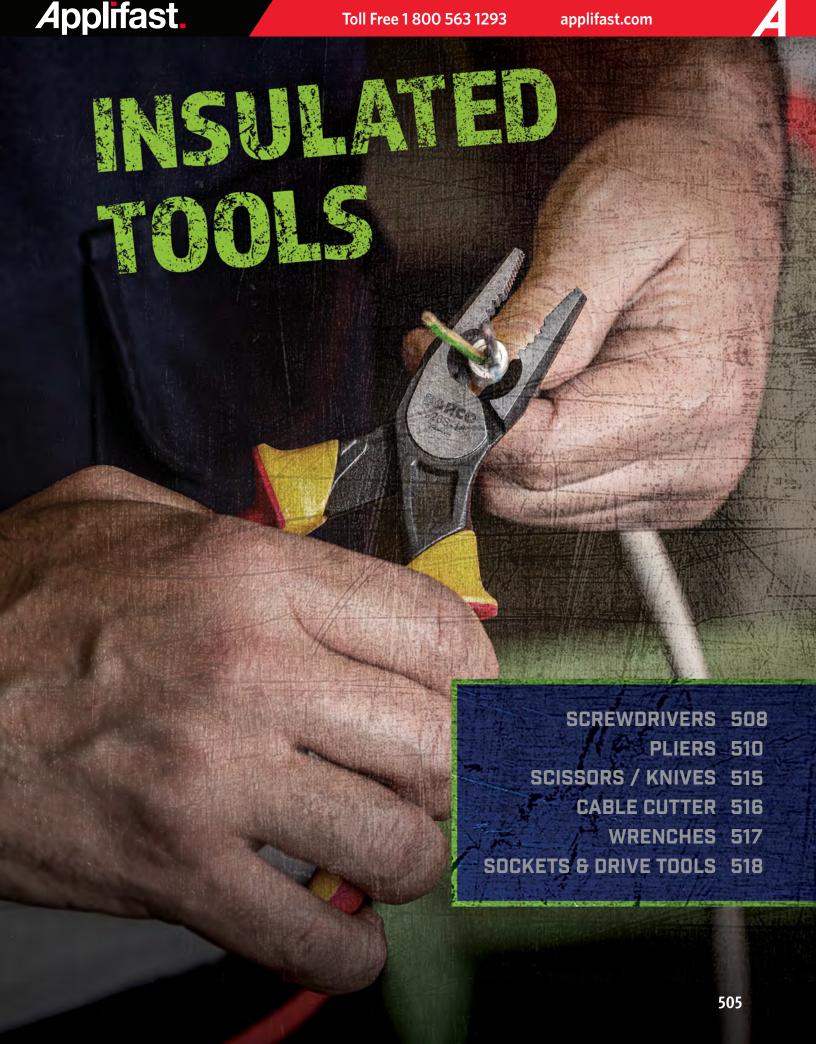
BAHCO® GENERAL PURPOSE GLOVES

Product Code	Size
GL008-10US	Large

- General purpose work gloves
- A thin PU material gives that user better touch and feel







Quality guarantee

Bahco is one of the few hand-tool manufacturers that make the tools and the insulation in-house. Both the PVC dipped insulated version (most of the tools) and the handle version (pliers and screwdrivers) are manufactured entirely in Bahco factories.

Each tool is tested to 10,000 V for a period of 10 seconds to provide a high level of protection during live work.

3-LAYER SAFETY COATING Safety Danger **High Danger**

Bahco's three-layer insulated tools have a color coded, multi laver insulation coating. This provides protection as well as creating a visual warning system. If the outer insulation layer gets damaged, the lighter color underneath will become visible and warn the user. This makes it easier to detect damage to the insulation.









Routine tests in accordance with IEC60900 specification



Dielectric test

The tools are immersed in water for 24 hours. A voltage of 10 kV is then continuously applied for 3 minutes. The test is considered successful if no electrical puncture. spark over, or flashover occurs during the test period. Leakage limits must not be exceeded.



Retaining force test

This test is applied to tools that can be assembled. A force is applied to the assembled parts in an effort to separate them. If, after a minute, the parts remain assembled, the test is passed.



Impact test

The tools are cooled to -25°C for 2 hours. Then, a special hammer is used with some force on the insulating layer. The test is considered successful if the insulating material shows no breaks and passes the dielectric test.



Permanent marking durability

The markings are rubbed for 15 seconds with a rag soaked in water, and then for 15 seconds with a rag soaked in isopropanol. The test is passed if, after this process, the markings are still legible.



Insulation adhesion test

The tools are stored at a temperature of 70°C for 168 hours. Then, a force of 490 N is applied in the direction of the line dividing the insulating material from the conductive part for 3 minutes. During this test the insulation material must stay firmly attached to the tools.



Penetration test

The insulated surfaces of the tools are pressed with a special device. A voltage of 5000 V is then applied to the tool for 3 minutes. The test is considered successful if no electrical puncture, spark-over, or flash-over occurs during the test period.



Flame test

When placed over a fire, where the height of the flames on the tools does not exceed 120 mm, if the insulation material does not melt or leak, then the test is passed.



Visual and dimensional

The tools, and in particular the insulation, are visually controlled and have to be free from external defects. The markings have to be perfectly legible and the dimensions have to be in accordance with the standard.

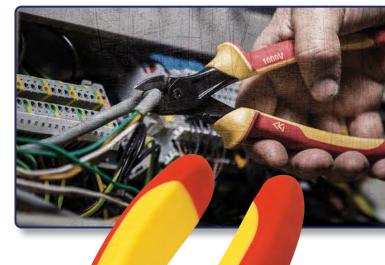
INSULATED TOOLS

1000V ERGO™ SLOTTED SCREWDRIVERS

YOUR SAFETY IS OUR HIGHEST PRIORITY



1000V ERGO™ DIAGONAL CUTTING PLIERS



For work on live equipment up to 1000 V

Individually inspected and

manufactured according to IEC 60900, tested in a water bath at 10000 V

High-performance alloy steel

Insulation molded directly onto blade

Black oxide tips prevent chipping of chrome to reduce possible contamination at work location

Phosphate finish, anticorrosion treated

Round-shaped jaws give improved accessibility in confined spaces Two-component insulated handles with thumb stops require less effort than conventional cutting pliers and provides superior grip

Heavy-duty induction hardened cutting edge suitable for cutting Cu, Fe+ and piano wire. Made from specially hardened steel to stay sharp longer

Edges near the joint are shaped for cutting hard materials and towards the tip they are adapted for soft materials and for stripping wires of thinner dimensions



pplifast

BAHCO® 7 PIECE INSULATED RATCHETING SCREWDRIVER SETS



A must have tool for electricians.

Product Code	Style	Blade Tip Sizes Included
808061	Phillips® and Slotted Blades	PH1, PH2, 0.4 x 2.5, 0.5 x 3.0, 0.8 x 4.0, 1.0 x 5.5, Handle
808062	Pozidriv® and Slotted Blades	PZ1, PZ2, 0.4 x 2.5, 0.5 x 3.0, 0.8 x 4.0, 1.0 x 5.5. Handle

Features

- The blade release system built in the comfortable handle makes it easy and safe to change the slim blades without the blades falling out
- . The blades are 30% slimmer than the blade of a regular insulated screwdriver for better accessibility and more applications such as sunken screws and spring elements
- For working on live equipment up to 1000 volts
- Complete with roll up pouch with clear 1000v indication
- IEC 60900 compliant



The blade release system built in the comfortable handle makes it easy and safe to change the slim blades without the blades falling out. The blades are 30% slimmer than the blade of a regular insulated screwdriver for better accessibility and more applications (e.g. sunken screws and spring elements). A must have tool for electricians.



808061













BAHCO.

ergo

BE-9881S

BE-8220S

1000V



BAHCO® ERGO™ 1000V SCREWDRIVERS

- For work on live equipment up to 1000 volts
- The three component ergonomically designed handle provides comfort and maximum grip even with oily hands
- . Color coded handles indicate tip type. Tip type symbol is also printed on bottom of handle for quick identification
- Chrome blades prevent corrosion and can be easily cleaned
- Black oxide tips prevent chipping of chrome to reduce possible contamination at work location

BAHCO® ERGO™ 5 PIECE





1000V SCREWDRIVER SET	
Three Component Handle with Black Oxide	Tips

Cantonto I	aduda.
BE-9881S	5 Piece ERGO™ Screwdriver Set Phillips® / Slotted
Product Code	Description

Contents Include:

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip Width /Point Size
BE-8220S	9	4	1/8
BE-8040S	8 3/4	4	5/32
BE-8050S	8 3/4	4	7/32
BE-8610S	8	3 ⁵ / ₃₂	#1
BE-8620S	8 3/4	4	#2

Features

Contains 3 slotted and 2 Phillips[®] screwdrivers







BAHCO® ERGO™ 1000V **SLOTTED SCREWDRIVERS**

Three Component Handle with Black Oxide Tips

Product Code	Overall Length (Inches)	Blade Length (Inches)	Tip Width (Inches)
BE-8010S	8	3	3/32
BE-8220S	8 3/4	4	1/8
BE-8230S	9 3/4	5	9/64
BE-8040S	8 3/4	4	5/32
BE-8050S	9 3/4	5	7/32
BE-8255S	10 ³ / ₄	6	1/4
BE-8065S	11 3/4	7	5/16







BAHCO® ERGO™ 1000V **PHILLIPS® SCREWDRIVERS**



Product Code	Overall Length (Inches)	Blade Length (Inches)	Point Size	
BE-8600S	6 ³ / ₈	2 ³ /8	0	
BE-8610S	8	3 ⁵ / ₃₂	1	
BE-8620S	8 ³ / ₄	4	2	
BE-8630S	10 ³ / ₄	6	3	
BE-8640S **	14 ¹ / ₄	8	4	

** Dual grip handle for two-handed operation provides extra torque when necessary





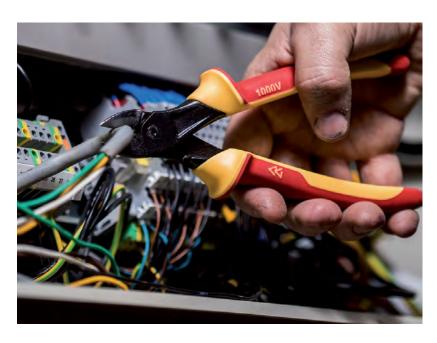






pplīfast

The ERGO™ side cutting pliers have a progressive edge. Effectively, this means you can cut soft, thin wire close to the tip, and hard wire close to the screw. At the tip, the cutting edge is sharper so that it can cut softer materials such as copper, instead of simply squeezing them like most of the heavy duty pliers would.







BAHCO® ERGO™ 1000V SIDE CUTTING PLIERS WITH PROGRESSIVE EDGE

For working on live equipment up to 1000 volts

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Max Cutting Capacity (Inches)
2101S-140	5 ¹ / ₂	5/8	1/16 Piano Wire
2101S-160	6 ¹ / ₂	3/4	1/16 Piano Wire
2101S-180	7	13/16	5/64 Piano Wire

- . Two-component ERGO™ insulated handles: thermoplastic surface on tough polypropylene provides superior grip
- Suitable for cutting Cu, Fe+ and piano wire
- Insulated side cutting pliers developed according to the scientific ERGO™ process for working on live equipment up to 1000V
- Distance from joint to center of cutting edges is reduced for greater leverage and increased cutting capacity
- Cutting radius progresses along edge in order to cut hard material such as piano wire close to the joint as well as soft materials
- Screw joint provides excellent running and accurate alignment of cutting edges
- Round-shaped jaws give improved accessibility in confined spaces
- · Less effort required compared to conventional cutting pliers
- · Reduced shank width ideally for carrying in the pocket





















BAHCO® ERGO™ 1000V WIRE STRIPPING PLIERS

For working on live equipment up to 1000 volts

Product Code	Overall Length (Inches)	Jaw Length (Inches)
2223S-150	5 3/4	1 1/8

Features

- Two-component ERGO™ insulated handles: thermoplastic surface on tough polypropylene base provides superior grip
- Developed according to the scientific ERGO™ process
- For working on live equipment up to 1000 V in compliance with IEC 60900
- Stripping capacity: 0.5 mm to 5 mm
- Easy wire cutting and stripping pliers for copper and aluminum
- For stripping copper wire up to 5 mm
- High-performance alloy steel
- Phosphate finish, anti-corrosion treated
- Standards: IEC 60900
- Every tool is tested at 10,000 V for 10 seconds at the end of the manufacturing process









BAHCO® ERGO™ 1000V FLAT NOSE PLIERS

For working on live equipment up to 1000 volts

Product Code	Overall Length (Inches)	Jaw Length (Inches)
2421S-140	5 ¹ / ₂	1 1/4
2421S-160	6 ¹ / ₄	2
2421S-180	7	2 1/4

- Two-component ERGO™ insulated handles: thermoplastic surface on tough polypropylene base provides superior grip
- Developed according to the scientific ERGO™ process
- For working on live equipment up to 1000 V in compliance with IEC 60900
- Tips provide good grip and improved accessibility in confined spaces
- Particularly designed for gripping flat material
- High-performance alloy steel
- Phosphate finish, anti-corrosion treated
- Standards: ISO 5745, IEC 60900









pplifast

BAHCO® ERGO™ 1000V 45° CURVED NOSE PLIERS

For working on live equipment up to 1000 volts

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Max Cutting Capacity (Inches)
2427S-160	6 1/4	1 13/16	5/64 Hard Steel
2427S-200	7	2 ³ / ₄	5/64 Hard Steel

Features

- Two-component ERGO™ insulated handles: thermoplastic surface on tough polypropylene base provides superior grip
- Developed according to the scientific ERGO™ process
- For working on live equipment up to 1000 V in compliance with IEC 60900
- Cutting capacity: 2.5 mm to 3 mm copper, 1.8 mm iron, 1.4 mm to 1.6 mm iron alloy
- Half-round serrated jaws for gripping flat and round material with great accessibility in confined spaces
- Bent jaws with hardened cutting edges for cutting soft and hard wire
- High-performance alloy steel
- Phosphate finish, anti-corrosion treated
- Standards: ISO 5745, IEC 60900









BAHCO® ERGO™ 1000V LONG NOSE PLIERS

For working on live equipment up to 1000 volts

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Max Cutting Capacity (Inches)
2430S-140	5 ¹ / ₂	1 1/4	1/16 Hard Steel
2430S-160	6 ¹ / ₄	1 ⁵ / ₁₆	1/16 Hard Steel
2430S-200	7	2 3/4	5/64 Hard Steel

- Two-component ERGO $^{\text{TM}}$ insulated handles: thermoplastic surface on tough polypropylene base provides superior grip
- Developed according to the scientific ERGO™ process
- For working on live equipment up to 1000 V in compliance with IEC 60900
- Cutting capacity: 2.5 mm to 3 mm copper, 1.8 mm iron, 1.4 mm to 1.6 mm iron alloy
- Half-round serrated jaws for gripping flat and round material with great accessibility in confined spaces
- Straight jaws with hardened cutting edges for cutting soft and hard wire
- High-performance alloy steel
- Phosphate finish, anti-corrosion treated
- Standards: ISO 5745, IEC 60900



















BAHCO® ERGO™ 1000V **45° ROUND NOSE PLIERS**

For working on live equipment up to 1000 volts

Product Code	Overall Length (Inches)	Jaw Length (Inches)	
2521S-140	5 ¹ / ₂	1 1/8	
2521S-160	6 1/4	1 1/4	

Features

- Two-component ERGO™ insulated handles: thermoplastic surface on tough polypropylene base provides superior grip
- Developed according to the scientific ERGO™ process
- For working on live equipment up to 1000 V in compliance with IEC 60900
- Round thin tips for improved accessibility
- Specifically designed for wire bending
- High-performance alloy steel
- Phosphate finish, anti-corrosion treated
- Standards: ISO 5745, IEC 60900
- . Every tool is tested at 10,000 V for 10 seconds at the end of the manufacturing process









BAHCO® ERGO™ 1000V COMBINATION PLIERS

For working on live equipment up to 1000 volts

Product Code	Overall Length (Inches)	Jaw Length (Inches)	Max Cutting Capacity (Inches)
2628S-160	6 ¹ / ₄	1 5/16	1/16 Hard Steel
2628S-180	7	1 7/16	5/64 Hard Steel
2628S-200	8	1 1/2	7/64 Hard Steel

- Two-component ERGO™ insulated handles: thermoplastic surface on tough polypropylene base provides superior grip
- Developed according to the scientific ERGO™ process
- For working on live equipment up to 1000 V in compliance with IEC 60900
- Gripping surfaces particularly suited for flat and round material
- Special head design for better accessibility, with hardened cutting edges for cutting soft and hard wire
- . High-performance alloy steel
- Phosphate finish, anti-corrosion treated
- Standards: ISO 5746, IEC 60900









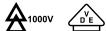
pplifast

BAHCO® 1000V QUICK ADJUST WATER PUMP PLIERS

For working on live equipment up to 1000 volts

Product	Overall Length (Inches)	Jaw Length	Tip Width
Code		(Inches)	(Inches)
7224S	10	2	5/8

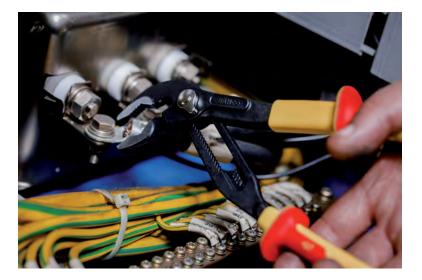
- 1000V quick-adjust water pump pliers
- Sturdy box joint frame and slim design
- High performance alloy steel, two-component handles for maximum grip comfort
- Phosphate finish, anti-corrosion treated
- Self-adjusting patented lateral lever
- · Flat and round grip shape with auto-tightening device
- . Up to 35% bigger mouth opening compared to market standard
- Narrow design head for great accessibility in confined spaces
- . Hardened teeth (60 HRC to 62 HRC) for a long product life and strong gripping on any shape
- Slim jaws provide easy accessibility
- Designed to prevent fingers being pinched
- ISO 8976, IEC 60900





















BAHCO® 1000V ELECTRICIAN SCISSORS

For protection against inadvertent shock when working on circuits up to 1000 volts

Product Code	Length (inches)
SC127V	5

Features

- Single layer coating (only red coating).
- Small groove in the blade for stripping cables.
- 2" cutting length.
- Guard to avoid fingers touching the metallic part by mistake.

Product Code	Length (inches)
SC150NGV	6

Features

- 2 layer coating: Red: safety. Yellow: danger
- Finger stops in both legs to avoid fingers touching the metallic part by mistake
- The longer handle allows to apply less force to cut a certain wire
- 1-1/2" cutting length





BAHCO® 1000V ELECTRICIAN KNIVES

For protection against inadvertent shock when working on circuits up to 1000 volts

Product Code	Description
2820VP	Knife with Straight Blade
2820VPC	Knife with Curved Blade

Features

- 3 layer coating insulation with different colors plus a 4th one in black to further Protect handle edges. Red: safety. Orange: danger. Yellow: high danger Available in straight and curved blade versions

Pro	duct Code	Description
282	20VHELP	Knife with Guide
_		

Features

- Insulated 1000 V knife with guide
- Single layer, injection molded, with protection cap
- Special blade with cable guard show for cable dismantling
- Stainless steel blade; handle shock resistant plastic



BAHCO® 1000 V TWEEZERS

For protection against inadvertent shock when working on circuits up to 1000 volts

Product Code 2820VTEE

Double layer coating - red layer indicates safety, yellow layer indicates danger, plus a 3rd one in black to further protect handle edges







BAHCO® 1000V CABLE CUTTER

With Insulated Grips

pplifast

Product Code	Overall Length (Inches)	Cable Cutting Capacity (Inches) / Description	Replacement Blade Kit
2520S	23 ⁵ / ₈	1 3/16 Aluminum/Copper without Messenger Wire	2520-SH

Features

- · For cuts on ferrous material, only use cutting notch that is provided below top cutting blades in jaws
- . Extra thick grip handles on insulated cutter provides protection up to 1000 volts





BAHCO® 1000V RATCHET ACTION CABLE CUTTER

For protection against inadvertent shock when working on circuits up to 1000 volts

Product Code	Length (inches)	Cutting Capacity (Inches)
2806-35V	9	1 ½
2806-52V	13	2

Features

- . 3 layer coating insulation with different colors plus a 4th one in black to further protect handle edges. Red: safety. Orange: danger. Yellow: high danger
- . One hand operation, easy release of the movable jaw
- · For cutting copper and aluminum cables
- . Not suitable for hard copper, steel cables, or internal steel wire cables
- · Clean and smooth cut without distortion





BAHCO® 1000V BOLT CUTTER

For protection against inadvertent shock when working on circuits up to 1000 volts

		Wire types Ø mm w		
Product Code	Length (inches)	80kg/mm ²	120kg/mm ²	160kg/mm ²
2820VBC	25	9	8	7

- . 3 layer coating insulation with different colors plus a 4th one in black to further protect handle edges. Red: safety. Orange: danger. Yellow: high danger
- · Forged head; Induction hardened cutting edges
- . Long arms with lever-action head, allows cutting of hard wires with very little effort

















For protection against inadvertent shock when working on circuits up to 1000 volts

Product Code	Length (inches)	Max Jaw Opening (Inches)	Head Thickness (Inches)
8070V	6	3/4	7/16
8071V	8	1 1/16	1/2
8072V	10	1 3/16	5/8
8073V	12	1 5/16	3/4
8074V	15	1 3/4	¹⁵ / ₁₆

Features

Toll Free 1 800 563 1293

- . 3 layer coating insulation with different colors plus a 4th one in black to further protect handle edges. Red: safety. Orange: Caution. Yellow: danger
- Material: Chrome-Vanadium steel
- . The movable jaw slides easily by smoothly operating the thumb screw
- Complies with ISO and ANSI torque requirements
- Head dimensions comply with ISO 6787 standards





8071V

BAHCO® 1000V OPEN END WRENCH - METRIC

For protection against inadvertent shock when working on circuits up to 1000 volts

Product Code	Size (mm)	Overall Length (Inches)	Open End Width (Inches)	Open End Thickness (Inches)	Layers Coating
6MV6	6	3 %	9/16	1/8	2
6MV7	7	3 5/8	11/16	1/8	2
6MV8	8	3 1/8	11/16	3/16	2
6MV9	9	3 1/8	13/16	3/16	2
6MV10	10	4 1/4	15/16	3/16	2
6MV11	11	4 %16	1	3/16	2
6MV12	12	5	1 1/8	3/16	2
6MV13	13	5 1/16	1 1/4	3/16	2
6MV14	14	5 ½	1 1/4	1/4	2
6MV15	15	6	1 1/4	1/4	2
6MV16	16	6 3/16	1 1/4	1/4	2
6MV17	17	6 3/8	1 1/16	1/4	3
6MV18	18	6 ² /3	1 1/16	1/4	3
6MV19	19	6 1/8	1 1 1/8	1/4	3

Features

- · 2 layer coating insulation with different colors plus a 3rd one in black to further protect handle edges on spanners from 6 mm to 16 mm. Red: safety. Yellow: danger
- 3 layer coating insulation with different colors plus a 4th one in black to further protect handle edges on spanners from 17 mm to 32 mm. Red: safety. Orange: danger. Yellow: high danger
- Material: Chrome-Vanadium steel
- · Opening tolerance according to ISO 691





Clear transparent plastic hand, impact resistant

Product Code	Overall Length (Inches)	Blade Length (Inches)	Size (Inches)
806-1-1	6	3 1/3	1/8

- Mains tester 150-250V
- Handle is clear transparent plastic handle, impact resistant
- . Blade is high quality steel, Nickel plated blade. Plastic protection up to the tip





oplifast

BAHCO® 1000V 1/2" RATCHET

For protection against inadvertent shock when working on circuits up to 1000 volts

Product Code	Length	Head Width A	Head Thickness B	Drive Size C
	(inches)	(Inches)	(Inches)	(Inches)
8150-1/2V	10 1/2	3	2	1/2

Features

- 3 layer coating insulation with different colors plus a 4th one in black to further protect handle edges. Red: safety. Orange: danger. Yellow: high danger
- Material: Chrome-Vanadium steel
- One of the buttons is a lever to change the ratcheting direction; the other is a push button to lock or release the socket to the male square drive
- 28 teeth ratchet to operate at a 13° angle
- Static and endurance tests with 50,000 cycles
- Complies with the ISO standards



BAHCO® 1000V 1/2" EXTENSION

For protection against inadvertent shock when working on circuits up to 1000 volts

Product Code	Length (inches)
8160-1/2V	5

Features

- · 2 layer coating insulation with different colors. Red: safety. Yellow: danger
- Material: Chrome-Vanadium steel
- The male square drive is having a slotted screw to move the ball outward or inward and block or unblock the socket to it
- The male square tolerances and torque requirements comply with the respective ISO standard



BAHCO® 1000V 1/2" DRIVE SOCKETS - METRIC





For protection against inadvertent shock when working on circuits up to 1000 volts

Product Code	Size (mm)	Overall Length (Inches)	Drive End Diameter (Inches)	Working End Diameter (Inches)	Nose Length (Inches)
7800DMV-8	8	2	7/8	2/3	1/4
7800DMV-10	10	2	7/8	3/4	1/4
7800DMV-11	11	2	7/8	3/4	1/4
7800DMV-12	12	2	7/8	3/4	1/4
7800DMV-13	13	2	7/8	1	1/4
7800DMV-14	14	2	7/8	1	3/8
7800DMV-15	15	2	7/8	1	3/8
7800DMV-16	16	2	7/8	1	3/8
7800DMV-17	17	2	7/8	1 1/8	3/8
7800DMV-18	18	2	7/8	1 1/8	1/2
7800DMV-19	19	2	7/8	1 3/16	1/2



- · 2 layer coating insulation with different colors
- Material: Chrome-Vanadium steel
- 12 point Dynamic Drive Profile
- Both square and 12 point openings according to the tolerance and torque requirements given in ISO standards



518











8160-1/2V



W	LLIA	MS

INCH	DECIMAL	MILLIMETER	MILLIMETERS	INCHES	MILLIMETERS	INCHES	COOT DOUNDS	NEWTON METERS	FOOT POUNDS	NEWTON METERS
1/64	.0156	0.397	26	1.0236	94	3.7008	FOOT POUNDS	NEWTON METERS 24.4	85	115.2
1/32	.0312	0.794	27	1.0630	95	3.7402	19	25.8	85 86	116.6
0 /0 /	.0394	1.000	28	1.1024	96	3.7795	20	25.6		
3/64 1/16	.0469 .0625	1.191 1.587	29	1.1417	97	3.8189	20	28.4	87	117.9
5/64	.0781	1.984	30	1.1811	98	3.8583	22	29.8	88	119.3
0 (00	.0787	2.000	31	1.2205	99	3.8976	23	31.2	89	120.7
3/32 7/64	.0937 .1094	2.381 2.778	32	1.2598	100	3.9370	23 24	32.5	90	122.0
., .	.1181	3.000	33	1.2992	110	4.3307	25	33.9	91	123.4
1/8	.1250	3.175	34	1.3386	120	4.7244	26	35.3	92	124.7
9/64 5/32	.1406 .1562	3.572 3.969	35	1.3780	130	5.1181	27	36.6	93	126.0
0,02	.1575	4.000	36	1.4173	140	5.5118	28	38.0	94	127.4
11/64	.1719	4.366	37	1.4567	150	5.9055	29	39.3	95	128.8
3/16	.1875 .1968	4.762 5.000	38	1.4961	160	6.2992	30	40.7	96	130.2
13/64	.2031	5.159	39	1.5354	200	7.8740	31	40.7	97	131.5
7/32	.2187	5.556	40	1.5748	300	11.8110	32	43.4	98	132.9
15/64	.2344 .2362	5.953 6.000	41	1.6142	400	1	33	44.7	99	134.2
1/4	.2500	6.350	42	1.6535	500	15.7480	34	46.1	100	135.6
17/64	.2656	6.747	43	1.6929	600	19.6850 23.6220	35	47.5	110	149.0
0 (00	.2756	7.000	44	1.7323	700		36	48.8	115	156.0
9/32 19/64	.2812 .2969	7.144 7.541	45	1.7717		27.5591	37	50.2	120	163.0
5/16	.3125	7.937	46	1.8110	800	31.4961			125	170.0
04 /01	.3150	8.000	47	1.8504	900	35.4331	38 39	51.5 52.9	130	176.0
21/64 11/32	.3281 .3437	8.334 8.731	48	1.8898	1000	39.3701	•		135	183.0
11/52	.3543	9.000	49	1.9291	INCH POUNDS	NEWTON METERS	40	54.2	140	190.0
23/64	.3594	9.128	50	1.9685	5	0.565	41	55.6	145	197.0
3/8 25/64	.3750 .3906	9.525 9.922	51	2.0079	10	1.13	42	56.9	150	203.0
20/01	.3937	10.000	52	2.0472	15	1.70	43	58.3	155	210.0
13/32	.4062	10.319	53	2.0866	20	2.26	44	59.7	160	217.0
27/64	.4219 .4331	10.716 11.000	54	2.1260	25	2.83	45	61.0	165	224.0
7/16	.4375	11.112	55	2.1654	30	3.39	46 47	62.4	170	231.0
29/64	.4531	11.509	56	2.2047	35	3.96	47	63.7	175	237.0
15/32	.4687 .4724	11.906 12.000	57	2.2441	40	4.52	48	65.0	180	244.0
31/64	.4844	12.303	58	2.2835	45	5.09	49	66.4	185	251.0
1/2	.5000	12.700	59	2.3228	50	5.65	50	67.8	190	258.0
	.5118	13.000	60	2.3622	60	6.78	51	69.1	195	264.0
33/64 17/32	.5156 .5312	13.097 13.494	61	2.4016	70	7.91	52	70.5	200	271.0
35/64	.5469	13.891	62	2.4409	80	9.04	53	71.9	225	305.0
	.5512	14.000	63	2.4803	90	10.17	54	73.2	250	339.0
9/16 37/64	.5625 .5781	14.287 14.684	64	2.5197	100	11.3	55	74.6	275	373.0
07701	.5906	15.000	65	2.5591	110	12.4	56	75.9	300	407.0
19/32	.5937	15.081	66	2.5984	120	13.6	57	77.3	350	474.0
39/64 5/8	.6094 .6250	15.478 15.875	67	2.6378	130	14.7	58	78.6	400	542.0
0,0	.6299	16.000	68	2.6772	140	15.8	59	80.0	LIEV O	
41/64	.6406	16.272	69	2.7165	150	17.0	60	81.3		OCKET RSIONS
21/32	.6562 .6693	16.669 17.000	70	2.7559	160	18.1	61	82.7	OONVE	11010110
43/64	.6719	17.066	71	2.7953	170	19.2	62	84.0	10mm:	=0.394"
11/16	.6875	17.462	72	2.8346	180	20.3	63	85.4	1	
45/64	.7031 .7087	17.859 18.000	73	2.8740	190	21.5	64	86.8	11mm:	=0.433"
23/32	.7187	18.256	74	2.9134	200	22.6	65	88.1		0.470"
47/64	.7344	18.653	75	2.9528	FOOT POUNDS	NEWTON METERS	66	89.5	12mm:	=0.472"
6 / 1	.7480	19.000	76	2.9921	1	1.356	67	90.8	12mm	=0.512"
3/4 49/64	.7500 .7656	19.050 19.447	77	3.0315	2	2.7	68	92.2	i Sillin:	-0.012
25/32	.7812	19.844	78	3.0709	3	4.0	69	93.5	14mm:	=0.551"
=	.7874	20.000	79	3.1102	4	5.4	70	94.9		
51/64 13/16	.7969 .8125	20.241 20.637	80	3.1496	5	6.8	71	96.3	15mm:	=0.591"
10, 10	.8268	21.000	81	3.1890	6	8.1	72	97.6		
53/64	.8281	21.034	82	3.2283	7	9.5	73	99.0	16mm=	=0.630"
27/32 55/64	.8437 .8594	21.431 21.828	83	3.2677	8	10.8	74	100.3	47	=0.669"
33/04	.8661	22.000	84	3.3071	9	12.2	75	101.7	1 / mm	=0.009
7/8	.8750	22.225	85	3.3465		i .	76	103.0	18mm:	=0.704"
57/64	.8906 .9055	22.622 23.000	86	3.3858	10	13.5	77	104.4		3
29/32	.9055	23.019	87	3.4252	11	14.9	78	105.8	19mm=	=0.748"
59/64	.9219	23.416	88	3.4646	12	16.3	79	107.1		
15/16	.9375	23.812	89	3.5039	13	17.6	80	108.5	20mm:	=0.787"
61/64	.9449 .9531	24.000 24.209	90	3.5433	14	18.9	81	109.8		0.00="
31/32	.9687	24.606	91	3.5827	15	20.3	82	111.2	21mm:	=0.827"
	.9843	25.000	92	3.6220	16	21.7	83	112.5		
63/64	.9844 1.0000	25.003 25.400	93	3.6614	17	23.0	84	113.9		
	1.0000	∠3. 4 00	Inch Lb	s. x 0.113=Ni	m; Nm x 8.	849=Inch Lbs	.; Ft. Lbs x	1.356=Nm;	Nm x 0.73	7=Ft. Lbs.



Important Words About Safety for Users and Bystanders

Following these basic safety rules is a good start toward protecting yourself — and others in the vicinity — from injury while using tools.

Wear safety goggles
Use the right tool
Use the tool properly
Maintain the tool regularly
Keep tools away from children
Do not use tools on live electrical circuits
unless specifically designed for such use
Read and follow instructions



THIS SYMBOL INDICATES PROHIBITED ACTION



DO NOT OVER-TORQUE NO PIPES OR LEVER EXTENSIONS



NO HAMMERING



NO PRYING



DO NOT STRIKE HARD OBJECTS



NO IMPACT/POWER DRIVE



DO NOT STEP IN OR ON DRAWERS



DO NOT OPEN MULTIPLE DRAWERS



DO NOT PULL TO MOVE



KEEP CHILDREN AWAY



THIS SYMBOL INDICATES MANDATORY ACTION



MANDATORY EAR PROTECTION



MANDATORY FACE SHIELD



MANDATORY MASK



MANDATORY RESPIRATOR



MANDATORY PROTECTIVE CLOTHING



MANDATORY PROTECTIVE GLOVES



MANDATORY EYE PROTECTION



MUST READ INSTRUCTIONS BEFORE USE

WARNING

THIS SYMBOL INDICATES A HAZARD ALERT, GENERAL WARNING SIGN



VIBRATION HAZARD



RISK OF EXPLOSION



OVERHEAD/ OVERLOAD HAZARD



RISK OF ELECTRIC SHOCK



RISK OF FIRE



RISK OF ENTANGLEMENT

Safety messages in this catalog use the guidelines of the American National Standard ANSI Z535.4 for Product Safety Signs and Labels and ANSI Z535.3 Criteria for Safety Symbols. Messages associated with specific products use a triangular hazard alert symbol, signal word (CAUTION, WARNING, DANGER) and how to avoid the hazard. Each message refers to pages (754-756) which provides additional safety symbols and three-part messages advising of:

- The hazard
- · How to avoid the hazard
- The probable consequence of not avoiding the hazard

PLEASE READ AND FOLLOW these messages to avoid injury to yourself and bystanders.

^{*} These symbols are excerpted from ISO 7010: 2011 with the permission of ANSI on behalf of ISO. © ISO 2014 - All rights reserved.

Applifast.



Electrical, Electronic Service

(pliers, cutters, mini-torch)

↑ WARNING



Broken tips or cut material can fly.

Wear safety shield. (User and bystanders)

Flying material can cause injury.



Material can cause sparks or flying particles when heated.
 Wear safety goggles. (User and bystanders)
 Sparks and flying particles can cause injury.



Butane will explode or burn when ignited.
 Do not store butane at a temperature above 120°.

Hold Butane away from body and face. Explosion or flames can cause injury.



Electrical shock hazard.



Do not use on live electrical circuits. Electrical shock can cause injury.

Extractors

△WARNING

 Drilling pilot holes, inserting extractors and using extractors can cause flying chips. Extractors can break if overloaded.



Wear safety goggles. (User and bystanders) For hand use only.

Flying chips and broken tools can cause injury.

Gear Head Torque Multipliers

△WARNING

 Use of gear head torque multipliers for torque control may result in inaccurate torque application.

For accurate control of torque use an Electrotork®, a Torqometer® or other measuring device located directly on the fastener.

Limited accuracy of the torque ratio of a gear head torque multiplier may cause improper preload of the fastener if it is used for torque control.

Hand Tools

<u>∧</u>WARNING

 Chrome and industrial finish hand tools can break if overloaded or used for the wrong application.

Wear safety goggles. (User and bystanders)



Wear safety goggles. (User and bystanders)

Do not use chrome or industrial finish hand tools with power drivers.

Use only impact sockets and accessories with impact wrenches.

Use only power sockets and accessories with power wrenches.

Broken hand tools, sockets or accessories can cause injury.

• Electrical shock hazard.



Do not use on live electrical circuits.

Electrical shock can cause injury.

Impact Drivers

∆WARNING



Impact drivers can cause tool breakage or flying objects.
 Wear safety goggles. (User and bystanders)
 Flying objects can cause injury.



Wear hearing protection. (User and bystanders)

Knives

↑ WARNING

 Blades are sharp and can cut. Blades can break causing flying objects.



Wear safety goggles. (User and bystanders) Do not pry or bend blade.

Keep away from children.

Sharp edges and flying objects can cause injury.

Nut Splitters

▲WARNING



Toll Free 1 800 563 1293

Use of impact wrench can cause nut splitter to break.
 Wear safety goggles. (User and bystanders)
 Do not use with impact wrench.

\bigcirc

Broken tools can cause injury.

Plastic Handled Tools

△WARNING



Plastic handles do not protect from electrical shock.
 Do not use on live electrical circuits.
 Electrical shock can cause injury.

Pliers/Cutters

⚠WARNING



Broken tips or cut material can fly.

Wear safety goggles. (User and bystanders)

Flying material can cause injury.

Prybars

▲WARNING



 Prying can cause flying chips. Chipped or cracked prybars can cause flying chips. Prybars can chip if struck.



Wear safety goggles. (User and bystanders)
Do not use pipe or lever extension.
Do not use a prybar if chipped or cracked.



Do not use a prybar as a punch or hammer. Flying chips can cause injury.

Pullers, Presses

△WARNING



Puller parts under stress can break.
 Wear safety goggles. (User and bystanders)
 Broken parts can cause injury.

Ratchets

MWARNING

Ratchet mechanism may slip or break if dirty. Mismatched or partially worn parts can cause ratchet to slip or break.
 Frequently inspect, clean and lubricate all non-sealed ratchet mechanisms with light oil.
 Do not immerse sealed ratchet in fluids.
 Do not replace worn parts individually, use entire contents of the service kit.
 Ratchets that slip or break can cause injury.

Riveting, Sanding, Door Tools

<u>∧</u>WARNING



 Riveting and nut setting tools can cause flying chips.

Wear safety goggles. (User and bystanders)
Flying chips can cause injuries.

Scrapers

▲WARNING



 Scrapers and putty knives can break if used for prying or chiseling.



Wear safety goggles. (User and bystanders)
Do not use a scraper or putty knife as a prybar
or chisel.

Broken tools can cause injury.

Screwdrivers

⚠WARNING



Screwdrivers can break if used as prybar, chisel or punch.
 Wear safety goggles. (User and bystanders)
 Do not use a screwdriver as a prybar, chisel or punch.



Broken screwdriver can cause injury.



Socket Usage

Select the proper type of socket for the application.

MWARNING



. Hand Sockets - All chrome plated sockets and black finished sockets identified as hand sockets are for hand use only.



Impact Sockets - Sockets designed for durability when used with impact drivers; use only impact sockets with impact drivers.

Wear safety goggles. (Users and bystanders) Broken tools can cause injury.

Storage Units

▲WARNING



Storage units can tip or strike you.



Do not open more than one loaded drawer at a time. Keep children away.



Close lid and lock drawers and doors before moving. Apply brakes on locking casters when not moving unit.



Do not step in or on drawers.

Secure units together with fasteners. Read and follow instruction manual.



Tipping of storage unit or unit striking you can cause injury.

Units edges can cut or pinch.

Do not pull; push to move.

Wear gloves when lifting by edges.

Keep feet and fingers clear of edges when stacking, hanging or moving units.

Unit edges can cause injury.

Striking and Struck Tools, **Punches/Chisels**

⚠WARNING

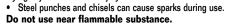


· Striking and struck tools can break or chip. Chipped or mushroomed punch and chisel ends or metal weakened by improper grinding can fragment.

Oversized hammer can chip the punch or chisel. Wear safety goggles. (Users and bystanders) Do not use punch or chisel having mushroomed ends; dress edges or mushroomed ends to original shape with a hand file.

Hammer head diameter should be approximately 3/8" larger than head of punch or chisel.

Flying objects can cause injury.





Flammable substances can ignite causing injury.

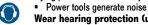
Power Tools

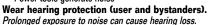
(impact wrenches, ratchets, hammers, sanders, grinders, cut-off tools)



Power tools can cause flying particles

Wear safety goggles (user and bystanders). Flying particles can cause injury.





Power tools vibrate



Avoid prolonged exposure to vibration.

Prolonged exposure to vibration can cause injury.

Improper use of power tools and accessories can cause broken tools

Do not use without all guards in place. Use accessories rated at tool RPM or higher. Read and follow instructions before using power tools.

Broken tools can cause injury.

Hammers

▲WARNING



· Hammers can cause flying chips. Chipped, mushroomed or cracked hammers can cause flying chips. Glancing blows can cause flying chips. Striking hard surface can cause flying chips. Body hammers can chip or break if struck against hard surfaces.

Wear safety goggles. (Users and bystanders) Do not use chipped, mushroomed or cracked hammers.

Strike squarely and avoid glancing blows. Do not strike other hammers or similar hard surfaces.

Use body hammers only for striking automotive type sheet metal; do not strike hard surfaces.

Flying chips can cause injury.

Steel hammers can cause sparks during use.



Do not use near flammable substance.

Flammable substances can ignite causing injury.

COMPOTHANE® or urethane hammers can rupture or ignite if exposed to liquid oxygen.

Do not use COMPOTHANE® or urethane

hammers near liquid oxygen.
Ruptured and/or ignited COMPOTHANE® or urethane can cause injury.

Threading

⚠WARNING



· Threading and rethreading tools can cause flying chips. Wear safety goggles. (Users and bystanders) Flying chips can cause injury.

Torque Testers

△WARNING



 Calibration weights can cause tester and its base to tip. Wear safety goggles. (Users and bystanders) Counterbalance or anchor mounting base. Tipping base can cause injury.

Torque Wrenches

⚠WARNING



Overtorguing can cause breakage. Wrench can break while breaking fasteners loose. Force against flex stops on flex head torque wrenches can cause head breakage. An out of calibration torque wrench can cause part or tool breakage.



Wear safety goggles. (Users and bystanders) Do not exceed rated torque.

Do not use a torque wrench to break

fasteners loose.

Do not force head of flex head torque wrenches against stops. Periodic recalibration is necessary to

maintain accuracy.

Broken tools can cause injury.

Wrenches

⚠WARNING



· Excess force can cause crowfoot or flare nut wrench slippage.

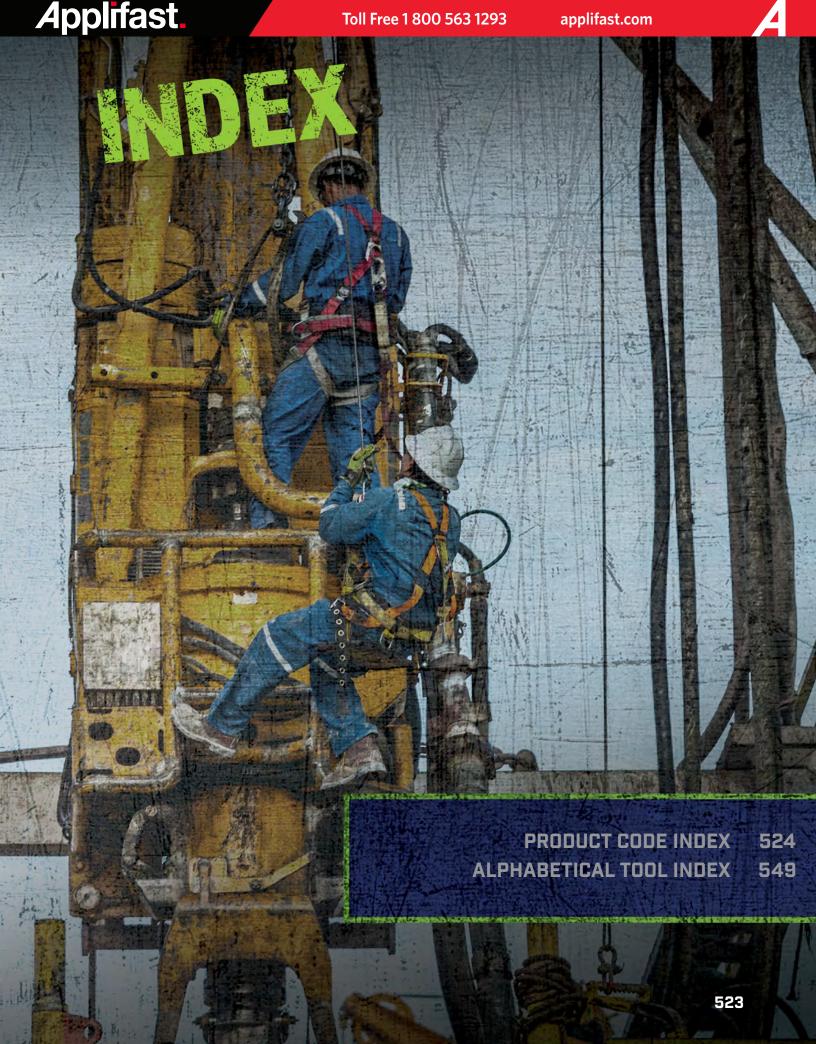


Do not over-torque, no pipes or lever extensions. Use only moderate force on crowfoot and flare

Broken or slipping wrenches can cause injury.

Slimline wrenches can break if overloaded.

Wear safety goggles. (Users and bystanders) Broken wrench jaw can cause injury.





A LINE OF		8							
Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
1-100-04-1-0	465	1-111-04-3-0	466	1-170-06-3-0	468	1-230-10-3-0	469	1215MRCU	155
1-100-04-2-0	465	1-111-06-1-0	466	1-170-08-1-0	468	1-230-10-3-2	469	1215MRSS	155
1-100-04-3-0	465	1-111-06-2-0	466	1-170-08-1-2	468	1-230-12-1-0	469	1216MRCU	155
1-100-06-1-0	465	1-111-06-3-0	466	1-170-08-2-0	468	1-230-12-2-0	469	1216MRSS	155
1-100-06-1-2	465	1-111-08-1-0	466	1-170-08-2-2	468	1-230-12-3-0	469	1216RCU	155
1-100-06-2-0	465	1-111-08-2-0	466	1-170-08-3-0	468	1-473-06-2-2	463	1216RSS	155
1-100-06-2-2	465	1-111-08-3-0	466	1-170-10-1-0	468	1-476-04-3-2	463	1217MRCU	155
1-100-06-3-0	465	1-143-04-1-0	467	1-170-10-1-2	468	1-476-04-3-2-TH	134	1217MRSS	155
1-100-08-1-0	465	1-143-04-2-0	467	1-170-10-2-0	468	1-478-08-1-2	463	1218MRCU	155
1-100-08-1-2	465	1-143-04-3-0	467	1-170-10-3-0	468	10002MRMHW		1218MRSS	155
1-100-08-2-0	465	1-143-06-1-0	467	1-170-10-3-2	468	10002MRPHW	64	1218RCU	155
1-100-08-3-0	465	1-143-06-1-2	467	1-210-04-1-0	469	10005MFRMHW	65	1218RSS	155
1-100-10-1-0	465	1-143-06-2-0	467	1-210-04-2-0	469	1002EFRMH	60	1219MRCU	155
1-100-10-1-2	465	1-143-06-2-2	467	1-210-04-3-0	469	1002-F-MT2W	58	1219MRSS	155
1-100-10-2-0	465	1-143-06-3-0	467	1-210-06-1-0	469	1002MFRMHW	65	1220RCU	155
1-100-10-2-2	465	1-143-08-1-0	467	1-210-06-1-2	469	1002MFRPHW	64	1220RSS	155
1-100-10-3-0	465	1-143-08-1-2	467	1-210-06-2-0	469	100NMIMHW	66	1222RCU	155
1-100-12-1-0	465	1-143-08-2-0	467	1-210-06-2-2	469	100P-5MD-TH	120	1222RSS	155
1-100-12-2-0	465	1-143-08-3-0	467	1-210-06-3-0	469	100T-I-SETW	67	1224RCU	155
1-100-12-3-0	465	1-143-10-1-0	467	1-210-06-3-2	469	100T-IW	67	1224RSS	155
1-104-10-2-0	465	1-143-10-1-2	467	1-210-08-1-0	469	101-I-MT2W	58	1446	498
1-104-10-3-0	465	1-143-10-2-0	467	1-210-08-1-2	469	10-21-51	437	15005-F-MT2W	58
1-104-12-2-0	465	1-143-10-2-2	467	1-210-08-2-0	469	10-24-23	437	1501MRMHW	65
1-104-12-3-0	465	1-143-10-3-0	467	1-210-08-2-2	469	10-24-51	437	1501MRPHW	64
1-104-14-3-0	465	1-143-12-1-0	467	1-210-08-3-0	469	10-30-23	437	1501TP-1-SETW	62
1-106-08-1-0	465	1-143-12-2-0	467	1-210-10-1-0	469	10-30-51	437	1501TP-1W	62
1-106-08-1-2	465	1-143-12-3-0	467	1-210-10-1-2	469	10ST-I-SETW	67	1501TPA-1-SETW	62
1-106-10-1-0	465	1-145-12-0-0	467	1-210-10-2-0	469	10ST-IW	67	1501TPA-1W	62
1-106-10-1-2	465	1-145-14-0-0	467	1-210-10-2-2	469	10T-I-SETW	67	1502MRMHW	65
1-106-12-1-0	465	1-160-04-1-0	468	1-210-10-3-0	469	10T-IW	67	1502TP-1SETW	62
1-110-04-1-0	466	1-160-04-2-0	468	1-210-12-1-0		1146-FLOAT	498	1502TP-1W	62
1-110-04-2-0	466	1-160-04-3-0	468	1-210-12-1-2	469	1199BBL	146	1503MFRMHW	65
1-110-04-3-0	466	1-160-06-1-0	468	1-210-12-2-0	469	12002EFRMH	60	150MFIMHSSW	66
1-110-06-1-0	466	1-160-06-1-2	468	1-210-12-2-2	469	1208MRCU	155	151NSMW	63
1-110-06-2-0		1-160-06-2-0		1-210-12-3-0		1208MRSS		151SMW	
1-110-06-3-0	466	1-160-06-2-2		1-210-14-1-0		1209MRCU		151SP-SETW	
1-110-08-1-0	466	1-160-06-3-0	468	1-230-04-1-0	469	1209MRSS		151SPW	63
1-110-08-1-2	466	1-160-08-1-0	468	1-230-04-2-0		1210MRCU		1520 G	485
1-110-08-2-0		1-160-08-1-2		1-230-04-3-0		1210MRSS		1600-MT2W	58
1-110-08-2-2	466	1-160-08-2-0	468	1-230-06-1-0		1210RCU	155	166-6-16-2.5-12	477
1-110-08-3-0		1-160-08-2-2		1-230-06-1-2		1210RSS		168-6-3.2-1P	
1-110-10-1-0		1-160-08-3-0		1-230-06-2-0		1211MRCU	155	168-6-3.5-1P	
1-110-10-1-2		1-160-10-1-0		1-230-06-2-2		1211MRSS		168-8-4.0-1P	
1-110-10-2-0		1-160-10-1-2		1-230-06-3-0		1212MRCU		168-8-4.0-3P	
1-110-10-2-2		1-160-10-2-0		1-230-08-1-0		1212MRSS		168-8-4.0-6	
1-110-10-3-0		1-160-10-3-0		1-230-08-1-2		1212RCU		168-8-4.5-1P	
1-110-10-3-2		1-160-12-1-0		1-230-08-2-0		1212RSS		168-8-4.5-6	
1-110-12-1-0		1-160-12-2-0		1-230-08-2-2		1213MRCU		168-8-4.8-1P	
1-110-12-2-0		1-170-04-3-0		1-230-08-3-0		1213MRSS		168-8-4.8-3P	
1-110-12-3-0		1-170-06-1-0		1-230-10-1-0		1214MRCU		168-8-4.8-6	
1-110-14-1-0		1-170-06-1-2		1-230-10-1-2		1214MRSS		168-8-5.2-1P	
1-111-04-1-0		1-170-06-2-0		1-230-10-2-0		1214RCU		168-8-5.2-6	
1-111-04-2-0		1-170-06-2-2		1-230-10-2-2		1214RSS		168-8-5.5-1P	
1-111-0 1 -2-0	400	17170-00-2-2	400	1-230-10-2-2	409	12171100	100	100-0-0.0-17	4/0

WILLIAMS

Page :	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code
44	3830-38-VIP	103	3526-TH	513	2521S-160	67	200T-I-SETW	476	68-8-5.5-3P
44	3830-40-VIP	103	3528-TH	502	2535L	67	200T-IW	476	68-8-5.5-6
44	3830-41-VIP	103	3530-TH	430	2600-16-XT11-HP	58	201-O-MT2W	476	68-8-6.3-1P
44	3830-43-VIP	103	3532-TH	430	2600-22-XT-HP	128	20651-TH	470	-300-14-0-0
44	3830-44-VIP	103	3534-TH	513	2628S-160	439	208	470	-300-14-2-0
44	3830-46-VIP	103	3536-TH	513	2628S-180	510	2101S-140	470	-300-14-4-0
44	3830-48-VIP	103	3538-TH	513	2628S-200	510	2101S-160	470	-300-16-0-0
44	3830-51-VIP	103	3540-TH	439	268	510	2101S-180	470	-300-16-1-0
44	3830-52-VIP	103	3542-TH	430	2700-22-XT7-HP	440	215-150	470	-300-16-2-0
44	3830-54-VIP	103	3544-TH	430	2700-24-XT7-HP	435	216-150-R	470	-300-16-4-0
44	3830-56-VIP	103	3546-TH	H 132	2700-24-XT7-HP-T	440	216-300-R	470	-300-18-0-0
44	3830-57-VIP	103	3548-TH	485	2744	439	218	470	-300-18-2-0
44	3830-59-VIP	504	36	58	276-61	63	21SP-SETW	470	-301-14-0-0
44	3830-60-VIP	462	3654BMS/7	516	2806-35V	63	21SPW	470	2-301-14-2-0
44	3830-64-VIP	429	369-BLADE	516	2806-52V	511	2223S-150	470	-301-16-0-0
44	3830-65-VIP	462	3734BMS/7	516	2820VBC	438	225-PLUS	470	-301-16-1-0
44	3830-67-VIP	462	3736MH-250	515	2820VHELP	ł 133	225-PLUS-3906-TH	470	-301-16-2-0
44	3830-68-VIP	462	3736MH-300	515	2820VP	439	228	470	-302-14-0-0
44	3830-70-VIP	462	3736MH-400	515	2820VPC	440	228-15-5P	470	-302-14-2-0
44	3830-73-VIP	462	3739H-250	515	2820VTEE	440	228-32-5P	470	-302-14-4-0
44	3830-76-VIP	462	3739H-300	132	28449-TH	436	23-21		-302-16-0-0
44	3830-79-VIP	462	3739H-400	435	296	436	23-24	470	-302-16-1-0
44	3830-83-VIP	462	3750H	428	300-14-F15/16-HP	436	23-30	470	-302-16-2-0
	3830-86-VIP		3816-300		300T-I-SETW		23-36		-302-16-4-0
	3830-89-VIP		3818-300-PROG-100		300T-IW		2401EFRMH		-302-18-0-0
	3830-92-VIP		3818-300-PROG-5P		301		2421S-140		-302-18-2-0
	3830-95-VIP		3830-102-VIP		303-5P		2421S-160		-303-14-2-0
	3830-98-VIP		3830-105-VIP		306		2421S-180		-303-16-0-0
	3832-102		3830-108-VIP		3090-20-XT11-HP		2427S-160		-303-16-1-0
	3832-105		3830-111-VIP		31 R US		2427S-200		-303-16-2-0
	3832-108		3830-114-VIP		3100TB		2430S-140		-303-16-4-0
	3832-111		3830-121-VIP		3100TBTS4		2430S-160		-303-18-0-0
	3832-114		3830-127-VIP		3150-12-XT9-HP		2430S-200		-303-18-2-0
	3832-121		3830-133-VIP		317		2444		-304-14-0-0
	3832-127		3830-140-VIP		3180-14-XT11-HP		2444-LAP		-304-14-2-0
	3832-133		3830-146-VIP		319		2446		-304-14-4-0
	3832-14		3830-14-VIP		319-TH		2446-SAFE		-304-16-0-0
	3832-140		3830-152-VIP		32242		2448		·304-16-1-0
	3832-146		3830-16-VIP		32244		2489		-304-16-1-0 -304-16-2-0
	3832-152		3830-17-VIP		32246		2500-16-XT-HP		-304-16-2-0
	3832-16		3830-19-VIP		3240-14-XT11-HP		2500-19-XT-HP		-304-16-4-0 -304-18-0-0
	3832-17		3830-20-VIP		32442		2500-19-X1-HP		-304-18-2-0
	3832-19		3830-21-VIP		32444		25003MRMHW		-470-14-2-0
	3832-20		3830-22-VIP		32446		2502MRMHW		-470-14-4-0
	3832-21		3830-24-VIP		325		2502MRPHW		-470-16-1-0
	3832-22		3830-25-VIP		32834-TH		2503EFRMH		-471-16-1-0
	3832-24		3830-27-VIP		33 HR US		2503-F-MT2W		-472-14-2-0
	3832-25		3830-29-VIP		331-21-51-KP		2503MFRMH-TH		!-472-16-0-0
	3832-27		3830-30-VIP		332-21-51		2503MFRMHW		-472-16-1-0
	3832-29		3830-32-VIP		333		2503MFRPHW		-472-16-2-0
	3832-30		3830-33-VIP		333-5		250MFIMHSSW		001-I-MT2W
44	3832-32	446	3830-35-VIP	66	350NMIMHW	516	2520 S	65	002MRMHW
	3832-33	116	3830-37-VIP	103	3524-TH	E12	2521S-140	66	



4000		8							
Product Code	Page #	Product Code F	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
3832-35	449	3833-44-C	445	3834-EXT-2	451	3940-100-14-SC-2P.	454	3940-150-6-ST-10P	455
3832-37	449	3833-48-C	445	3834-UPSIZE	451	3940-100-14-SC-5P.	454	3940-150-6-ST-2P	455
3832-38	449	3833-51-C	445	3845-18-10P	459	3940-100-14-ST-10P	455	3940-150-6-ST-5P	455
3832-40	449	3833-54-C	445	3845-24-100P-BULK	459	3940-100-14-ST-2P	455	3940-150-8/12-ST-100I	P 455
3832-41	449	3833-57-C	445	3845-24-10P	459	3940-100-14-ST-5P		3940-150-8/12-ST-10P	
3832-43		3833-60-C	445	3845-32-100P-BULK		3940-100-18-SC-2P.		3940-150-8/12-ST-2P	
3832-44	449	3833-64-C	445	3845-32-10P		3940-100-18-SC-5P		3940-150-8/12-ST-5P	
3832-46	449	3833-65-C	445	3846-100-DG-ST-2P		3940-100-18-ST-10P		3940-228-10/14-PR09-100	
3832-48	449	3833-67-C							
3832-51	449	3833-68-C	445	3846-100-G-ST-2P		3940-100-18-ST-2P		3940-228-10/14-PR09-10F	
3832-52	449	3833-70-C	445	3846-150-10-HST-1P		3940-100-18-ST-5P		3940-228-10/14-PR13-100	
3832-54	449	3833-73-C	445	3846-150-6-DSL-1P .		3940-100-24-SC-2P.		3940-228-10-DSL-10I	
3832-56		3833-76-C		3846-150-6-SL-1P		3940-100-24-SC-5P.		3940-228-10-DSL-2P	457
3832-57		3833-77-C	445	3846-150-8-HST-1P	460	3940-100-24-ST-10P	455	3940-228-10-DSL-5P	457
3832-59	449	3833-79-C	445	3846-150-DG-ST-2P	461	3940-100-24-ST-2P	455	3940-228-10-HST-10F	P 454
3832-60	449	3833-83-C	445	3846-228-10-HST-1P	460	3940-100-24-ST-5P	455	3940-228-10-HST-2P	454
3832-64		3833-86-C		3846-228-3-ST-1P	461	3940-150-10-HST-10	P 454	3940-228-10-HST-5P	454
3832-65		3833-89-C		3846-228-6-DSL-1P	460	3940-150-10-HST-2P	454	3940-228-10-ST-100F	ك 455
3832-67		3833-92-C		3846-228-6-ST-1P	461	3940-150-10-HST-5P	454	3940-228-10-ST-10P.	455
3832-68		3833-95-C		3846-228-8-HST-1P	460	3940-150-10-ST-100I	P 455	3940-228-10-ST-2P	455
3832-70		3833-98-C		3846-300-10-HST-1P	460	3940-150-10-ST-10P		3940-228-10-ST-5P	455
3832-73		3833-SET-101		3846-300-2-CB-1P		3940-150-10-ST-2P		3940-228-14-HST-10F	P454
3832-76		3833-SET-201		3846-300-3-ST-1P		3940-150-10-ST-5P		3940-228-14-HST-2P	
3832-79		3834-ADP		3846-300-6-DSL-1P		3940-150-14-HST-10		3940-228-14-HST-5P	
3832-83		3834-ARBR-11152		3846-300-6-ST-1P					
3832-86						3940-150-14-HST-2P		3940-228-14-ST-100F	
3832-89		3834-ARBR-11152QC	451	3846-300-8-HST-1P		3940-150-14-HST-5P		3940-228-14-ST-10P.	
3832-92		3834-ARBR-1130		3846-457-2-CB-1P		3940-150-14-ST-100I		3940-228-14-ST-2P	
3832-95		3834-ARBR-16152QC	451	3870-SG11		3940-150-14-ST-10P		3940-228-14-ST-5P	455
3832-98		3834-ARBR-630		3875-BP1	492	3940-150-14-ST-2P		3940-228-18-HST-10F	
3833-102C		3834-ARBR-730		3906-250-18-100		3940-150-14-ST-5P	455	3940-228-18-HST-2P	454
3833-105C		3834-ARBR-9100	451	3906-250-18-5P	440	3940-150-18-HST-10	P 454	3940-228-18-HST-5P	454
3833-103C		3834-ARBR-9100EL	451	3906-250-24-100	440	3940-150-18-HST-2P	454	3940-228-18-ST-100F	² 455
		3834-ARBR-9100ES	451	3906-250-24-5P	440	3940-150-18-HST-5P	454	3940-228-18-ST-10P.	455
3833-109C		3834-ARBR9100ESM	451	3906-250-32-100	440	3940-150-18-ST-100I	P 455	3940-228-18-ST-2P	455
3833-111C		3834-ARBR-9100QC	451	3906-250-32-5P	440	3940-150-18-ST-10P	455	3940-228-18-ST-5P	455
3833-114C		3834-ARBR-930	451	3906-300-14-100	440	3940-150-18-ST-2P	455	3940-228-5/8-DSL-10	P457
3833-121C		3834-ARBR-930EL	451	3906-300-14-10P	440	3940-150-18-ST-5P	455	3940-228-5/8-DSL-2P	·457
3833-127C		3834-ARBR-930ES	451	3906-300-14-5P	440	3940-150-24-ST-100I	P 455	3940-228-5/8-DSL-5P	·457
3833-140C		3834-ARBR-930ESM	451	3906-300-18-100		3940-150-24-ST-10P		3940-228-6-SL-10P	
3833-152C		3834-ARBR-SD152QC		3906-300-18-10P		3940-150-24-ST-2P		3940-228-6-SL-2P	
3833-159C		3834-ARBR-SD30		3906-300-18-2P		3940-150-24-ST-5P		3940-228-6-SL-5P	
3833-19-C		3834-DRL		3906-300-18-5P		3940-150-4/6-SC-10		3940-228-8/12-PR13-100	
3833-20-C		3834-DRL-CT							
3833-22-C				3906-300-24-100		3940-150-4/6-SC-2P		3940-228-8/12-ST-100	
3833-25-C		3834-DRL-EL		3906-300-24-10P		3940-150-4/6-SC-5P		3940-228-8/12-ST-10F	
3833-27-C		3834-DRL-EL		3906-300-24-2P		3940-150-5/8-DSL-1		3940-228-8/12-ST-2P	
3833-29-C		3834-DRL-ES		3906-300-24-5P		3940-150-5/8-DSL-2	P 457	3940-228-8/12-ST-5P	'455
3833-30-C		3834-DRL-ES		3906-300-32-100		3940-150-5/8-DSL-5	P 457	3940-300-10-HST-10F	P 454
3833-32-C		3834-DRL-HSS-ES	451	3906-300-32-10P	440	3940-150-5/8-SL-100	P 456	3940-300-10-HST-2P	454
3833-35-C		3834-DRL-L	451	3906-300-32-2P	440	3940-150-5/8-SL-10F	P 456	3940-300-10-HST-5P	454
3833-38-C		3834-ES	451	3906-300-32-5P	440	3940-150-5/8-SL-2P	456	3940-300-14-HST-10F	P 454
3833-40-C		3834-EXT-1	451	3906-300-3P	440	3940-150-5/8-SL-5P	456	3940-300-14-HST-2P	454
3833-41-C	445								

								V	VILLIA	MS
	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
)	3940-300-14-HST-5P	454	3946-300-6-ST-1P	461	420SH-120-600	485	4750-HDLB-1	488	6MV-17	517
	3940-300-14-ST-100F	P455	396-LAP	428	420SH-120-800	485	4750-HHO-2	488	6MV-18	517
	3940-300-14-ST-10P.	455	4-138-08-1-0	471	420SH-140-400	485	4750-KP-1	488	6MV-19	517
	3940-300-14-ST-2P		4-138-10-1-0	471	420SH-175-400	485	4750PTB50	489	6MV-8	517
	3940-300-14-ST-5P		4-140-06-1-0	471	420SH-50-100	485	4750PTB60	489	6MV-9	517
	3940-300-18-HST-10F		4-140-08-1-0	471	420SH-50-200	485	4750PTB65TS4	427	7224S	514
	3940-300-18-HST-2P		4-140-10-1-0	471	420SH-60-120	485	4750PTW47	489	7502MRMHW	65
	3940-300-18-HST-5P		4-150-07-3-0	471	420SH-60-300	485	4750-UP-1	488	752MFRMHW	65
	3940-300-18-ST-100F		4-152-08-2-2	472	420SH-80-160	485	4750-UP-1TS5	427	75MFIMHSSW	66
	3940-300-18-ST-10P		4-153-08-1-2	472	424P-10	483	501-I-MT2W	58	7800DMV-10	518
			4-154-08-2-2	464	424P-12	483	501MRMHW	65	7800DMV-11	518
	3940-300-18-ST-2P 3940-300-18-ST-5P		4-155-08-2-0	472	424P-18	483	50NMIMHW	66	7800DMV-12	518
			4-155-10-2-0	472	424P-25	483	50T-I-SETW	67	7800DMV-13	518
	3940-300-5/8-DSL-10		4-183-04-2-2	472	424P-32	483	50T-IW	67	7800DMV-14	518
	3940-300-5/8-DSL-2F		4-183-05-2-2	472	424P-6	483	51-12	436	7800DMV-15	518
	3940-300-5/8-DSL-5F		4-183-06-2-0	472	424P-6S-PP	483	51-21	436	7800DMV-16	518
	3940-300-6-SL-10P		4-183-06-2-2	472	424-S6-LR	483	51-24	436	7800DMV-17	518
	3940-300-6-SL-2P		4-183-07-2-0	472	426TOR9	487	51-30	436	7800DMV-18	518
	3940-300-6-SL-5P		4-183-08-2-0	472	434-10	483	51-36	436	7800DMV-19	518
	3940-300-8/12-SL-100		4-183-10-2-0	472	434-12	483	5T-I-SETW	67	7800DMV-8	518
	3940-300-8/12-SL-10I		4-186-04-2-0	473	434-18	483	5T-IW	67	782-U	481
	3940-300-8/12-SL-2F		4-186-04-2-2	473	434-25	483	6-342-08-1-0	474	800NMIMHW	66
	3940-300-8/12-SL-5F		4-186-05-2-0	473	434-32	483	6-342-08-1-2	474	806-1-1	517
	3942-150-7-SL-10P		4-186-05-2-2	473	434-38	483	6-342-08-2-2	474	8069 R US	177
	3942-150-7-SL-2P		4-186-06-2-0	473	434-6	483	6-342-10-1-0	474	8069 RC US	177
ノ	3942-150-7-SL-5P		4-186-06-2-2	473	434-S3-EUR	483	6-343-08-3-0	474	8070 R US	177
	3942-228-11-HSL-10I		4-186-07-2-0	473	434-S6-EUR	483	6-343-10-3-0	474	8070 RC US	177
	3942-228-11-HSL-2P		4-186-08-2-0	473	442	482	6-344-08-2-2	475	8070RCUS-TH	104
	3942-228-11-HSL-5P		4-187-04-2-0	473	449	482	6-345-08-2-2	475	8070V	517
	3942-228-5-HSL-10P		4-187-06-2-0	473	451	482	6004ERMH	60	8071 R US	177
	3942-228-5-HSL-2P		4-187-06-2-2	473	4553	486	6004-F-MT2W	58	8071 RC US	177
	3942-228-5-HSL-5P		4-187-07-2-0	473	4559-12	485	6004MFRMH-TH	108	8071RCUS-TH	104
	3942-228-7-HSL-10P		4-187-08-2-0	473	4559-18	485	6004MFRMHW	65	8071V	517
	3942-228-7-HSL-2P		4-188-06-2-0	473	4559-24	485	6004MFRPHW	64	8072 R US	177
	3942-228-7-HSL-5P		4-272-06-3-0	474	4559-30	485	600T-I-SETW		8072 RC US	177
	3942-228-7-SL-10P		4-288-06-2-0	473	4559-36	485	600T-IW	67	8072RCUS-TH	104
	3942-228-7-SL-2P		4004MFRMHW	65	4559-42	485	61NSMW	63	8072V	517
	3942-228-7-SL-5P		401NSMW	63	474-125-0.60	483	61SMW	63	8073 R US	177
	3942-300-5-HSL-10P		401SMW	63	474-125-0.80	483	61SP-SETW	63	8073 RC US	177
	3942-300-5-HSL-2P		401SP-SETW	63	474-150-0.80	483	61SPW	63	8073RCUS-TH	104
	3942-300-5-HSL-5P		401SPW	63	4750-2PP-1	488	625	482	8073V	517
	3942-300-7-HSL-10P		416-400	487	4750-3PB-1	488	625-DROP	482	8074 R US	177
	3942-300-7-HSL-2P		416-600	487	4750-EP-1	488	625-PEAR	482	8074 RC US	177
	3942-300-7-HSL-5P		420SC-25	484	4750FB1-19A	490	625-ROUND	482	8074RCUS-TH	104
	3942-300-7-SL-10P		420SC-50	484	4750FB1-19B	490	650	482	8074V	517
	3942-300-7-SL-2P		420SH-100-200	485	4750FB2-19A	491	665	482	8075 R US	177
	3942-300-7-SL-5P		420SH-120-1000	485	4750FB2-24A	491	6MV-10	517	8075 RC US	177
	3944-300-3-MEAT-1P		420SH-120-1250	485	4750FB2W-24A		6MV-11		8075RCUS-TH	
	3946-100-G-ST-2P		420SH-120-1500	485	4750FB3-12		6MV-12		807SXUSA	
	3946-150-6-SL-1P		420SH-120-250	485	4750FB3-12TS4	426	6MV-13	517	808060	508
	3946-150-G-ST-2P		420SH-120-300	485	4750FB4-18	489	6MV-14	517	808061	508
	3946-228-3-ST-1P		420SH-120-400	485	4750FB5B	491	6MV-15	517	808062	508
	3946-300-3-ST-1P	461	420SH-120-500	485	4750FB5C	491	6MV-16	517	8150-1/2V	518
										627



Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
8160-1/2V	518	9071 RPC US	176	DR1X3.5-10PK	137	HSB-1.5A-TH	127	JHW1033C	162
8162-1/2V	518	9072 R US	177	DR1X3.5-50PK	137	HSSG-A0616M	481	JHW1037	162
850-1	482	9072 RC US	177	DR5X225100PK	137	HSSG-A1020M	481	JHW1037B	162
86	177	9072 RP US	176	DR5X22510PK	137	HSSG-A1225EC	481	JHW1038	162
862007	447	9072 RPC US	176	DR5X225NC100	137	HSSG-A1225M	481	JHW1038A	162
862013	447	9073 R US	177	DR5X225NC10P	137	HSSG-C0616M	481	JHW1039B	162
862017	447	9073 RC US	177	DR-CORD-10PK	137	HSSG-C1020M	481	JHW10507	188
862021	447	9073 RP US	176	DR-MICRO10PK	137	HSSG-C1225EC	481	JHW10509	188
862109	447	9073 RPC US	176	EXTC2CCO10PK	92	HSSG-C1225M	481	JHW10600	167
862209	447	91CUS	175	EXTC2LCO10PK	92	HSSG-D0606M	481	JHW10602	167
863307	448	92CUS	175	EXTH2HCO10PK	92	HSSG-D0807M	481	JHW10604	167
863313	448	93CUS	175	EXT-H2HCOIL	92	HSSG-D1009M	481	JHW10606	167
865-1	482	94CUS		EXTH2L1X72HD	91	HSSG-D1211EC	481	JHW10650	167
87	177	95CUS	175	EXTH2L1X72MD	91	HSSG-D1211M	481	JHW10650-TH	103
9-12-51/3806-KP.		96CUS		EXTH2LBU10PK	91	HSSG-E0614M		JHW10652	
9-36-23-KP		97CUS		EXTH2QRC10PK		HSSG-E1222EC		JHW10652-TH	
9-467-00-0-0		AG-BAG-36		EXT-H2QRCOIL		HSSG-E1222M		JHW10654	
9-484-3.2-10		AW2-1/2D		EXTH2R1X72HD		HSSG-F0618M		JHW10654-TH	
9-484-3.2-1P		BE-8010S		EXTT2T.5X12		HSSG-F1225M		JHW10656	
9-484-5.2-10		BE-8040S-TH		EXTT2T.5X24		HSSG-G0618M		JHW10656-TH	
9-484-5.2-1P		BE-8050S		EXTT2T.5X36		HSSG-G1220M		JHW10658	
9-485-04-1P		BE-8050S-TH		EXTT2T51210P		HSSG-G1225EC		JHW10658-TH	
9-485-05-1P		BE-8065S		EXTT2T51810P		HSSG-G1225M		JHW11030	
9-485-06-10		BE-8220S		EXTT2T510101		HSSG-M0618M		JHW11032	
9-485-06-1P		BE-8220S-TH		EXTT2T53610P		HSSG-M1227M		JHW1104MM	
9-485-09-10		BE-8230S		EXTT2TCOI10P		IM1-TH		JHW1105.5MM	
9-485-09-1P		BE-8255S		EXT-T2TCOIL		IM243P		JHW1105.5MM	
9-485-13-10		BE-8600S		FM10		ISSXTMD610		JHW1106MM	
9-485-13-1P		BE-8610S		HOL-1TOOLBLT		JH6CF05T03TB		JHW1107MM	
9-486-04-10		BE-8610S-TH		HOL1TOOLBLTR		JH6CF10T05TB		JHW1108MM	
9-486-04-1P		BE-8620S		HOL-1TOOLBER		JH6CF20T05TB		JHW1109MM	
9-486-05-10		BE-8620S-TH		HOL1TOOLHARR		JH6CF30T05TB		JHW1110MM	
9-486-05-1P		BE-8630S				JHISSX620S75		JHW1111MM	
				HOL-1TOOLXD				_	
9-486-07-1P		BE-8640S		HOL-2TOOLBLT		JHMWS1123NRC		JHW1112A	
9-486-08-10		BE-9881S		HOL2TOOLBLTR		JHMWS1124NRC		JHW1112MM	
9-486-C-10		BELTCOMF-2XL		HOL-2TOOLHAR		JHMWS1125NRC		JHW1113A	
9-486-C-1P		BELTCOMF-3XL		HOL2TOOLHARR		JHMWS1126NRC		JHW1113MM	
9-488-02-10		BELTCOMFL-XL		HOLADJRADIOC		JHSFH1819AW		JHW1114A	
9029 R US		BELTCOMF-M		HOL-BOTTLE		JHW097411A		JHW1114MM	
9029 RT US		BELTCOMF-S		HOLBOTTLECOM		JHW099965A		JHW1115A	
9031 R US		BELTDRLO10PK		HOLBOXWHARR		JHW100P-19MD.		JHW1115MM	
9031 RC US		BELTTRLO10PK		HOL-HAMMER		JHW100P-5MD		JHW1116A	
9031 RP US		BELT-TRLOOP		HOLHAMMERCON	Л 94	JHW100P-6PD		JHW1116MM	
9031 RT US	176	BKT-100DRAWC	97	HOL-POUCHRET	94	JHW100P-6SD		JHW1118A	
9033 R US	176	BKT-100HLC		HOLSCAFFWCOM	l 94	JHW100P-8MD	330	JHW1120A	
9035 R US		BKT-120SCAF	97	HOLSCAFFWRET	94	JHW100TAP	415	JHW1122A	164
9070 R US		BKT-48SCAF	97	HOL-TAPERET		JHW10107		JHW1124A	
9070 RC US	177	BKT-72SCAF	97	HOLTAPESLEEV	94	JHW10111	188	JHW1128A	164
9070 RP US	176	BKT-HBINSERT	97	HRFM10	476	JHW10113	188	JHW11310	
9070 RPC US	176	BS-63A	114	HS1.5X2-25PK	138	JHW1020		JHW11312	153
9071 R US	177	C-807-TH	129	HS1X175-25PK	138	JHW10213	188	JHW11314	153
9071 RC US	177	C-812-TH	129	HS-2X4-10PK	138	JHW1027B	162	JHW11316	153
9071 RP US	176	C-818-TH	129	HS-3X4-10PK	138	JHW1033A	162	JHW11318	153

JHW11320		Duaduat Cada	Dana #	Duadwat Cada Dana #	Dundant Code	Dana H	Duadrest Cada	Dana #
IH\M/11320	Page #	Product Code	Page #	Product Code Page #	Product Code	Page #		Page #
		JHW11957		JHW1209M 152	JHW1212RS		JHW1216RC	
JHW11322		JHW11958		JHW1209MNRC159	JHW1212RSC		JHW1216RCF	
JHW11324		JHW11959		JHW1209MRC 157	JHW1212SC		JHW1216RCS	
JHW1132A		JHW1195B		JHW1209MRCF 161	JHW1212SC-TH		JHW1216RC-TH	
JHW1136A		JHW11960		JHW1209MRCS160	JHW1212YSC		JHW1216RS	
JHW1140A		JHW11961		JHW1209MRCTH100	JHW1213M		JHW1216RSC	
JHW1143812TH		JHW11962		JHW1209MSC 148	JHW1213MNRC		JHW1216SC	
JHW11690		JHW11963		JHW1209MSCTH99	JHW1213MRC		JHW1216SC-TH	
JHW11691		JHW11964		JHW12100TOB 181	JHW1213MRCF		JHW1216YSC	
JHW11692		JHW11965		JHW1210BSC 146	JHW1213MRCS		JHW1217M	
JHW11692-TH		JHW11966		JHW1210M 152	JHW1213MRCTH		JHW1217MNRC	
JHW1178A		JHW11967		JHW1210MNRC159	JHW1213MRS		JHW1217MRC	
JHW1178AB	146	JHW11968	145	JHW1210MRC 157	JHW1213MSC		JHW1217MRCF	
JHW1180	142	JHW11969	145	JHW1210MRCF 161	JHW1213MSCTH		JHW1217MRCS	
JHW1180B	146	JHW1197	142	JHW1210MRCS160	JHW1214BSC	146	JHW1217MRCTH	100
JHW1180-TH		JHW11970	145	JHW1210MRCTH 100	JHW1214M	152	JHW1217MRS	154
JHW1182		JHW1197B	146	JHW1210MRS 154	JHW1214MNRC	159	JHW1217MSC	148
JHW1182B	146	JHW1198		JHW1210MSC 148	JHW1214MRC	157	JHW1217MSCTH	99
JHW1182-TH		JHW1198A	142	JHW1210MSCTH99	JHW1214MRCF	161	JHW1218BSC	146
JHW1184	142	JHW1198ABL	146	JHW1210NRC158	JHW1214MRCS	160	JHW1218MNRC	159
JHW1184B	146	JHW1198B	142	JHW1210RC156	JHW1214MRCTH	100	JHW1218MRC	157
JHW1184-TH	98	JHW1198BBL	146	JHW1210RCF161	JHW1214MRS	154	JHW1218MRCF	161
JHW1186	142	JHW1198BL	146	JHW1210RCS 160	JHW1214MSC	148	JHW1218MRCS	160
JHW1186B	146	JHW1198C	142	JHW1210RC-TH100	JHW1214MSCTH	99	JHW1218MRCTH	100
JHW1188	142	JHW1198CBL	146	JHW1210RS154	JHW1214NRC	158	JHW1218MRS	154
JHW1188B	146	JHW1199	142	JHW1210SC142	JHW1214RC	156	JHW1218MSC	148
JHW1190	142	JHW11990	145	JHW1210SC-TH98	JHW1214RCF	161	JHW1218MSCTH	99
JHW11900	153	JHW1199A	142	JHW1211M152	JHW1214RCS	160	JHW1218NRC	158
JHW11901	153	JHW1199ABL	146	JHW1211MNRC159	JHW1214RC-TH	100	JHW1218RC	156
JHW11902	153	JHW1199B	142	JHW1211MRC 157	JHW1214RS	154	JHW1218RCF	161
JHW11903	153	JHW1199BL	146	JHW1211MRCF 161	JHW1214RSC	150	JHW1218RCS	160
JHW11904	153	JHW1199C	142	JHW1211MRCS160	JHW1214SC	142	JHW1218RC-TH	100
JHW11905	153	JHW1199CBL	146	JHW1211MRCTH100	JHW1214SC-TH	98	JHW1218RS	154
JHW11906	153	JHW1206MNRC	159	JHW1211MRS154	JHW1214YSC	151	JHW1218RSC	150
JHW1190B	146	JHW1206MRC	157	JHW1211MSC 148	JHW1215M	152	JHW1218SC	142
JHW1191	142	JHW1206MSC		JHW1211MSCTH99	JHW1215MNRC		JHW1218SC-TH	98
JHW1191B	146	JHW1207MNRC		JHW1211RS154	JHW1215MRC	157	JHW1218YSC	
JHW1192		JHW1207MSC		JHW1211SC142	JHW1215MRCF		JHW1219M	
JHW11920		JHW1207MSCTH		JHW1212BSC 146	JHW1215MRCS		JHW1219MNRC	
JHW1192B		JHW1208M		JHW1212M 152	JHW1215MRCTH		JHW1219MRC	
JHW1193		JHW1208MNRC		JHW1212MNRC159	JHW1215MRS		JHW1219MRCF	
JHW1193B		JHW1208MRC		JHW1212MRC 157	JHW1215MSC		JHW1219MRCS	
JHW1194		JHW1208MRCF		JHW1212MRCF161	JHW1215MSCTH		JHW1219MRCTH	
JHW11940		JHW1208MRCS		JHW1212MRCS160	JHW1216BSC		JHW1219MRS	
JHW1194B		JHW1208MRCTH		JHW1212MRCTH100	JHW1216MNRC		JHW1219MSC	
JHW1195		JHW1208MSC		JHW1212MRS154	JHW1216MRC		JHW1219MSCTH	
JHW11950		JHW1208MSCTH		JHW1212MSC148	JHW1216MRCF		JHW1220BSC	
JHW11950		JHW1208NRC		JHW1212MSCTH99	JHW1216MRCS		JHW1220BSC	
JHW11952		JHW1208RC		JHW1212NRC158	JHW1216MRCTH		JHW1220MSC	
JHW11953		JHW1208RC-TH		JHW1212RC156	JHW1216MRS		JHW1220MSCTH	
JHW11954		JHW1208RS		JHW1212RCF161	JHW1216MSC		JHW1220NRC	
JHW11955	145	JHW1208SC	142	JHW1212RCS 160	JHW1216MSCTH	99	JHW1220RC	156

Toll Free 1 800 563 1293



JHMY220RCS	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
JHW1228BS	JHW1220RCS	160	JHW1226NRC	158	JHW1234NRC	158	JHW1252TOB	181	JHW13504	367
JHW122BRSC	JHW1220RC-TH	100	JHW1226RC	156	JHW1234RSC	150	JHW1252TSB	181	JHW13506	367
JHW1228DSC	JHW1220RS	154	JHW1226RC-TH	100	JHW1234SC	142	JHW1254TOB	181	JHW13508	367
JHW1228DSC-TH	JHW1220RSC	150	JHW1226RSC	150	JHW1234SC-TH	98	JHW1256TOB	181	JHW13510	367
JHW1229YSC	JHW1220SC	142	JHW1226SC	142	JHW1234TOB	181	JHW1258TOB	181	JHW13512	367
JHWY 1221MRC 159 JHWY 1227MRC 159 JHWY 1236MSC 151 JHWY 1260C 151 JHWY 1250C 367 JHWY 1250C 151 JHWY 1250C 367 JHWY 1250C 151 JHWY 1250C 367 JHWY 1250C 151 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367 JHWY 1250C 367	JHW1220SC-TH	98	JHW1226SC-TH	98	JHW1234TOE	180	JHW12601	153	JHW13514	367
JHWY 1221MSC	JHW1220YSC	151	JHW1226TSB	181	JHW1234TSB	181	JHW12603	153	JHW13516	367
JHW1221MSC	JHW1221MNRC	159	JHW1226YSC	151	JHW1234YSC	151	JHW12605	153	JHW13518	367
JHW122IMSCTH. 99 JHW1227MSCTH. 99 JHW1236NSCTH. 99 JHW12610	JHW1221MRC	157	JHW1227MNRC	159	JHW1236BSC	146	JHW12607	153	JHW13520	367
JHW1222BSC	JHW1221MSC	148	JHW1227MSC	148	JHW1236MSC	148	JHW1260TOB	181	JHW13522	367
JHW1222MRC 159 JHW1228MRC 159 JHW1236RSC 150 JHW12-614 255 JHW13528 367 JHW1222MRC 157 JHW1228RC 156 JHW1236SC-11 42 JHW12-616 255 JHW13532 367 JHW1222MSCTH 99 JHW1228RC 156 JHW1236SC-11 49 JHW12-616 255 JHW13532 367 JHW1222RSCTH 99 JHW1228RSC 150 JHW1236TOE 180 JHW12-620 255 JHW13542 367 JHW1222RC 158 JHW1228SC 150 JHW1236TOE 180 JHW12-622 255 JHW13542 367 JHW1222RCF 151 JHW1228SC-14 42 JHW1236TSS 181 JHW12-624 255 JHW13555 367 JHW1222RCF 151 JHW1228SC-14 99 JHW1236TSS 151 JHW12-624 255 JHW13550 367 JHW1222RCF 161 JHW1228TSE 180 JHW1236TSC 158 JHW12-625 255 JHW13550 367 JHW1222RCF 161 JHW1228TSE 181 JHW1236TSC 158 JHW12-626 255 JHW13551 367 JHW1222RCF 161 JHW1228TSE 181 JHW1236TSC 158 JHW12-626 255 JHW13552 367 JHW1222RSC 150 JHW1228TSE 181 JHW1236SC 142 JHW12-626 255 JHW13552 367 JHW1222RSC 150 JHW1228TSC 151 JHW1240SC 158 JHW12-626 255 JHW13553 367 JHW1222SC 142 JHW1230SC 146 JHW1240SC 159 JHW126TOB 181 JHW13555 367 JHW1222SC 151 JHW1230SC 146 JHW1240SC 159 JHW126TOB 181 JHW13555 367 JHW1222SC 151 JHW1230SC 146 JHW1240SC 159 JHW126TOB 181 JHW13550 367 JHW1222SMSC 151 JHW1230MSC 159 JHW1240TOE 180 JHW126TOB 181 JHW13550 367 JHW1222MSC 151 JHW1230MSC 159 JHW1240TOB 181 JHW1276TOB 181 JHW13550 367 JHW1223MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW1276TOB 181 JHW13560 367 JHW1223MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW1276TOB 181 JHW13560 367 JHW1223MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW1276TOB 181 JHW13560 367 JHW1223MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1223MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230MSC 159 JHW1240TOB 181 JHW1280TOB 258 JHW13570 367 JHW1224MSC 150 JHW1230MSC 159 JHW1240TOB 181 JHW1280TOB 258 JHW13570 367 JHW1224MSC 150 JHW1230MSC 159 JHW1240TOB 181 JHW1280TOB 25	JHW1221MSCTH.	99	JHW1227MSCTH.	99	JHW1236MSCTH	99	JHW12-610	255	JHW13524	367
JHW1222MRC 159 JHW1228MRC 159 JHW1236RSC 150 JHW12-614 255 JHW13528 367 JHW1222MRC 157 JHW1228RC 156 JHW1236SC-11 42 JHW12-616 255 JHW13532 367 JHW1222MSCTH 99 JHW1228RC 156 JHW1236SC-11 49 JHW12-616 255 JHW13532 367 JHW1222RSCTH 99 JHW1228RSC 150 JHW1236TOE 180 JHW12-620 255 JHW13542 367 JHW1222RC 158 JHW1228SC 150 JHW1236TOE 180 JHW12-622 255 JHW13542 367 JHW1222RCF 151 JHW1228SC-14 42 JHW1236TSS 181 JHW12-624 255 JHW13555 367 JHW1222RCF 151 JHW1228SC-14 99 JHW1236TSS 151 JHW12-624 255 JHW13550 367 JHW1222RCF 161 JHW1228TSE 180 JHW1236TSC 158 JHW12-625 255 JHW13550 367 JHW1222RCF 161 JHW1228TSE 181 JHW1236TSC 158 JHW12-626 255 JHW13551 367 JHW1222RCF 161 JHW1228TSE 181 JHW1236TSC 158 JHW12-626 255 JHW13552 367 JHW1222RSC 150 JHW1228TSE 181 JHW1236SC 142 JHW12-626 255 JHW13552 367 JHW1222RSC 150 JHW1228TSC 151 JHW1240SC 158 JHW12-626 255 JHW13553 367 JHW1222SC 142 JHW1230SC 146 JHW1240SC 159 JHW126TOB 181 JHW13555 367 JHW1222SC 151 JHW1230SC 146 JHW1240SC 159 JHW126TOB 181 JHW13555 367 JHW1222SC 151 JHW1230SC 146 JHW1240SC 159 JHW126TOB 181 JHW13550 367 JHW1222SMSC 151 JHW1230MSC 159 JHW1240TOE 180 JHW126TOB 181 JHW13550 367 JHW1222MSC 151 JHW1230MSC 159 JHW1240TOB 181 JHW1276TOB 181 JHW13550 367 JHW1223MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW1276TOB 181 JHW13560 367 JHW1223MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW1276TOB 181 JHW13560 367 JHW1223MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW1276TOB 181 JHW13560 367 JHW1223MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1223MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230MSC 159 JHW1240TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230MSC 159 JHW1240TOB 181 JHW1280TOB 258 JHW13570 367 JHW1224MSC 150 JHW1230MSC 159 JHW1240TOB 181 JHW1280TOB 258 JHW13570 367 JHW1224MSC 150 JHW1230MSC 159 JHW1240TOB 181 JHW1280TOB 25	JHW1222BSC	146	JHW1228BSC	146	JHW1236NRC	158	JHW12-612	255	JHW13526	367
JHW1222MRC 157 JHW1228NRC 158 JHW1238SC 149 JHW12616 255 JHW13530 367 JHW1222MSC 148 JHW1228RC 156 JHW1236SC 11 JHW1236SC 11 JHW122618 255 JHW13532 367 JHW1222NRC 158 JHW1228RSC 150 JHW1236TOB 181 JHW12620 255 JHW13532 367 JHW1222RC 158 JHW1228RSC 150 JHW1236TOB 181 JHW12622 255 JHW13550 367 JHW1222RC 158 JHW1228RSC 150 JHW1236TOB 180 JHW12-622 255 JHW13550 367 JHW1222RC 156 JHW1228SC 149 JHW1236TSB 181 JHW12-622 255 JHW13550 367 JHW1222RC 161 JHW1228TOE 180 JHW1236TSB 181 JHW12-624 255 JHW13550 367 JHW1222RC 161 JHW1228TOE 180 JHW1238SC 151 JHW12-628 255 JHW13552 367 JHW1222RC 161 JHW1228TOE 180 JHW1238SC 142 JHW12-628 255 JHW13552 367 JHW1222RC 150 JHW1229MSC 151 JHW1240SC 152 JHW12-628 255 JHW13555 367 JHW1222SC 151 JHW1229MSC 148 JHW1240SC 150 JHW1264TOB 181 JHW13555 367 JHW1222SC 151 JHW12308SC 144 JHW1240SC 150 JHW1264TOB 181 JHW13555 367 JHW1222SC 151 JHW1230MSC 151 JHW1240SC 152 JHW12650 181 JHW13555 367 JHW1222SC 151 JHW1230MSC 159 JHW1240TOB 181 JHW13556 367 JHW1222SC 151 JHW1230MSC 159 JHW1240TOB 181 JHW13556 367 JHW1222SMRC 159 JHW1230MSC 159 JHW1240TOB 181 JHW13550 367 JHW1222MSCT 151 JHW1230MSC 150 JHW1240TOB 181 JHW13550 367 JHW1222MSCT 151 JHW1230MSC 150 JHW1240TOB 181 JHW13550 367 JHW1223MSCT 150 JHW1230MSC 150 JHW1240TOB 181 JHW13550 367 JHW1223MSCT 150 JHW1230MSC 150 JHW1240TOB 181 JHW13550 367 JHW1223MSCT 150 JHW1230MSC 150 JHW1240TOB 181 JHW13560 367 JHW1223MSCT 150 JHW1230MSC 150 JHW1240TOB 181 JHW13560 367 JHW1223MSCT 150 JHW1230SC-T1 30 JHW1240TOB 181 JHW13560 367 JHW1224MSC 151 JHW1230SC-T1 30 JHW1240TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230SC-T1 30 JHW1240TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230SC-T1 30 JHW1240TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230SC-T1 30 JHW1240TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230SC-T1 30 JHW1240TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230SC-T1 30 JHW1240TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230SC-T1 30 JHW1240TOB 181 JHW13560 367 JHW1224NSC 150 JHW1230SC-T1 30 JHW1240TOB 181 JHW1240-61 258 JHW13570 367 JHW1224NSC 150 JHW123SSC-T1 30 JHW1240TOB 181			JHW1228MNRC	159	JHW1236RSC	150				
JHW1222MSC 148 JHW1228RC 156 JHW1238C-TH 98 JHW12618 255 JHW13532 367 JHW1222MSCTH 99 JHW1228RC 150 JHW1236TOB 181 JHW12-200 255 JHW13542 367 JHW1222RC 156 JHW1228SC 150 JHW1236TSB 181 JHW12-620 255 JHW13550 367 JHW1222RC 156 JHW1228SC 142 JHW1236TSB 181 JHW12-624 255 JHW13550 367 JHW1222RC 161 JHW1228SC 142 JHW1236TSB 181 JHW12-624 255 JHW13551 367 JHW1222RC 160 JHW1228TSB 181 JHW1238TSC 151 JHW12-626 255 JHW13551 367 JHW1222RC 160 JHW1228TSB 181 JHW1238TSC 151 JHW12-626 255 JHW13551 367 JHW1222RC 160 JHW1228TSB 181 JHW1238TSC 142 JHW12-630 255 JHW13553 367 JHW1222RS 154 JHW1228TSC 151 JHW12408SC 144 JHW12-630 255 JHW13553 367 JHW1222SBC 150 JHW1228TSC 151 JHW1240SC 150 JHW12-632 255 JHW13555 367 JHW1222SC 142 JHW13308ZCTH 143 JHW1240SC 150 JHW12-632 255 JHW13555 367 JHW1222SC 151 JHW1230MSC 146 JHW1240SC 150 JHW12-630 181 JHW13556 367 JHW1222SC 151 JHW1230MSC 146 JHW1240SC 150 JHW12-631 181 JHW13556 367 JHW1222SC 151 JHW1230MSC 149 JHW1240TOB 181 JHW126FT 181 JHW13556 367 JHW1222MSC 149 JHW1230MSC 149 JHW1240TOB 181 JHW127TOB 181 JHW13556 367 JHW1222MSC 149 JHW1230MSC 149 JHW1240TOB 180 JHW127TOB 181 JHW13560 367 JHW122MSC 149 JHW1230MSC 159 JHW1240TOB 180 JHW127TOB 181 JHW13560 367 JHW122MSC 149 JHW1230MSC 150 JHW1240TOB 181 JHW128TOB 181 JHW13560 367 JHW122MSC 149 JHW1230MSC 150 JHW1240TOB 181 JHW128TOB 181 JHW13560 367 JHW122MSC 149 JHW1230MSC 150 JHW124CT 140 JHW124CT 180 JHW128TOB 181 JHW13560 367 JHW122MSC 150 JHW1230MSC 151 JHW1230MSC 151 JHW124MSC 151 JHW128TOB 181 JHW13560 367 JHW122MSC 150 JHW1230MSC 150 JHW124CT 180 JHW128TOB 181 JHW13560 367 JHW122AMSC 149 JHW1230MSC 150 JHW124CT 180 JHW128TOB 181 JHW13560 367 JHW122AMSC 149 JHW1230MSC 151 JHW124CT 180 JHW128-FT 258 JHW13571 367 JHW122AMSC 150 JHW1230MSC 151 JHW124CT 180 JHW128-FT 258 JHW13571 367 JHW122AMSC 150 JHW1230MSC 151 JHW124CT 180 JHW128-FT 258 JHW13571 367 JHW122AMSC 150 JHW1230MSC 150 JHW124CT 180 JHW128-FT 258 JHW13577 367 JHW122AMSC 150 JHW1230MSC 150 JHW124CT 180 JHW124-FT 258 JHW13577 367 JHW122AMSC 151 JHW1332MSC 150 JHW124CT 180 J										
JHW1222MSCTH 99 JHW1228RC-TH 100 JHW1236TOB 181 JHW12-620 255 JHW13542 367 JHW1222RIC 158 JHW1228RC 150 JHW1236TSB 181 JHW12-622 255 JHW13554 367 JHW1222RCF 161 JHW1228SC-TH 98 JHW1236TSB 181 JHW12-626 255 JHW13551 367 JHW1222RCF 161 JHW1228SC-TH 98 JHW1236TSB 181 JHW12-626 255 JHW13551 367 JHW1222RCS 160 JHW1228TCB 180 JHW1238NRC 151 JHW12-626 255 JHW13552 367 JHW1222RSC 150 JHW1228TSB 181 JHW1238NRC 158 JHW12-628 255 JHW13552 367 JHW1222RSC 150 JHW1228TSB 181 JHW1238SC 142 JHW12-630 255 JHW13555 367 JHW1222RSC 150 JHW1228TSC 151 JHW1240SC 148 JHW12-632 255 JHW13555 367 JHW1222RSC 150 JHW1230NSC 148 JHW1240SC 142 JHW12-630 255 JHW13555 367 JHW1222RSC 151 JHW1230NSC 146 JHW1240SC 142 JHW12-630 255 JHW13555 367 JHW1222YSC 151 JHW1230NSC 146 JHW1240SC 142 JHW12-630 255 JHW13555 367 JHW1222YSC 151 JHW1230NSC 146 JHW1240SC 142 JHW12-630 255 JHW13555 367 JHW1222YSC 151 JHW1230NSC 146 JHW1240SC 150 JHW12-670 818 JHW13555 367 JHW1222YSC 151 JHW1230NSC 146 JHW1240SC 150 JHW12-670 818 JHW13550 367 JHW1223YSC 144 JHW1230NSC 149 JHW1240TOE 181 JHW127TOB 181 JHW13550 367 JHW1223MSC 148 JHW1230NSC 149 JHW1240TOE 180 JHW127TOB 181 JHW13560 367 JHW1223MSC 149 JHW1230NSC 150 JHW1240TSE 181 JHW124TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230NSC 150 JHW1240TSE 181 JHW124TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230NSC 150 JHW1240TSE 151 JHW124TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230NSC 150 JHW124C 142 JHW124TOB 181 JHW13560 367 JHW1224MSC 159 JHW1230SC 150 JHW124TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230SC 151 JHW124TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230SC 151 JHW124TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230SC 151 JHW124TOB 181 JHW13560 367 JHW1224MSC 150 JHW1230SC 151 JHW124TOB 181 JHW124TOB 181 JHW13560 367 JHW1224RSC 150 JHW1230SC 151 JHW124TOB 181 JHW124TOB 181 JHW13560 367 JHW1224RSC 150 JHW1230SC 151 JHW124TOB 181 JHW124TOB 258 JHW13571 367 JHW1224RSC 150 JHW1230SC 150 JHW124TOB 181 JHW124TOB 258 JHW13577 367 JHW1224RSC 150 JHW1232SC 150 JHW124TOB 181 JHW124TOB 258 JHW13577 367 JHW1224SSC 151 JHW1232SC 150 JHW123SSC										
JHW1222RRC										
JHW1222RC. 156 JHW1228SC. 142 JHW1236TSB. 181 JHW12-624										
JHW1222RCF. 161 JHW1228RC-TH 98 JHW1236YSC 151 JHW12-626 255 JHW13551 367 JHW1222RCS. 160 JHW1228TOE 180 JHW1238RC 158 JHW12-628 255 JHW13552 367 JHW1228RC 151 JHW1228TSB 181 JHW1238SC 142 JHW12-630 255 JHW13553 367 JHW1222RSC 151 JHW1228YSC 151 JHW1228YSC 151 JHW1228YSC 151 JHW1228YSC 152 JHW1258SC 146 JHW12-632 255 JHW13553 367 JHW1222RSC 150 JHW1228YSC 148 JHW1240RSC 150 JHW126ATOB 181 JHW13555 367 JHW1222SC. 142 JHW12308SC 146 JHW1240SC 142 JHW126GTOB 181 JHW13555 367 JHW1222YSC 151 JHW1230MSC 146 JHW1240SC 149 JHW126GTOB 181 JHW13555 367 JHW1223MNRC 159 JHW1230MSC 148 JHW1240TOB 181 JHW1270TOB 181 JHW13558 367 JHW1223MNRC 159 JHW1230MSC 148 JHW1240TOE 180 JHW1270TOB 181 JHW13558 367 JHW1223MNRC 148 JHW1230MSC 148 JHW1240TOE 180 JHW1270TOB 181 JHW13558 367 JHW1223MSCT 48 JHW1230MSC 148 JHW1240TOE 180 JHW1270TOB 181 JHW13560 367 JHW1224BSC 146 JHW1230NRC 158 JHW1240YSC 151 JHW128TOB 181 JHW13563 367 JHW1224BSC 146 JHW1230RC 156 JHW1240 142 JHW1284TOB 181 JHW13563 367 JHW1224MSC 157 JHW1230RC 150 JHW1242TH 98 JHW1284TOB 181 JHW13566 367 JHW1224MSC 151 JHW1230SC 142 JHW1242TD 181 JHW1284TOB 181 JHW13566 367 JHW1224MSC 158 JHW1230SC 140 JHW1242TD 98 JHW1294TOB 181 JHW13566 367 JHW1224MSC 158 JHW1230TSC 180 JHW1242TD 98 JHW1294TOB 181 JHW13560 367 JHW1224MSC 158 JHW1230TSC 180 JHW1244TOB 181 JHW12M-607 258 JHW13560 367 JHW1224RC 158 JHW1230TSC 180 JHW1244TOB 181 JHW12M-607 258 JHW13570 367 JHW1224RC 161 JHW1233MSC 148 JHW1244TOB 181 JHW12M-601 258 JHW13570 367 JHW1224RC 161 JHW1233MSC 148 JHW1244TOB 181 JHW12M-616 259 JHW13570 367 JHW1224RSC 140 JHW1232MSC 148 JHW1246B 146 JHW1246B 14										
JHW1222RCS										
JHW1222RS. 154 JHW1228YSC 151 JHW1240BSC 146 JHW12-632 255 JHW13553 367 JHW1222RSC 154 JHW1229MSC 151 JHW1240BSC 146 JHW12-632 255 JHW13554 367 JHW1222RSC 150 JHW1239MSC 148 JHW1240RSC 150 JHW1264TOB 181 JHW13555 367 JHW1222YSC 142 JHW1230BSC 146 JHW1240SC 142 JHW1266TOB 181 JHW13555 367 JHW1222YSC 151 JHW1230MRC 159 JHW1240TOB 181 JHW1269TOB 181 JHW13557 367 JHW1222YSC 151 JHW1230MSC 148 JHW1240TOB 181 JHW1270TOB 181 JHW13556 367 JHW1223YSC 159 JHW1230MSC 148 JHW1240TOB 181 JHW127TOB 181 JHW13556 367 JHW1223MSCT 149 JHW1230MSC 148 JHW1240TOB 181 JHW127TOB 181 JHW13556 367 JHW1223MSCT 149 JHW1230MSC 155 JHW1240TOB 181 JHW127TOB 181 JHW13560 367 JHW1223MSCT 149 JHW1230MSC 158 JHW1240TOB 181 JHW127TOB 181 JHW13562 367 JHW1224BSC 146 JHW1230RC 156 JHW1242 142 JHW128TOB 181 JHW13563 367 JHW1224MSC 157 JHW1230RSC 150 JHW1242 142 JHW128TOB 181 JHW13563 367 JHW1224MSC 157 JHW1230RSC 150 JHW1242 142 JHW128TOB 181 JHW13565 367 JHW1224MSC 157 JHW1230SC 142 JHW1242TOB 181 JHW1294TOB 181 JHW13566 367 JHW1224MSC 158 JHW1230SC 142 JHW1242TOB 181 JHW1294TOB 181 JHW13566 367 JHW1224MSC 158 JHW1230SC 140 JHW1242TOB 181 JHW1294TOB 181 JHW13566 367 JHW1224MSC 158 JHW1230TOE 180 JHW1247TOB 258 JHW13560 367 JHW1224MSC 156 JHW1230TSS 181 JHW1244TOB 258 JHW13560 367 JHW1224RSC 160 JHW1230TSS 181 JHW1244TOB 180 JHW12M-609 258 JHW13560 367 JHW1224RSC 160 JHW1230TSS 181 JHW1244TOB 181 JHW12M-610 258 JHW13560 367 JHW1224RSC 150 JHW1230TSS 181 JHW1244TOB 181 JHW12M-610 258 JHW13571 367 JHW1224RSC 150 JHW1230TSC 148 JHW124TOB 181 JHW12M-610 258 JHW13571 367 JHW1224RSC 150 JHW1232MSC 148 JHW1244TOB 181 JHW12M-612 258 JHW13575 367 JHW1224RSC 150 JHW1332MSC 148 JHW1244TOB 181 JHW12M-612 258 JHW13575 367 JHW1224RSC 150 JHW1332MSC 148 JHW1244TOB 181 JHW12M-616 259 JHW13575 367 JHW1224RSC 151 JHW1232MSC 148 JHW1244TOB 181 JHW12M-616 259 JHW13575 367 JHW1224RSC 151 JHW1232MSC 148 JHW1244TOB 181 JHW12M-619 258 JHW13575 367 JHW1224SSC 149 JHW1332SC 140 JHW1246TOB 181 JHW12M-619 258 JHW13575 367 JHW1225MSC 148 JHW1332SC 148 JHW1246TOB 181 JHW12M-622										
JHW1222RSC										
JHW1222RSC										
JHW122SC										
JHW1222SC-TH										
JHW122YSC										
JHW1223MNRC										
JHW1223MSC										
JHW1223MSCTH										
JHW1224BSC										
JHW1224MNRC										
JHW1224MRC 157 JHW1230RSC 150 JHW1242-TH 98 JHW1294TOB 181 JHW13566. 367 JHW1224MSC 148 JHW1230SC. 142 JHW124CDB 181 JHW12M-607 258 JHW13567. 367 JHW1224MSCTH 99 JHW1230SC-TH 98 JHW124TOE 180 JHW12M-608 258 JHW13568. 367 JHW1224NRC 158 JHW1230TOE 180 JHW124TSB 181 JHW12M-609 258 JHW13569. 367 JHW1224RC 156 JHW1230TSB 181 JHW1244 142 JHW12M-610 258 JHW13570. 367 JHW1224RC 161 JHW1230TSS 151 JHW1244B 146 JHW12M-610 258 JHW13571. 367 JHW1224RCS 160 JHW1232BSC 146 JHW1244TOB 181 JHW12M-612 258 JHW13572. 367 JHW1224RC-TH 100 JHW1232MSC 159 JHW1244TOB 181 JHW12M-613 258 JHW13573. 367 JHW1224RS 154 JHW123ZMSC 148 JHW1244TOE 180 JHW12M-614 258 JHW13573. 367 JHW1224RSC 150 JHW123ZMSCTH 99 JHW124GB 142 JHW12M-615. 258 JHW13575. 367 JHW1224SC 142 JHW123ZNSC 158 JHW124GB 146 JHW12M-616. 258 JHW13576. 367 JHW1224SC 142 JHW123ZNSC 158 JHW124GB 146 JHW12M-616. 258 JHW13577. 367 JHW1224SC 150 JHW123ZNSC 151 JHW124GB 140 JHW12M-616. 258 JHW13577. 367 JHW1224SC 150 JHW123ZNSC 150 JHW124GTOB 181 JHW12M-616. 258 JHW13577. 367 JHW1224TSB 181 JHW123ZNSC 150 JHW124GTOB 181 JHW12M-619 258 JHW13578. 367 JHW1224TSB 181 JHW123ZNSC 150 JHW124GTOB 181 JHW12M-619 258 JHW13578. 367 JHW1225MNRC 159 JHW123ZSC 150 JHW124GTOB 181 JHW12M-619 258 JHW13578. 367 JHW1225MNRC 159 JHW123ZSC 150 JHW124GTOB 181 JHW12M-620 258 JHW13578. 367 JHW1225MNRC 157 JHW123ZSC 150 JHW124GTOB 181 JHW12M-620 258 JHW13578. 367 JHW1225MNRC 159 JHW123ZSC 150 JHW124GTOB 181 JHW12M-620 258 JHW13578. 367 JHW1225MNRC 157 JHW123ZSC 150 JHW124GTOB 181 JHW12M-620 258 JHW1357B. 178 JHW1225MNRC 157 JHW123ZSC 150 JHW124GTOB 181 JHW12M-620 258 JHW1357B. 181 JHW1225MNRC 258 JHW133TDE 180 JHW124BB 142 JHW12M-622 258 JHW13625-TH 180 JHW1225MNRC 258 JHW133TDE 180 JHW124BB 142 JHW12M-622 258 JHW141 180 JHW1225MNRC 258 JHW133TDE 181 JHW124BB 142 JHW12M-624 258 JHW141 348 JHW1226MNRC 259 JHW1324BSC 148 JHW1234BSC 148 JHW124BTOB 181 JHW124BTOB 367 JHW1226MNRC 259 JHW141 234BSC 259 JHW141 348 JHW1226MNRC 259 JHW1324BSC 259 JHW141 348 JHW1226MNRC 259 JHW1324BSC 259 JHW141 348										
JHW1224MSC										
JHW1224MSCTH. 99 JHW1230SC-TH. 98 JHW1242TOE 180 JHW12M-608 258 JHW1368 367 JHW1224NRC. 158 JHW1230TOE 180 JHW124TSB 181 JHW12M-609 258 JHW13569 367 JHW1224RC 156 JHW1230TSB 181 JHW1244 142 JHW12M-610 258 JHW13570 367 JHW1224RCF 161 JHW1230YSC 151 JHW1244B 146 JHW12M-611 258 JHW13571 367 JHW1224RCS 160 JHW1232MSC 146 JHW1244-TH 98 JHW12M-612 258 JHW13572 367 JHW1224RC-TH 100 JHW1232MSC 159 JHW1244TOB 181 JHW12M-612 258 JHW13573 367 JHW1224RS 154 JHW1232MSC 148 JHW1244TOE 180 JHW12M-613 258 JHW13573 367 JHW1224RSC 150 JHW1232MSC 148 JHW1244TOE 180 JHW12M-613 258					_					
JHW1224NRC 158 JHW1230TOE 180 JHW1242TSB 181 JHW12M-609 258 JHW13569 367 JHW1224RC 156 JHW1230TSB 181 JHW1244 142 JHW12M-610 258 JHW13570 367 JHW1224RCF 161 JHW1230YSC 151 JHW1244B 146 JHW12M-611 258 JHW13571 367 JHW1224RCS 160 JHW1232BSC 146 JHW1244TH 98 JHW12M-612 258 JHW13572 367 JHW1224RC-TH 100 JHW1232MRC 159 JHW1244TOB 181 JHW12M-613 258 JHW13573 367 JHW1224RS 154 JHW1232MSC 148 JHW1244TOB 180 JHW12M-613 258 JHW13573 367 JHW1224RS 150 JHW1232MSCTH 99 JHW1244TOB 180 JHW12M-614 258 JHW13575 367 JHW1224SC 150 JHW1232MSC 158 JHW1246TOB 142 JHW12M-615 258 J										
JHW1224RC. 156 JHW1230TSB. 181 JHW1244. 142 JHW12M-610 258 JHW13570 367 JHW1224RCF. 161 JHW1230YSC 151 JHW1244B. 146 JHW12M-611 258 JHW13571 367 JHW1224RCS. 160 JHW1232BSC 146 JHW1244-TH. 98 JHW12M-612 258 JHW13572 367 JHW1224RC-TH. 100 JHW1232MRC. 159 JHW1244TOB 181 JHW12M-613 258 JHW13573 367 JHW1224RS. 154 JHW1232MSC 148 JHW1244TOE 180 JHW12M-614 258 JHW13574 367 JHW1224RSC. 150 JHW1232MSCTH 99 JHW1246 142 JHW12M-615 258 JHW13576 367 JHW1224SC. 142 JHW1232NRC 158 JHW1246B. 146 JHW12M-616 258 JHW13576 367 JHW1224SB. 181 JHW1232RC. 156 JHW1246-TH. 98 JHW12M-617 258										
JHW1224RCF 161 JHW1230YSC 151 JHW1244B 146 JHW12M-611 258 JHW13571 367 JHW1224RCS 160 JHW1232BSC 146 JHW1244TH 98 JHW12M-612 258 JHW13572 367 JHW1224RC-TH 100 JHW1232MNRC 159 JHW1244TOB 181 JHW12M-613 258 JHW13573 367 JHW1224RS 154 JHW1232MSC 148 JHW1244TOE 180 JHW12M-613 258 JHW13573 367 JHW1224RSC 150 JHW1232MSC 148 JHW1246D 142 JHW12M-614 258 JHW13575 367 JHW1224SC 150 JHW1232MSC 158 JHW1246B 146 JHW12M-616 258 JHW13576 367 JHW1224SC 142 JHW1232RSC 156 JHW1246TOB 181 JHW12M-616 258 JHW13577 367 JHW1224YSC 151 JHW1232RSC 150										
JHW1224RCS 160 JHW1232BSC 146 JHW1244TH 98 JHW12M-612 258 JHW13572 367 JHW1224RC-TH 100 JHW1232MNRC 159 JHW1244TOB 181 JHW12M-613 258 JHW13573 367 JHW1224RS 154 JHW1232MSC 148 JHW1244TOE 180 JHW12M-614 258 JHW13574 367 JHW1224RSC 150 JHW1232MSCTH 99 JHW1246 142 JHW12M-615 258 JHW13575 367 JHW1224SC 142 JHW1232NRC 158 JHW1246B 146 JHW12M-616 258 JHW13576 367 JHW1224SC 142 JHW1232NRC 158 JHW1246B 146 JHW12M-616 258 JHW13576 367 JHW1224SC 142 JHW1232NRC 156 JHW1246TH 98 JHW12M-617 258 JHW13577 367 JHW1224TSB 181 JHW1232NRC 150 JHW1246TOB 181 JHW12M-617 258 JHW1										
JHW1224RC-TH									JHW13571	367
JHW1224RS 154 JHW1232MSC 148 JHW1244TOE 180 JHW12M-614 258 JHW13574 367 JHW1224RSC 150 JHW1232MSCTH 99 JHW1246 142 JHW12M-615 258 JHW13575 367 JHW1224SC 142 JHW1232NRC 158 JHW1246B 146 JHW12M-616 258 JHW13576 367 JHW1224SC-TH 98 JHW1232RC 156 JHW1246TH 98 JHW12M-617 258 JHW13577 367 JHW1224TSB 181 JHW1232RC-TH 100 JHW1246TOB 181 JHW12M-618 258 JHW13578 367 JHW1224YSC 151 JHW1232RSC 150 JHW1246TOE 180 JHW12M-619 258 JHW13609 188 JHW1225MNRC 159 JHW1232SC 142 JHW1246TSB 181 JHW12M-620 258 JHW136025A 178 JHW1225MSC 157 JHW1232TOE 180 JHW1248 142 JHW12M-621 258 JHW13625-TH 180 JHW1225MSCTH 99 JHW1232TSB 181	JHW1224RCS	160			JHW1244-TH	98	JHW12M-612	258	JHW13572	367
JHW1224RSC 150 JHW1232MSCTH 99 JHW1246 142 JHW12M-615 258 JHW13575 367 JHW1224SC 142 JHW1232NRC 158 JHW1246B 146 JHW12M-616 258 JHW13576 367 JHW1224SC-TH 98 JHW1232RC 156 JHW1246TH 98 JHW12M-617 258 JHW13577 367 JHW1224TSB 181 JHW1232RC-TH 100 JHW1246TOB 181 JHW12M-618 258 JHW13578 367 JHW1224YSC 151 JHW1232RSC 150 JHW1246TOB 180 JHW12M-618 258 JHW13609 188 JHW1225MNRC 159 JHW1232SC 142 JHW1246TSB 181 JHW12M-629 258 JHW13625A 178 JHW1225MSC 157 JHW1232SC-TH 98 JHW1248 142 JHW12M-620 258 JHW13625-TH 104 JHW1225MSC 157 JHW1232TOE 180 JHW1248B 146 JHW12M-622 258 JHW13TH 180 JHW1226BSC 146 JHW1232TSB 181	JHW1224RC-TH	100								
JHW1224SC. 142 JHW1232NRC. 158 JHW1246B. 146 JHW12M-616. 258 JHW13576. 367 JHW1224SC-TH. 98 JHW1232RC. 156 JHW1246-TH. 98 JHW12M-617. 258 JHW13577. 367 JHW1224TSB. 181 JHW1232RC-TH. 100 JHW1246TOB. 181 JHW12M-618. 258 JHW13578. 367 JHW1224YSC. 151 JHW1232RSC. 150 JHW1246TOE. 180 JHW12M-619. 258 JHW13609. 188 JHW1225MNRC. 159 JHW1232SC. 142 JHW1246TSB. 181 JHW12M-620. 258 JHW13625A. 178 JHW1225MRC. 157 JHW1232SC-TH. 98 JHW1248. 142 JHW12M-620. 258 JHW13625-TH. 104 JHW1225MSC. 148 JHW1232TOE. 180 JHW1248B. 146 JHW12M-621. 258 JHW13TH. 180 JHW1226BSC. 146 JHW1232TSB. 181 JHW1248-TH. 98 JHW12M-622. 258 JHW140. 348 JHW1226MNRC. 146 <t< td=""><td>JHW1224RS</td><td> 154</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	JHW1224RS	154								
JHW1224SC-TH 98 JHW1232RC 156 JHW1246-TH 98 JHW12M-617 258 JHW13577 367 JHW1224TSB 181 JHW1232RC-TH 100 JHW1246TOB 181 JHW12M-618 258 JHW13578 367 JHW1224YSC 151 JHW1232RSC 150 JHW1246TOE 180 JHW12M-619 258 JHW13609 188 JHW1225MNRC 159 JHW1232SC 142 JHW1246TSB 181 JHW12M-620 258 JHW13625A 178 JHW1225MRC 157 JHW1232SC-TH 98 JHW1248 142 JHW12M-621 258 JHW13625-TH 104 JHW1225MSC 148 JHW1232TOE 180 JHW1248B 146 JHW12M-621 258 JHW13TH 180 JHW1225MSCTH 99 JHW1232TSB 181 JHW1248-TH 98 JHW12M-622 258 JHW140 348 JHW1226BSC 146 JHW1234PSC 151 JHW1248TOB 181 JHW12M-624 258 JHW14-1216 300 JHW1226MSC 148 JHW1234MSC 148	JHW1224RSC	150	JHW1232MSCTH.	99	JHW1246	142			JHW13575	367
JHW1224TSB 181 JHW1232RC-TH 100 JHW1246TOB 181 JHW12M-618 258 JHW13578 367 JHW1224YSC 151 JHW1232RSC 150 JHW1246TOE 180 JHW12M-619 258 JHW13609 188 JHW1225MRC 159 JHW1232SC 142 JHW1246TSB 181 JHW12M-620 258 JHW13625A 178 JHW1225MRC 157 JHW1232SC-TH 98 JHW1248 142 JHW12M-621 258 JHW13625-TH 104 JHW1225MSC 148 JHW1232TOE 180 JHW1248B 146 JHW12M-622 258 JHW13TH 180 JHW1225MSCTH 99 JHW1232TSB 181 JHW1248-TH 98 JHW12M-623 258 JHW140 348 JHW1226BSC 146 JHW1232YSC 151 JHW1248TOB 181 JHW12M-624 258 JHW14-1216 300 JHW1226MSC 148 JHW1234MSC 148 JHW1248TSB 181 JHW13500 367 JHW14-1218 300	JHW1224SC	142							JHW13576	367
JHW1224YSC 151 JHW1232RSC 150 JHW1246TOE 180 JHW12M-619 258 JHW13609 188 JHW1225MNRC 159 JHW1232SC 142 JHW1246TSB 181 JHW12M-620 258 JHW13625A 178 JHW1225MRC 157 JHW1232SC-TH 98 JHW1248 142 JHW12M-621 258 JHW13625-TH 104 JHW1225MSC 148 JHW1232TOE 180 JHW1248B 146 JHW12M-622 258 JHW13TH 180 JHW1225MSCTH 99 JHW1232TSB 181 JHW1248-TH 98 JHW12M-623 258 JHW140 348 JHW1226BSC 146 JHW1232YSC 151 JHW1248TOB 181 JHW12M-624 258 JHW141 348 JHW1226MNRC 159 JHW1234BSC 146 JHW1248TOE 180 JHW13213 188 JHW14-1216 300 JHW1226MSC 148 JHW1234MSC 148 JHW1248TSB 181 JHW13500 367 JHW14-1218 300	JHW1224SC-TH	98			JHW1246-TH	98	JHW12M-617	258		
JHW1225MNRC 159 JHW1232SC 142 JHW1246TSB 181 JHW12M-620 258 JHW13625A 178 JHW1225MRC 157 JHW1232SC-TH 98 JHW1248 142 JHW12M-621 258 JHW13625-TH 104 JHW1225MSC 148 JHW1232TOE 180 JHW1248B 146 JHW12M-622 258 JHW13TH 180 JHW1225MSCTH 99 JHW1232TSB 181 JHW1248-TH 98 JHW12M-623 258 JHW140 348 JHW1226BSC 146 JHW1232YSC 151 JHW1248TOB 181 JHW12M-624 258 JHW141 348 JHW1226MNRC 159 JHW1234BSC 146 JHW1248TOE 180 JHW13213 188 JHW14-1216 300 JHW1226MSC 148 JHW1248TSB 181 JHW13500 367 JHW14-1218 300	JHW1224TSB	181	JHW1232RC-TH	100	JHW1246TOB	181	JHW12M-618	258	JHW13578	367
JHW1225MRC 157 JHW1232SC-TH .98 JHW1248 142 JHW12M-621 .258 JHW13625-TH .104 JHW1225MSC 148 JHW1232TOE 180 JHW1248B 146 JHW12M-622 .258 JHW13TH .180 JHW1225MSCTH .99 JHW1232TSB .181 JHW1248-TH .98 JHW12M-623 .258 JHW140 .348 JHW1226BSC .146 JHW1232YSC .151 JHW1248TOB .181 JHW12M-624 .258 JHW141 .348 JHW1226MNRC .159 JHW1234BSC .146 JHW1248TOE .180 JHW13213 .188 JHW14-1216 .300 JHW1226MSC .148 JHW1248TSB .181 JHW13500 .367 JHW14-1218 .300	JHW1224YSC	151	JHW1232RSC	150	JHW1246TOE	180	JHW12M-619	258	JHW13609	188
JHW1225MSC 148 JHW1232TOE 180 JHW1248B 146 JHW12M-622 258 JHW13TH 180 JHW1225MSCTH 99 JHW1232TSB 181 JHW1248-TH 98 JHW12M-623 258 JHW140 348 JHW1226BSC 146 JHW1232YSC 151 JHW1248TOB 181 JHW12M-624 258 JHW141 348 JHW1226MNRC 159 JHW1234BSC 146 JHW1248TOE 180 JHW13213 188 JHW14-1216 300 JHW1226MSC 148 JHW1248TSB 181 JHW13500 367 JHW14-1218 300	JHW1225MNRC	159			JHW1246TSB	181				
JHW1225MSCTH99 JHW1232TSB181 JHW1248-TH98 JHW12M-623258 JHW140348 JHW1226BSC146 JHW1232YSC151 JHW1248TOB181 JHW12M-624258 JHW141	JHW1225MRC	157	JHW1232SC-TH	98			JHW12M-621	258	JHW13625-TH	104
JHW1226BSC	JHW1225MSC	148	JHW1232TOE	180	JHW1248B	146	JHW12M-622	258	JHW13TH	180
JHW1226MNRC159 JHW1234BSC146 JHW1248TOE	JHW1225MSCTH.	99	JHW1232TSB	181	JHW1248-TH	98	JHW12M-623	258	JHW140	348
JHW1226MSC148 JHW1234MSC148 JHW1248TSB181 JHW13500367 JHW14-1218300	JHW1226BSC	146	JHW1232YSC	151	JHW1248TOB	181	JHW12M-624	258	JHW141	348
	JHW1226MNRC	159	JHW1234BSC	146	JHW1248TOE	180	JHW13213	188	JHW14-1216	300
JHW1226MSCTH99 JHW1234MSCTH99 JHW1250TOB181 JHW13502367 JHW14-1220300	JHW1226MSC	148	JHW1234MSC	148	JHW1248TSB	181	JHW13500	367	JHW14-1218	300
	JHW1226MSCTH.	99	JHW1234MSCTH.	99	JHW1250TOB	181	JHW13502	367	JHW14-1220	300

								V	VILLIA	MS
	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
)	JHW14-1222	300	JHW14M-610	299	JHW1731A	162	JHW17-678	323	JHW207A	179
	JHW14-1224	300	JHW14M-611	299	JHW1731B	162	JHW17-680	323	JHW208A	179
	JHW14-1226	300	JHW14M-612	299	JHW1753-TC	59	JHW17-682	323	JHW209	179
	JHW14-1228	300	JHW14M-613	299	JHW17-6100	323	JHW17-684	323	JHW209A	179
	JHW14-1230	300	JHW14M-614	299	JHW17-6104	323	JHW17-686	323	JHW2101PG-7	352
	JHW14-1232	300	JHW14M-615	299	JHW17-6108	323	JHW17-688	323	JHW2-103A	253
	JHW14-1234	300	JHW14M-616	299	JHW17-6112	323	JHW17-690	323	JHW2-106A	253
	JHW14-1236	300	JHW14M-617	299	JHW17-6116	323	JHW17-692	323	JHW211	179
	JHW14-1238	300	JHW14M-618	299	JHW17-6118	323	JHW17-694	323	JHW211A	179
	JHW14-1240	300	JHW14M-619	299	JHW17-6120	323	JHW17-696	323	JHW2-140B	253
	JHW142	348	JHW14M-620	299	JHW17-6122	323	JHW1904A	178	JHW21661	386
	JHW143		JHW14M-621	299	JHW17-6124	323	JHW1905	178	JHW21HDG-5.5	351
	JHW144		JHW14M-622		JHW17-6126	323	JHW1905-TH		JHW21HDG-6	
	JHW14-612		JHW14M-623		JHW17-6128		JHW1906	178	JHW21HDG-7	
	JHW14-614		JHW14M-624		JHW17-6130		JHW1906B		JHW21HDG-8	
	JHW14-616		JHW14M-625		JHW17-6132		JHW1906-TH		JHW23070	
	JHW14-618		JHW14M-626		JHW17-6134		JHW1907		JHW23071	
	JHW14-620		JHW14M-627		JHW17-6136		JHW1907		JHW23072	
	JHW14-622		JHW14M-629		JHW17-6138		JHW1907A		JHW23072	
	JHW14-624		JHW14M-630		JHW17-6140		JHW1908		JHW23076	
	JHW14-626		JHW14M-632		JHW17-6142		JHW1908A		JHW23080	
	JHW14-628		JHW14M-634		JHW17-6144		JHW1908-TH		JHW23201	
	JHW14-630		JHW14M-635		JHW17-6146		JHW1909		JHW23202	
	JHW14-632		JHW14M-636		JHW17-6148		JHW1909A		JHW23203	
)	JHW14-634		JHW16-624	_	JHW17-6152		JHW1909-TH		JHW23210	
	JHW14-636		JHW16-626		JHW17-6156		JHW1910		JHW23211	
	JHW14-638		JHW16-628		JHW17-6160		JHW1910-TH		JHW23220	
	JHW14-640		JHW16-630		JHW17-6172		JHW1911		JHW23221	359
	JHW14-642		JHW16-632	312	JHW17-6184		JHW1911A		JHW23222	
	JHW14-644	296	JHW16-634	312	JHW17-632	323	JHW1911-TH	104	JHW23223	
	JHW14-646	296	JHW16-636	312	JHW17-634	323	JHW1912	178	JHW23224	360
	JHW14-648	296	JHW16-638	312	JHW17-636	323	JHW1912-TH	104	JHW23225	360
	JHW14M-1210	300	JHW16-640	312	JHW17-638	323	JHW2-02B	253	JHW23301	360
	JHW14M-1211	300	JHW16-642	312	JHW17-640	323	JHW20401	375	JHW23302	360
	JHW14M-1212	300	JHW16-644	312	JHW17-642	323	JHW20402	375	JHW23302A-TH	125
	JHW14M-1213	300	JHW16-646	312	JHW17-644	323	JHW204A	179	JHW23303	360
	JHW14M-1214	300	JHW16-648	312	JHW17-646	323	JHW205	179	JHW23303A-TH	125
	JHW14M-1215	300	JHW16-648BW		JHW17-648	323	JHW20542	374	JHW23304	360
	JHW14M-1216	300	JHW16-650	312	JHW17-648BW	320	JHW20542-TH	127	JHW23305	360
	JHW14M-1217	300	JHW16-652	312	JHW17-650	323	JHW20543	374	JHW23309	360
	JHW14M-1218	300	JHW16-654		JHW17-652	323	JHW20543-TH	127	JHW23310	360
	JHW14M-1219	300	JHW16-656		JHW17-654	323	JHW20544	374	JHW23310A-TH	125
	JHW14M-1220		JHW16-658	312	JHW17-656	323	JHW20544-TH	127	JHW23320	
	JHW14M-1221		JHW16-660	312	JHW17-658	323	JHW20545	374	JHW23321	360
	JHW14M-1222		JHW16-664		JHW17-660		JHW20545-TH		JHW23321A-TH	
	JHW14M-1223		JHW1721		JHW17-662		JHW20546		JHW2-33B	
	JHW14M-1224		JHW1723		JHW17-664		JHW20546-TH		JHW23503	
	JHW14M-1225		JHW1725		JHW17-666		JHW206		JHW23503	
	JHW14M-1227		JHW1725B		JHW17-668		JHW20651		JHW23506	
	JHW14M-1229		JHW1727		JHW17-670		JHW20678		JHW23506 JHW23506-TH	
)	JHW14M-1230		JHW1729		JHW17-670		JHW20678 JHW20678-TH		JHW23518	
	JHW14M-1232		JHW1729B		JHW17-672		JHW206B		JHW23518 JHW23521	
	JHW14M-1233	300	JHW1731	162	JHW17-676	323	JHW207	179	JHW23524	
										521

JHW31154-TH......113

JHW31208-TH......112

JHW31210-TH......112

JHW31212-TH......112

JHW31214-TH......112

JHW31216-TH......112

JHW31218-TH......112

JHW31220-TH......112

JHW31222-TH......112

JHW31224-TH......112

JHW31226-TH......112

JHW31228-TH......112

JHW31612BT 241

JHW31614BT 241

JHW31616BT241 JHW31618BT241

JHW31620BT 241

JHW31622BT 241

JHW31624BT 241

JHW31708BT 241

JHW31709BT 241

JHW31710BT 241

JHW31711BT 241

JHW31712BT 241

pplifast

WILLIAMS

JHW23543...... 356

JHW23801A 362

JHW23802A 362

JHW23803A 362

JHW23804A 362

JHW24101......336

JHW24102......336

JHW24103......336

JHW24104......336

JHW24105...... 336

JHW2420G-5......352

JHW2427G-6......353

JHW28307......358

JHW28309......358

JHW28351......358

JHW28449......378

JHW2979D-7..... 349

JHW2A-616......258

JHW2A-616-2......258

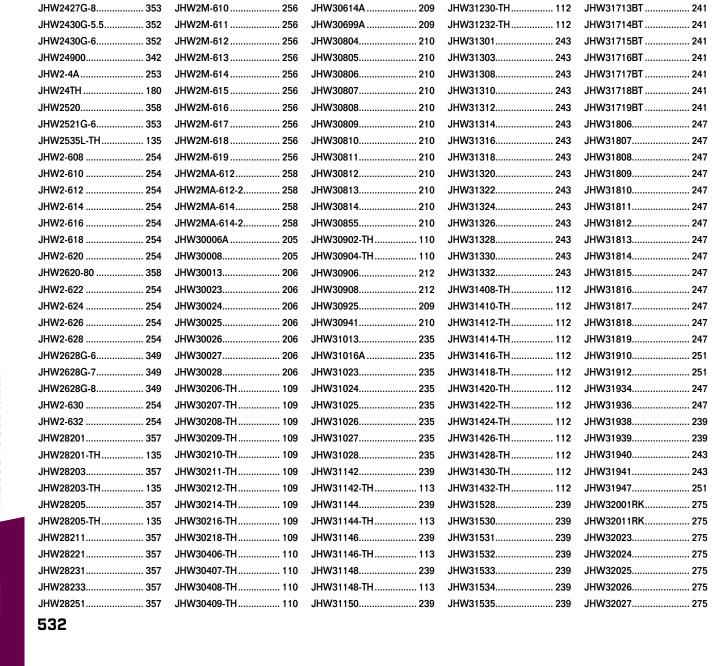
JHW2A-618......258

JHW2A-618-2..... 258

JHW2M-607 256

JHW2M-608 256

JHW2M-609 256



JHW30416-TH.....110

JHW30418-TH.....110

JHW30604A 209

JHW30605A 209

JHW30606A 209

JHW30607A 209

JHW30608A 209

JHW30609A 209

JHW30610A 209

JHW30611A 209

JHW30612A 209

JHW30613A 209

THE REAL PROPERTY.		X T						V	MILLIA	MS
	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
)	JHW32028	275	JHW32529	283	JHW32836-TH	117	JHW35051	212	JHW35184	251
	JHW32212-TH	115	JHW32530	283	JHW32904	287	JHW35052	212	JHW35185	251
	JHW32214-TH	115	JHW32532	283	JHW32908	288	JHW35053	212	JHW35186	251
	JHW32216-TH	115	JHW32534	283	JHW32941	283	JHW35070	211	JHW35187	251
	JHW32218-TH	115	JHW32536	283	JHW32943	283	JHW35070-TH	110	JHW35188	251
	JHW32220-TH	115	JHW32709	285	JHW32945	285	JHW35071	211	JHW35192	251
	JHW32222-TH	115	JHW32710	285	JHW32947	285	JHW35071-TH	110	JHW35193	251
	JHW32224-TH	115	JHW32711	285	JHW32949-TH	117	JHW35072	211	JHW35194	251
	JHW32226-TH	115	JHW32712	285	JHW32953	288	JHW35072-TH	110	JHW35195	251
	JHW32228-TH	115	JHW32713		JHW32960	266	JHW35073	211	JHW35196	251
	JHW32230-TH	115	JHW32714		JHW33008	305	JHW35073-TH	110	JHW35197	251
	JHW32232-TH		JHW32715		JHW33228-TH		JHW35074		JHW35198	
	JHW32234-TH		JHW32716		JHW33230-TH		JHW35074-TH		JHW3519M	
	JHW32236-TH		JHW32717		JHW33232-TH		JHW35075		JHW35202-TH	
	JHW32238-TH		JHW32718		JHW33234-TH		JHW35075-TH		JHW35203-TH	
	JHW32240-TH		JHW32719		JHW33236-TH		JHW35079		JHW35204-TH	
	JHW32248-TH		JHW32720		JHW33238-TH		JHW35080		JHW35204-TH	
	JHW32412-TH		JHW32721		JHW33240-TH		JHW35081		JHW35208-TH	
	JHW32414-TH		JHW32722		JHW33242-TH		JHW35082		JHW35210-TH	
	JHW32416-TH		JHW32723		JHW33244-TH		JHW35083		JHW35212-TH	
	JHW32418-TH		JHW32724		JHW33246-TH		JHW35084		JHW35214-TH	
	JHW32420-TH		JHW32725		JHW33248-TH		JHW35085		JHW3521M	
	JHW32422-TH		JHW32726		JHW33252-TH	119	JHW35100-TH		JHW3522M	168
	JHW32424-TH		JHW32727		JHW33256-TH	119	JHW35101-TH		JHW3524	
	JHW32426-TH	116	JHW32728		JHW33258-TH	119	JHW35102-TH	113	JHW3524M	168
/	JHW32428-TH	116	JHW32729	285	JHW33260-TH	119	JHW35103-TH	113	JHW3526	168
	JHW32430-TH	116	JHW32730	285	JHW33264-TH	119	JHW35104-TH	113	JHW35274	287
	JHW32432-TH	116	JHW32732	285	JHW33719	307	JHW35105-TH	113	JHW35274-TH	117
	JHW32434-TH	116	JHW32734	285	JHW33722	307	JHW35106-TH	113	JHW35275	287
	JHW32436-TH	116	JHW32736	285	JHW33723	307	JHW35107-TH	113	JHW35275-TH	117
	JHW32438-TH	116	JHW32809-TH	117	JHW33724	307	JHW35130	251	JHW35276	287
	JHW32440-TH	116	JHW32810-TH	117	JHW33727	307	JHW35131	251	JHW35276-TH	117
	JHW32448-TH	116	JHW32811-TH	117	JHW33730	307	JHW35132	251	JHW35277	287
	JHW32509	283	JHW32812-TH	117	JHW33732	307	JHW35133	251	JHW35277-TH	117
	JHW32510	283	JHW32813-TH	117	JHW33735	307	JHW35134	251	JHW35278	287
	JHW32511	283	JHW32814-TH	117	JHW33736	307	JHW35135	251	JHW35278-TH	117
	JHW32512	283	JHW32815-TH	117	JHW33738	307	JHW35136	251	JHW35279	287
	JHW32513	283	JHW32816-TH	117	JHW33741	307	JHW35137	251	JHW35279-TH	117
	JHW32514		JHW32817-TH		JHW33746		JHW35164		JHW3527M	
	JHW32515		JHW32818-TH		JHW33750	307	JHW35165		JHW3528	
	JHW32516		JHW32819-TH		JHW33755		JHW35166		JHW35283	
	JHW32517		JHW32820-TH		JHW33760		JHW35167		JHW35284	
	JHW32518		JHW32821-TH		JHW33932		JHW35168		JHW35285	
	JHW32519		JHW32822-TH		JHW35000-TH		JHW35169		JHW35286	
	JHW32520		JHW32823-TH		JHW35000-111		JHW35170		JHW35287	
			JHW32824-TH		JHW35001-TH		JHW35170			
	JHW32521				JHW35002-1H				JHW35294	
	JHW32522		JHW32825-TH				JHW35172		JHW35295	
	JHW32523		JHW32826-TH		JHW35004-TH		JHW35173		JHW35296	
	JHW32524		JHW32827-TH		JHW35005-TH		JHW35174		JHW35297	
)	JHW32525		JHW32828-TH		JHW35040		JHW35175		JHW35298	
/	JHW32526		JHW32829-TH		JHW35041		JHW35176		JHW35299	
	JHW32527		JHW32830-TH		JHW35042		JHW35182		JHW3530	
	JHW32528	283	JHW32832-TH	117	JHW35050	212	JHW35183	251	JHW3530M	168
										533

Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
JHW35310	255	JHW35524	295	JHW36430	256	JHW3728-TH	101	JHW37817	296
JHW35312	255	JHW35526	295	JHW36432	256	JHW3730	166	JHW37818	296
JHW35314	255	JHW35528	295	JHW36607	257	JHW3732	166	JHW37819	296
JHW35316	255	JHW3552M	168	JHW36608	257	JHW3732-TH	101	JHW3782	160
JHW35318	255	JHW35530	295	JHW36609	257	JHW3734	166	JHW37820	296
JHW3532	168	JHW35532	295	JHW36610	257	JHW3734-TH	101	JHW37821	296
JHW35320	255	JHW35534	295	JHW36611	257	JHW3736	166	JHW37822	296
JHW35322	255	JHW35536	295	JHW36612	257	JHW3736-TH	101	JHW37823	296
JHW35324	255	JHW35538	295	JHW36613	257	JHW3740	166	JHW37916	296
JHW35326	255	JHW3554	168	JHW36614	257	JHW3740-TH	101	JHW37918	295
JHW35328	255	JHW35540	295	JHW36615	257	JHW3744	166	JHW37923	295
JHW3532M	168	JHW35542	295	JHW36616	257	JHW3744-TH	101	JHW37924	296
JHW35330	255	JHW35544	295	JHW36617	257	JHW3746	166	JHW37925	298
JHW35332	255	JHW35546	295	JHW36618	257	JHW3746-TH	101	JHW38216	314
JHW3534	168	JHW35548	295	JHW36619	257	JHW3748	166	JHW38218	314
JHW3536	168	JHW3555M	168	JHW36810	257	JHW3748-TH	101	JHW38220	314
JHW3536M	168	JHW3556	168	JHW36811	257	JHW3752	166	JHW38224	314
JHW3537M	168	JHW3558	168	JHW36812	257	JHW3754	166	JHW38226	314
JHW3538	168	JHW3560	168	JHW36813	257	JHW3756	166	JHW38228	314
JHW3538M	168	JHW3560M	168	JHW36814	257	JHW3758	166	JHW38232	314
JHW3540	168	JHW3562	168	JHW36815	257	JHW3760	166	JHW38236	31!
JHW35407	259	JHW3564	168	JHW36816	257	JHW37610	298	JHW38240	314
JHW35408	259	JHW3565M	168	JHW36817	257	JHW37611	298	JHW38420	311
JHW35409	259	JHW3568	168	JHW36818	257	JHW37612	298	JHW38422	311
JHW3540M	168	JHW3572	168	JHW36819	257	JHW37613	298	JHW38424	311
JHW35410		JHW3576	168	JHW36906		JHW37614		JHW38426	311
JHW35411		JHW35810		JHW36910		JHW37615	298	JHW38428	
JHW35412		JHW35812		JHW36912	254	JHW37616	298	JHW38430	311
JHW35413		JHW35814		JHW36922	256	JHW37617	298	JHW38432	311
JHW35414		JHW35817	315	JHW36923	257	JHW37618		JHW38434	311
JHW35415		JHW35819	315	JHW36TH	180	JHW37619	298	JHW38436	311
JHW35416		JHW35821	315	JHW3712	166	JHW37620	298	JHW38438	31
JHW35417	259	JHW35824	315	JHW3714	166	JHW37621	298	JHW38440	311
JHW35418		JHW35827	315	JHW3716		JHW37622		JHW38442	311
JHW35419		JHW35830		JHW3716-TH		JHW37623		JHW38444	
JHW3541M		JHW35832		JHW3718		JHW37624		JHW38446	
JHW3542		JHW36212		JHW3718-TH		JHW37625		JHW38448	
JHW3542M		JHW36214		JHW3720		JHW37626		JHW38450	
JHW3544		JHW36216		JHW3720-TH		JHW37627		JHW38452	
JHW3544M		JHW36218		JHW37216		JHW37628		JHW38454	
JHW3546		JHW36220		JHW37218		JHW37629		JHW38456	
J	100	3111100220	207	5111101210	233	5111107020	230	5111100100	

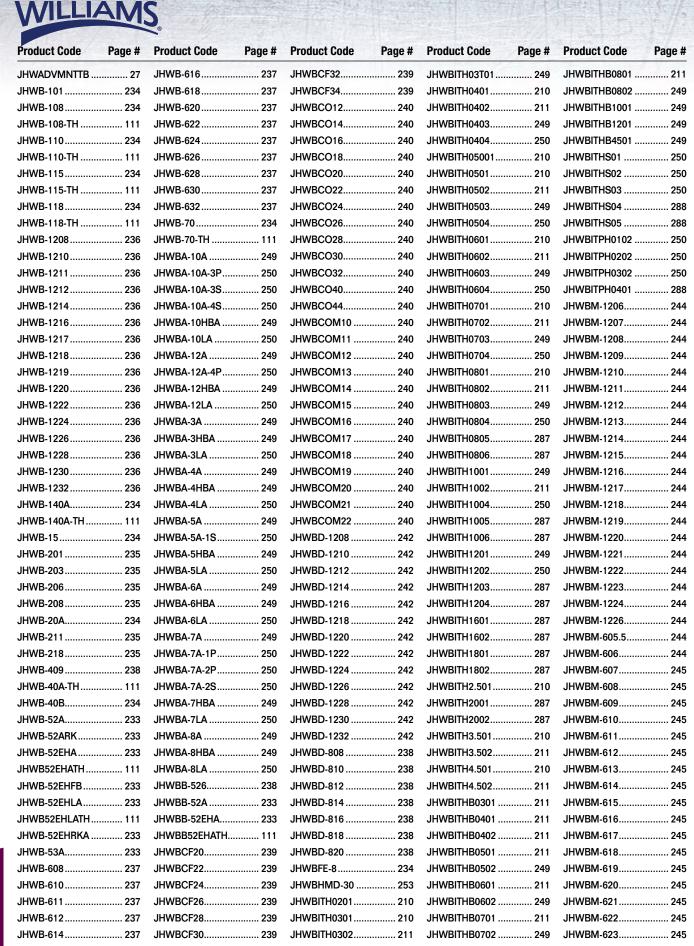
		XI.							VILLIA	MS
	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
)	JHW3M05T75	416	JHW41180	325	JHW4-644	294	JHW50001A	53	JHW5E05H1GR	412
	JHW3M10T160	416	JHW41182	325	JHW4-646	294	JHW50003A	53	JHW5E10H2G	409
	JHW3M20T160	416	JHW41184	325	JHW4-648	294	JHW50005A	53	JHW5E10H2GR	412
	JHW3S12TV	417	JHW41186	325	JHW471	185	JHW50007A	53	JHW5E15H3G	409
	JHW3S20TV	417	JHW41188	325	JHW471-TH	105	JHW50601B	201	JHW5E15H3GR	412
	JHW3T12TV	417	JHW41190	325	JHW472	185	JHW50602B	201	JHW5EA05H1G	411
	JHW3T20TV	417	JHW41192	325	JHW472-TH	105	JHW50603B	230	JHW5ES05H1G	410
	JHW40000	482	JHW41194	325	JHW474	185	JHW50604B	202	JHW5ES05H1GR	410
	JHW40000-TH	133	JHW41196	325	JHW474A	185	JHW50605B	227	JHW5ES05H2G	410
	JHW40052	500	JHW41200	325	JHW474A-TH	105	JHW50607B	226	JHW5ES05H2GR	410
	JHW40082	501	JHW41204	325	JHW474B	185	JHW50609	270	JHW5ES10H2G	410
	JHW40084	501	JHW41208		JHW474-TH	105	JHW50611B	199	JHW5ES10H2GR	410
	JHW40150		JHW41212		JHW482	185	JHW50612B		JHW5ES15H3G	
	JHW40151		JHW41220		JHW482-TH		JHW50613B		JHW5ES15H3GR	
	JHW40152		JHW41224		JHW483		JHW50614B		JHW5ES15H5G	
	JHW40153		JHW41226		JHW483-TH		JHW50615B		JHW5ES15H5GR	
	JHW40154		JHW41228		JHW484		JHW50617B		JHW5G102H5G	
	JHW40155		JHW4-140B		JHW484-TH		JHW50619		JHW5HD2S100	
			-							
	JHW40155-30P		JHW42301		JHW4A-620		JHW50622B		JHW5HD2S500	
	JHW40159		JHW42302		JHW4A-620-2		JHW50661B		JHW5HS1S120	
	JHW40201		JHW42304A		JHW4A-622		JHW50662B		JHW5HS1S60	
	JHW40221		JHW4-2F		JHW4A-622-2		JHW50663	_	JHW5HS2S100	
	JHW40222		JHW4-33B		JHW4A-624		JHW50664		JHW5HS2S200	
	JHW40223		JHW4-35B		JHW4A-624-2		JHW50665	_	JHW5HS2S35	
	JHW40224		JHW43603		JHW4A-628	289	JHW50666	231	JHW6004-TC	
	JHW40251		JHW43605		JHW4A-628-2	289	JHW50667		JHW608SC	
	JHW40252		JHW43607		JHW4M04T		JHW50668		JHW6-0XS	309
	JHW40253	503	JHW43611	370	JHW4M10T	419	JHW50669	271	JHW6-107	309
	JHW40254	503	JHW43613	370	JHW4M-610	297	JHW50671	230	JHW6-110	309
	JHW40255	503	JHW43615	370	JHW4M-611	297	JHW50672B	203	JHW6-113	309
	JHW40256	503	JHW43617	370	JHW4M-612	297	JHW50673	232	JHW612SC	144
	JHW40257	503	JHW43618	370	JHW4M-613	297	JHW50681	202	JHW6-140B	309
	JHW4-102	293	JHW43619	370	JHW4M-614	297	JHW50721A	50	JHW614SC	144
	JHW4-105A	293	JHW43621	369	JHW4M-615	297	JHW50722A	50	JHW616SC	144
	JHW4-110A	293	JHW43631	369	JHW4M-616		JHW50723A	50	JHW618SC	144
	JHW41144	325	JHW4-53B	293	JHW4M-617	297	JHW50950B	51	JHW6-1A	309
	JHW41146	325	JHW4-6	293	JHW4M-618	297	JHW50951B	51	JHW6-1XS	309
	JHW41148		JHW4-612		JHW4M-619		JHW50952B		JHW620SC	
	JHW41150		JHW4-614		JHW4M-620		JHW5102		JHW6223	
	JHW41152		JHW4-616		JHW4M-621		JHW5103		JHW6224	
	JHW41154		JHW4-618		JHW4M-622		JHW527D-6		JHW6225	
	JHW41156		JHW4-620		JHW4M-623		JHW55100SPG		JHW622SC	
	JHW41158		JHW4-622		JHW4M-624		JHW55TAP		JHW624SC	
									JHW626SC	
	JHW41160		JHW4-624		JHW4M-625		JHW55TKSA			
	JHW41162		JHW4-626		JHW4M-626		JHW5AD150M		JHW628SC	
	JHW41164		JHW4-628		JHW4M-627		JHW5AS150		JHW6-2B	
	JHW41166		JHW4-630		JHW4M-629		JHW5AS150L		JHW6-2C	
	JHW41168		JHW4-632		JHW4M-630		JHW5AS200		JHW6-2XS	
	JHW41170		JHW4-634		JHW4M-632		JHW5AS380		JHW630SC	
)	JHW41172		JHW4-636		JHW4M-634		JHW5AS380L		JHW632SC	
/	JHW41174		JHW4-638		JHW4M-636		JHW5AS60		JHW6-3XS	
	JHW41176		JHW4-640	294	JHW4T06T		JHW5D73H10G		JHW640SC	
	JHW41178	325	JHW4-642	294	JHW4T10T	417	JHW5E05H1G	409	JHW6-4A	309
										535



Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Product Code Page # Prod			®							
JHW6-S151 30 JHW6-C1512 32 JHW6-CH0703 30 JHW6-M-620 313 JHW7-1264 222 JHW6-610A 310 JHW6-C5701 392 JHW6-C15702 402 JHW6-M-630 313 JHW7-1266 322 JHW6-62A 310 JHW6-C5701 392 JHW6-C15702 402 JHW6-M-630 313 JHW7-1276 322 JHW6-62A 310 JHW6-C5704 392 JHW6-C15702 402 JHW6-M-630 313 JHW7-1276 322 JHW6-62A 310 JHW6-C5704 392 JHW6-C15702 402 JHW6-M-630 313 JHW7-1276 322 JHW6-62A 310 JHW6-C5706 392 JHW6-C15706 395 JHW6-M-630 313 JHW7-1276 322 JHW6-63A 310 JHW6-C5710 392 JHW6-C15706 395 JHW6-M-630 313 JHW7-1276 322 JHW6-63D 310 JHW6-C5711 392 JHW6-C15706 395 JHW6-M-630 313 JHW7-1276 322 JHW6-63D 310 JHW6-C5711 392 JHW6-C15706 395 JHW6-M-640 313 JHW7-1276 322 JHW6-63D 310 JHW6-C5711 392 JHW6-C1570 395 JHW6-M-640 313 JHW7-1286 322 JHW6-63D 310 JHW6-C5711 392 JHW6-C1570 395 JHW6-M-640 313 JHW7-1286 322 JHW6-64D 310 JHW6-C5710 392 JHW6-C1570 395 JHW6-M-640 313 JHW7-1286 322 JHW6-64D 310 JHW6-C5710 392 JHW6-C1570 395 JHW6-M-640 313 JHW7-1286 322 JHW6-64D 310 JHW6-C5710 392 JHW6-C1570 395 JHW6-M-640 313 JHW7-1286 322 JHW6-64D 310 JHW6-C5710 392 JHW6-C1570 395 JHW6-M-640 310 JHW6-C5710 392 JHW6-C1570 395 JHW7-C1570 395 JHW7-1286 322 JHW6-64D 310 JHW6-C5710 392 JHW6-C1570 395 JHW7-1286 322 JHW6-65D 310 JHW6-C5710 396 JHW6-C1570 395 JHW7-1286 322 JHW6-65D 310 JHW6-C5710 396 JHW6-C1570 397 JHW6-C1570 397 JHW7-1286 322 JHW6-65D 310 JHW6-C15710 398 JHW6-C1570 391 JHW7-1286 322 JHW6-65D 310 JHW6-C15710 396 JHW6-C1570 391 JHW7-1286 322 JHW6-65D 310 JHW6-C15710 396 JHW6-C1570 391 JHW7-1286 322 JHW6-65D 310 JHW6-C55710 396 JHW6-C1570 391 JHW7-1286 322 JHW6-65D 310 JHW6-C55710 396 JHW6-C1570 391 JHW6-C1570 392 JHW7-1286 322 JHW7-65D 310 JHW6-C55710 396 JHW6-C1570 391 JHW6-C1570 392 JHW6-C1571 391 JHW6-C1571 391 JHW6-C1571 391 JHW6-C1571 391 JHW6-C1571 391 JHW6-C1571 391 JHW6-C1571 391 JHW6-C1571 391 JHW6-C1571 391	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
JHW6-620A 310 JHW6C15T14 392 JHW6CL10T01 402 JHW6M-63D 313 JHW7-1266 322 JHW6-620A 310 JHW6C25T01 392 JHW6CL20T02 402 JHW6M-63T 313 JHW7-1270 322 JHW6-62A 310 JHW6C25T06 392 JHW6CL30T02 402 JHW6M-63T 313 JHW7-1270 322 JHW6-62A 310 JHW6C25T06 392 JHW6CL30T02 402 JHW6M-63E 313 JHW7-1277 322 JHW6-62A 310 JHW6C25T06 392 JHW6CL30T02 395 JHW6M-63E 313 JHW7-1272 322 JHW6-63A 310 JHW6-62T06 392 JHW6CN100T02 395 JHW6M-63E 313 JHW7-1274 322 JHW6-63A 310 JHW6-62T10 392 JHW6CN100T02 395 JHW6M-63E 313 JHW7-1276 322 JHW6-63A 310 JHW6-62T10 392 JHW6CN100T03 395 JHW6M-63E 313 JHW7-1276 322 JHW6-63A 310 JHW6-62T10 392 JHW6CN100T10 395 JHW6M-63E 313 JHW7-1278 322 JHW6-63A 310 JHW6-62T10 392 JHW6-CN100T10 395 JHW6M-63E 313 JHW7-1278 322 JHW6-63B 310 JHW6-62T10 392 JHW6-CN100T10 395 JHW6M-64E 313 JHW7-1284 322 JHW6-63B 310 JHW6-65T04 392 JHW6-CN100T10 395 JHW6M-64E 313 JHW7-1284 322 JHW6-63B 310 JHW6-65T04 395 JHW6-65T04 395 JHW6-65T03 418 JHW7-1284 322 JHW6-64B 310 JHW6-65T06 392 JHW6-CN50T02 395 JHW6-65T03 418 JHW7-1284 322 JHW6-64B 310 JHW6-65T06 392 JHW6-CN50T06 395 JHW6-65T10 410 JHW7-1284 322 JHW6-64B 310 JHW6-65T06 392 JHW6-CN50T0 395 JHW703B-T1 10 JHW7-1294 322 JHW6-64B 310 JHW6-65T06 392 JHW6-CN50T10 395 JHW703B-T1 10 JHW7-1294 322 JHW6-65B 310 JHW6-65T06 392 JHW6-CN50T10 395 JHW703B-T1 10 JHW7-1294 322 JHW6-65B 310 JHW6-65T06 395 JHW6-CN50T10 395 JHW703B-T1 10 JHW7-1294 322 JHW6-65B 310 JHW6-CN50T10 396 JHW6-CN50T10 395 JHW703B-T1 10 JHW7-1296 322 JHW7-65B 310 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T10 396 JHW6-CN50T	JHW6-4XS	309	JHW6C15T10	392	JHW6CH30T06	399	JHW6M-624A	313	JHW7-1262	322
JHW-620A 310 JHW-62707 392 JHW-6L30702 402 JHW-6H-631 313 JHW-7-1278 322 JHW-62AA 310 JHW-625706 392 JHW-6L30702 402 JHW-6H-632 313 JHW-7-1272 322 JHW-62BA 310 JHW-625706 392 JHW-6L00707 402 JHW-6H-632 313 JHW-7-1272 322 JHW-62BA 310 JHW-625706 392 JHW-6CN007070 395 JHW-6H-635 313 JHW-7-1276 322 JHW-6S0A 310 JHW-625706 392 JHW-6CN007070 395 JHW-6H-635 313 JHW-7-1276 322 JHW-6S0A 310 JHW-625710 392 JHW-6CN007070 395 JHW-6H-636 313 JHW-7-1276 322 JHW-6S0A 310 JHW-625711 392 JHW-6CN007070 395 JHW-6H-636 313 JHW-7-1278 322 JHW-6S0A 310 JHW-625712 392 JHW-6CN007070 395 JHW-6H-646 313 JHW-7-1278 322 JHW-6S0A 310 JHW-625712 392 JHW-6CN007070 395 JHW-6H-646 313 JHW-7-1289 322 JHW-6S0A 310 JHW-625712 392 JHW-6CN00710 395 JHW-6H-646 313 JHW-7-1289 322 JHW-6S0A 310 JHW-625710 392 JHW-6CN00710 395 JHW-6H-646 313 JHW-7-1288 322 JHW-6S0A 310 JHW-655706 392 JHW-6CN00710 395 JHW-6S0A 310 JHW-7-1288 322 JHW-6S0A 310 JHW-655706 392 JHW-6CN00710 395 JHW-6S0A 310 JHW-7-1288 322 JHW-6S0A 310 JHW-655706 392 JHW-6CN00710 395 JHW-70380 169 JHW-7-1288 322 JHW-6S0A 310 JHW-655706 392 JHW-6CN00710 395 JHW-7030C-110 JHW-7-1289 322 JHW-6S0A 310 JHW-6CN00710 396 JHW-6CN00710 395 JHW-7030C-110 JHW-7-1289 322 JHW-6S0A 310 JHW-6CN00710 396 JHW-6CN00710 395 JHW-7030C-110 JHW-7-1292 322 JHW-6S0A 310 JHW-6CN00710 396 JHW-6CN00710 395 JHW-7030C-110 JHW-7-1292 322 JHW-6S0A 310 JHW-6CN00710 396 JHW-6CN00710 395 JHW-7030C-110 JHW-7-1296 322 JHW-6S0A 310 JHW-6CN00710 396 JHW-6CN00710 396 JHW-6CN00710 396 JHW-6CN00710 396 JHW-6CN00710 396 JHW-6CN00710 391 JHW-7-107 319 JHW-7-107 319 JHW-7-108 322 JHW-6CN00710 396 JHW-6CN00710 391 JHW-7-107 319 JHW-7-107 319 JHW-7-108 322 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 391 JHW-6CN00710 3	JHW6-5XS	309	JHW6C15T12	392	JHW6CH60T03	399			JHW7-1264	322
JHW6-622A 310 JHW6-C25T04 392 JHW6-CL30T02 402 JHW6-M-634 313 JHW7-1270 322 JHW6-62BA 310 JHW6-C25T06 392 JHW6-CL30T02 395 JHW6-M-634 313 JHW7-1274 322 JHW6-62BA 310 JHW6-C25T06 392 JHW6-CN100T02 395 JHW6-M-636 313 JHW7-1274 322 JHW6-630 310 JHW6-C25T06 392 JHW6-CN100T02 395 JHW6-M-636 313 JHW7-1276 322 JHW6-630 310 JHW6-C25T0 392 JHW6-CN100T03 395 JHW6-M-636 313 JHW7-1276 322 JHW6-630 310 JHW6-C25T10 392 JHW6-CN100T03 395 JHW6-M-636 313 JHW7-1276 322 JHW6-630 310 JHW6-C25T10 392 JHW6-CN100T10 395 JHW6-M-646 313 JHW7-1280 322 JHW6-630 310 JHW6-C25T10 392 JHW6-CN100T10 395 JHW6-M-646 313 JHW7-1280 322 JHW6-638 310 JHW6-CS5T06 392 JHW6-CN100T10 395 JHW6-M-646 313 JHW7-1284 322 JHW6-638 310 JHW6-CS5T06 392 JHW6-CN100T10 395 JHW6-M-646 313 JHW7-1284 322 JHW6-640 310 JHW6-CS5T06 392 JHW6-CN100T10 395 JHW6-M-646 310 JHW6-CS5T06 392 JHW6-CN100T10 395 JHW7-CN100T10 395 JHW7-CN100T10 395 JHW6-640 310 JHW6-CS5T06 392 JHW6-CN100T10 395 JHW7-CN100T10 W6-618A	310	JHW6C15T14	392	JHW6CL10T01	402	JHW6M-630	313	JHW7-1266	322	
JHW6-62AA 310 JHW6-C25T06 392 JHW6-C100T02 395 JHW6-M-635 313 JHW7-1276 322 JHW6-62BA 310 JHW6-C25T06 392 JHW6-C100T04 395 JHW6-M-635 313 JHW7-1276 322 JHW6-63A 310 JHW6-C25T10 392 JHW6-C100T04 395 JHW6-M-635 313 JHW7-1276 322 JHW6-63A 310 JHW6-C25T12 392 JHW6-C100T06 395 JHW6-M-63B 313 JHW7-1278 322 JHW6-63A 310 JHW6-C25T12 392 JHW6-C100T06 395 JHW6-M-64 313 JHW7-1278 322 JHW6-S3A 310 JHW6-C25T12 392 JHW6-C100T06 395 JHW6-M-64 313 JHW7-1288 322 JHW6-S3A 310 JHW6-C35T04 392 JHW6-C100T07 395 JHW6-M-64 313 JHW7-1286 322 JHW6-G3B 310 JHW6-C35T04 392 JHW6-C100T07 395 JHW6-S5T03 418 JHW7-1286 322 JHW6-G3B 310 JHW6-C35T04 392 JHW6-CN55T02 395 JHW6-S5T03 418 JHW7-1286 322 JHW6-G40 310 JHW6-C55T04 392 JHW6-CN55T04 395 JHW6-S5T03 418 JHW7-1286 322 JHW6-G40 310 JHW6-C55T04 392 JHW6-CN55T06 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T04 395 JHW6-CN55T03 390 JHW6-CN55T03 390 JHW6-CN55T03 390 JHW6-CN55T03 390 JHW6-CN55T	JHW6-620A	310	JHW6C25T01	392	JHW6CL20T02	402	JHW6M-631	313	JHW7-1268	322
JHW6-626A 310 JHW6C25T08 392 JHW6CN100T02 395 JHW6M-635 313 JHW7-1278 322 JHW6-630A 310 JHW6C25T01 392 JHW6CN100T06 395 JHW6M-636 313 JHW7-1278 322 JHW6-630A 310 JHW6C25T10 392 JHW6CN100T06 395 JHW6M-641 313 JHW7-1282 322 JHW6-630A 310 JHW6C25T14 392 JHW6CN100T06 395 JHW6M-641 313 JHW7-1282 322 JHW6-636 310 JHW6C25T14 392 JHW6CN100T10 395 JHW6M-641 313 JHW7-1282 322 JHW6-636 310 JHW6C3T078 392 JHW6CN100T10 395 JHW6M-641 313 JHW7-1282 322 JHW6-636 310 JHW6C3T078 392 JHW6CN100T10 395 JHW6S5T03 418 JHW7-1282 322 JHW6-640 310 JHW6C3T076 392 JHW6CN100T12 395 JHW7029B 16 JHW7-1288 322 JHW6-640 310 JHW6CS5T04 392 JHW6CN100T12 395 JHW7029B 16 JHW7-1282 322 JHW6-640 310 JHW6CST071 392 JHW6CN100T12 395 JHW7029B 16 JHW7-1282 322 JHW6-640 310 JHW6CST071 392 JHW6CN100T12 395 JHW7030B 169 JHW7-1282 322 JHW6-640 310 JHW6CST071 392 JHW6CN100T12 395 JHW7030B 169 JHW7-1282 322 JHW6-640 310 JHW6CST071 392 JHW6CN100T12 395 JHW7030B 169 JHW7-1282 322 JHW6-640 310 JHW6CST071 392 JHW6CN100T12 395 JHW7030B 169 JHW7-1282 322 JHW6-640 310 JHW6CN100T02 396 JHW6CN100T12 395 JHW7030B 169 JHW7-1282 322 JHW6-652 310 JHW6CN100T02 396 JHW6CN100T02 396 JHW6CN100T02 395 JHW7030B 169 JHW7-1284 322 JHW6-658 310 JHW6CN100T02 396 JHW6CN100T02 396 JHW6CN100T02 396 JHW6CN100T02 396 JHW6CN100T02 397 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 322 JHW7-1284 3	JHW6-622A	310	JHW6C25T02	392	JHW6CL30T02	402	JHW6M-632	313	JHW7-1270	322
JHW6-638A 310 JHW6C25T01 392 JHW6CN100706 395 JHW6M-638 313 JHW7-1276 322 JHW6-630A 310 JHW6C25T11 392 JHW6CN100708 395 JHW6M-638 313 JHW7-1280 322 JHW6-634A 310 JHW6C25T14 392 JHW6CN100710 395 JHW6M-646 313 JHW7-1280 322 JHW6-634A 310 JHW6C25T14 392 JHW6-6100710 395 JHW6M-646 313 JHW7-1280 322 JHW6-638 310 JHW6C30708 392 JHW6-6100712 395 JHW6-646 313 JHW7-1280 322 JHW6-638 310 JHW6C30708 392 JHW6-6100712 395 JHW6-5103 418 JHW7-1280 322 JHW6-640 310 JHW6C55T02 392 JHW6-65070 395 JHW7-07098 199 JHW7-1280 322 JHW6-640 310 JHW6C55T04 392 JHW6-65070 395 JHW7-07098 199 JHW7-1280 322 JHW6-640 310 JHW6C55T06 392 JHW6-65070 395 JHW7-07098 199 JHW7-1280 322 JHW6-644 310 JHW6C5T071 392 JHW6-65070 395 JHW7-07098 199 JHW7-1280 322 JHW6-644 310 JHW6C5T071 392 JHW6-65071 392 JHW6-65071 395 JHW7-07098 199 JHW7-1280 322 JHW6-648 310 JHW6C5T071 392 JHW6-65051 395 JHW7-07098 199 JHW7-1280 322 JHW6-650 310 JHW6C75T08 396 JHW6CN55T10 395 JHW7033C-TH 101 JHW7-1280 322 JHW6-650 310 JHW6CA100710 396 JHW6CN55T0 400 JHW70308-TH 101 JHW7-1280 322 JHW6-650 310 JHW6CA100710 396 JHW6CP0705 400 JHW7039B-TH 101 JHW7-1280 322 JHW6-654 310 JHW6CA100710 396 JHW6CT1070 401 JHW7-071 319 JHW7-1408 319 JHW7-1408 319 JHW6-654 310 JHW6CA100710 396 JHW6CT10710 401 JHW7-110 319 JHW7-120 322 JHW7-868 310 JHW6CA100710 396 JHW6CT10710 401 JHW7-1110 322 JHW7-120 322 JHW7-860 310 JHW6CA30702 396 JHW6CT10710 401 JHW7-1110 322 JHW7-120 322 JHW7-860 310 JHW6CA30702 396 JHW6CH1071 313 JHW7-1210 322 JHW7-120 322 JHW7-860 310 JHW6CA30703 396 JHW6CH1071 313 JHW7-1210 322 JHW7-120 322 JHW7-860 310 JHW6CA30703 396 JHW6CH1071 310 JHW7-1210 322 JHW7-120 322 JHW7-860 310 JHW6CA30700 396 JHW6CH1071 391 JHW7-1210 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120 322 JHW7-120	JHW6-624A	310	JHW6C25T04	392	JHW6CL50T02	402	JHW6M-634	313	JHW7-1272	322
JHW6-630A 310 JHW6C25T10 322 JHW6CN100706 395 JHW6M-638 313 JHW7-1282 322 JHW6-634 310 JHW6CS2T12 392 JHW6CN100710 395 JHW6M-641 313 JHW7-1282 322 JHW6-636 310 JHW6CS0708 392 JHW6CN100710 395 JHW6M-646 313 JHW7-1282 322 JHW6-636 310 JHW6CS0708 392 JHW6CN100710 395 JHW6M-646 313 JHW7-1282 322 JHW6-638 310 JHW6CS5T02 392 JHW6CN100710 395 JHW6SD1703 418 JHW7-1286 322 JHW6-640 310 JHW6CS5T04 392 JHW6CN100710 395 JHW7029B 1 169 JHW7-1286 322 JHW6-642 310 JHW6CS5T04 392 JHW6CN15T06 395 JHW7029B 1 169 JHW7-1282 322 JHW6-646 310 JHW6CS5T03 392 JHW6CN15T08 395 JHW7029B 1 169 JHW7-1282 322 JHW6-646 310 JHW6CS5T03 392 JHW6CN15T08 395 JHW7030C 169 JHW7-1282 322 JHW6-646 310 JHW6CST013 392 JHW6CN15T08 395 JHW7030C 169 JHW7-1282 322 JHW6-648 310 JHW6CST013 392 JHW6CN15T08 395 JHW7030C 169 JHW7-1282 322 JHW6-648 310 JHW6CN1070C 396 JHW6CN15T10 395 JHW7030C 169 JHW7-1282 322 JHW6-658 310 JHW6CN1070C 396 JHW6CN15T10 395 JHW7030C 169 JHW7-1286 322 JHW6-658 310 JHW6CN1070C 396 JHW6CN15T10 395 JHW7030C 169 JHW7-1286 322 JHW6-658 310 JHW6CN1070C 396 JHW6CN1070C 400 JHW7030H 101 JHW7-128 322 JHW6-658 310 JHW6CN1070C 396 JHW6CN1070C 401 JHW70-107 319 JHW7-108 319 JHW7-128 320 JHW6-668 310 JHW6CN10710 396 JHW6CN1070C 401 JHW70-107 319 JHW7-12 320 JHW7-668 310 JHW6CN1070C 396 JHW6CN10710 401 JHW7-110 319 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 JHW7-12 322 J	JHW6-626A	310	JHW6C25T06	392	JHW6CN100T02	395	JHW6M-635	313	JHW7-1274	322
JHW6-632A 310 JHW6C25T14 392 JHW6CN100T06 395 JHW6M-646 313 JHW7-1282 322 JHW6-636 310 JHW6C5T0708 392 JHW6CN100T10 395 JHW6M-646 313 JHW7-1284 322 JHW6-638 310 JHW6C55T070 392 JHW6CN5T070 395 JHW6SDT070 418 JHW7-1284 322 JHW6-648 310 JHW6C5ST070 392 JHW6CNST070 395 JHW7029B-TH 101 JHW7-1286 322 JHW6-642 310 JHW6CSST070 392 JHW6CNST070 395 JHW7029B-TH 101 JHW7-1286 322 JHW6-644 310 JHW6CSST071 392 JHW6CNST070 395 JHW7029B-TH 101 JHW7-1286 322 JHW6-644 310 JHW6CST071 392 JHW6CNST070 395 JHW7039B-TH 101 JHW7-1290 322 JHW6-648 310 JHW6C75T08 392 JHW6CNST071 395 JHW7039B-TH 101 JHW7-1294 322 JHW6-688 310 JHW6C75T08 392 JHW6CNST071 395 JHW7039B-TH 101 JHW7-1294 322 JHW6-688 310 JHW6C75T07 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW7039B-TH 101 JHW7-1296 322 JHW6-689 310 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW7039B-TH 101 JHW7-1298 322 JHW6-689 310 JHW6CNST070 390 JHW6CP02T05 400 JHW7039B-TH 101 JHW7-1408 312 JHW6-689 310 JHW6CNST070 390 JHW6CNST070 400 JHW7039B-TH 101 JHW7-1408 312 JHW6-689 310 JHW6CNST070 390 JHW6CNST070 400 JHW7039B-TH 101 JHW7-1408 312 JHW6-689 310 JHW6CNST070 390 JHW6CNST070 401 JHW7-1710 319 JHW7-1408 320 JHW6-680 310 JHW6CNST070 390 JHW6CNST070 401 JHW7-1710 319 JHW7-1710 322 JHW7-1710 320 JHW6-680 310 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 390 JHW6CNST070 39	JHW6-628A	310	JHW6C25T08	392	JHW6CN100T04	395	JHW6M-636	313	JHW7-1276	322
JHW6-634A. 310 JHW6C25T14. 392 JHW6CN100T10. 395 JHW6M-646. 313 JHW7-1284. 322 JHW6-636. 310 JHW6C5T02. 395 JHW6S5T03. 418 JHW7-1284. 322 JHW6-636. 310 JHW6C5T04. 392 JHW6CN15T02. 395 JHW6S5T03. 418 JHW7-1286. 322 JHW6-640. 310 JHW6C5ST04. 392 JHW6CN15T04. 395 JHW7029B. 119 JHW7-1286. 322 JHW6-644. 310 JHW6C5ST06. 392 JHW6CN15T06. 395 JHW7029B. 119 JHW7-1290. 322 JHW6-644. 310 JHW6C5T06. 392 JHW6CN15T06. 395 JHW7039C. 169 JHW7-1292. 322 JHW6-646. 310 JHW6C75T16. 392 JHW6CN15T10. 395 JHW7039C. 169 JHW7-1292. 322 JHW6-646. 310 JHW6C75T10. 395 JHW6CN15T12. 395 JHW7039C. 110 JHW7-1294. 322 JHW6-650. 310 JHW6CA100T02. 396 JHW6CN15T12. 395 JHW7039C. 110 JHW7-1296. 322 JHW6-652. 310 JHW6CA100T02. 396 JHW6CP02T05. 400 JHW7039B. 169 JHW7-1296. 322 JHW6-655. 310 JHW6CA100T04. 396 JHW6CP02T05. 400 JHW7039B. 110 JHW7-1296. 322 JHW6-658. 310 JHW6CA100T04. 396 JHW6CP02T05. 400 JHW7039B. 110 JHW7-1404. 319 JHW6-655. 310 JHW6CA100T06. 396 JHW6CP02T05. 400 JHW7039B. 110 JHW7-1404. 319 JHW6-655. 310 JHW6CA100T10. 396 JHW6CF10T10. 401 JHW7-107. 319 JHW7-140. 325 JHW6-658. 310 JHW6CA100T10. 396 JHW6CH10710. 401 JHW7-107. 319 JHW7-140. 325 JHW6-668. 310 JHW6CA30T04. 396 JHW6M-122. 313 JHW7-1210. 322 JHW7-275. 320 JHW6-666. 310 JHW6CA30T04. 396 JHW6M-122. 313 JHW7-1210. 322 JHW7-275. 320 JHW6-666. 310 JHW6CA30T04. 396 JHW6M-122. 313 JHW7-1210. 322 JHW7-275. 320 JHW6-666. 310 JHW6CA30T04. 396 JHW6M-122. 313 JHW7-1210. 322 JHW7-375. 320 JHW6-670. 310 JHW6CA50T0. 396 JHW6M-122. 313 JHW7-1210. 322 JHW7-375. 320 JHW6-670. 310 JHW6CA50T0. 396 JHW6M-122. 313 JHW7-1210. 322 JHW7-375. 320 JHW6-670. 310 JHW6CA50T0. 396 JHW6M-122. 313 JHW7-1210. 322 JHW7-375. 320 JHW6-670. 310 JHW6CA50T0. 396 JHW6M-122. 313 JHW7-1210. 322 JHW7-375. 320 JHW6-670. 390 JHW6CD0T07. 390 JHW6CD0T07. 390 JHW6CD0T07. 391 JHW6CD0T07. 392 JHW6CD0T07. 391 JHW6CD0T07. 392 JHW6CD0T07. 391 JHW6CD0T07. 391 JHW6CD0T07. 392 JHW6CD0T07. 391 JHW6CD0T07. 391 JHW6CD0T07. 392 JHW6CD0T07. 391 JHW6CD0T07. 391 JHW6CD0T07. 391 JHW6CD0T07. 391 JHW6CD0T07. 391 JHW6CD0T07. 391 JHW6CD0T07.	JHW6-630A	310	JHW6C25T10	392	JHW6CN100T06	395	JHW6M-638	313	JHW7-1278	322
JHW6-636 310 JHW6C30T08 392 JHW6CN100T12 395 JHW6S:5T03 418 JHW7-1284 322 JHW6-638 310 JHW6C55T04 392 JHW6CN55T02 395 JHW6S0T03 418 JHW7-1286 322 JHW6-642 310 JHW6C55T06 392 JHW6CN55T06 395 JHW70298. 169 JHW7-1286 322 JHW6-642 310 JHW6C55T06 392 JHW6CN55T06 395 JHW70398. 1619 JHW7-1280 322 JHW6-644 310 JHW6C55T03 392 JHW6CN55T08 395 JHW70393C-TH 101 JHW7-1290 322 JHW6-644 310 JHW6C75T06 392 JHW6CN55T08 395 JHW70393C-TH 101 JHW7-1294 322 JHW6-648 310 JHW6C75T06 392 JHW6CN55T10 395 JHW70393C-TH 101 JHW7-1294 322 JHW6-689 310 JHW6CA100T02 396 JHW6CP05T05 400 JHW7038-TH 101 JHW7-1296 322 JHW6-685 310 JHW6CA100T04 396 JHW6CP05T05 400 JHW7038-TH 101 JHW7-1298 322 JHW6-655 310 JHW6CA100T04 396 JHW6CP05T05 400 JHW7038-TH 101 JHW7-1298 322 JHW6-655 310 JHW6CA100T04 396 JHW6CP05T05 400 JHW7038-TH 101 JHW7-18- 320 JHW6-658 310 JHW6CA100T04 396 JHW6CP10T06 401 JHW7-107 319 JHW7-148 320 JHW6-658 310 JHW6CA100T04 396 JHW6CT10T10 401 JHW7-113 319 JHW7-148 320 JHW6-658 310 JHW6CA30T08 396 JHW6CT10T10 401 JHW7-113 319 JHW7-15 320 JHW6-668 310 JHW6CA30T08 396 JHW6M-121 313 JHW7-12100 322 JHW7-2F 320 JHW6-668 310 JHW6CA30T08 396 JHW6M-122 313 JHW7-12100 322 JHW7-2F 320 JHW6-668 310 JHW6CA30T08 396 JHW6M-122 313 JHW7-12100 322 JHW7-2F 320 JHW6-668 310 JHW6CA30T08 396 JHW6M-122 313 JHW7-12103 322 JHW7-2F 320 JHW6-67 310 JHW6CA30T08 396 JHW6M-122 313 JHW7-12103 322 JHW7-2F 320 JHW6-67 310 JHW6CA30T08 396 JHW6M-122 313 JHW7-12103 322 JHW7-85 320 JHW6-67 310 JHW6CA30T08 394 JHW6M-122 313 JHW7-12103 322 JHW7-85 320 JHW6-67 310 JHW6CA30T08 394 JHW6M-122 313 JHW7-12103 322 JHW7-85 320 JHW6-67 310 JHW6CA30T08 394 JHW6M-122 313 JHW7-12103 322 JHW7-85 320 JHW6-67 310 JHW6CA30T08 394 JHW6M-122 313 JHW7-12103 322 JHW7-85 320 JHW6-67 310 JHW6CA30T08 394 JHW6M-122 313 JHW7-1214 322 JHW7-85 320 JHW6-67 310 JHW6CA30T08 394 JHW6M-122 313 JHW7-1214 322 JHW7-85 321 JHW7-85 320 JHW6-67 310 JHW6CA30T08 394 JHW6M-123 313 JHW7-1214 322 JHW7-85 321 JHW7-85 322 JHW7-85 321 JHW7-85 322 JHW7-86 321 JHW6-85 320 JHW6-85 331 JHW6-85 321 JHW7-85 322 JHW7-86 321	JHW6-632A	310	JHW6C25T12	392	JHW6CN100T08	395	JHW6M-641	313	JHW7-1280	322
JHW6-638 310 JHW6CS5102 392 JHW6CNS5102 395 JHW6S01103 418 JHW7-1286 322 JHW6-640 310 JHW6CS5104 395 JHW5CNS5106 395 JHW7029B-TH 101 JHW7-1280 322 JHW6-644 310 JHW6CS5103 392 JHW6CNS5106 395 JHW7033C. 169 JHW7-1292 322 JHW6-646 310 JHW6CS5103 392 JHW6CNS5108 395 JHW7033C. 169 JHW7-1292 322 JHW6-648 310 JHW6CS5103 392 JHW6CNS510 395 JHW7033C. 169 JHW7-1292 322 JHW6-648 310 JHW6C75103 392 JHW6CNS510 395 JHW7033C. 169 JHW7-1294 322 JHW6-648 310 JHW6CA51002 396 JHW6CNS510 395 JHW7033C. 169 JHW7-1294 322 JHW6-650 310 JHW6CA100102 396 JHW6CNS510 395 JHW7033C. 169 JHW7-1294 322 JHW6-650 310 JHW6CA100102 396 JHW6CNS510 395 JHW7033C. 169 JHW7-1296 322 JHW6-656 310 JHW6CA100104 396 JHW6CP10106 400 JHW703B-TH 101 JHW7-1298 322 JHW6-656 310 JHW6CA100104 396 JHW6CP10106 400 JHW703B-TH 101 JHW7-140B 319 JHW6-656 310 JHW6CA100104 396 JHW6CP10106 401 JHW7-107 319 JHW7-1C 322 JHW6-660 310 JHW6CA30102 396 JHW6CT10106 401 JHW7-113 319 JHW7-1X 320 JHW6-660 310 JHW6CA30102 396 JHW6M-121 313 JHW7-12100 322 JHW7-1X 320 JHW6-660 310 JHW6CA30102 396 JHW6M-122 313 JHW7-12100 322 JHW7-1X 320 JHW6-660 310 JHW6CA30104 396 JHW6M-122 313 JHW7-12100 322 JHW7-1X 320 JHW6-660 310 JHW6CA30104 396 JHW6M-122 313 JHW7-12100 322 JHW7-1X 320 JHW6-660 310 JHW6CA30104 396 JHW6M-122 313 JHW7-12100 322 JHW7-1X 320 JHW6-670 310 JHW6CA30104 396 JHW6M-122 313 JHW7-12102 322 JHW7-1X 320 JHW6-670 310 JHW6CA30104 396 JHW6M-122 313 JHW7-12102 322 JHW7-1X 320 JHW6-670 310 JHW6CA50100 396 JHW6M-1220 313 JHW7-12102 322 JHW7-1210 321 JHW7-1210 321 JHW7-1210 321 JHW7-1210 321 JHW7-1210 321 JHW7-1210 321 JHW7-1210 321 JHW7-1210 321 JHW7-1210 321 JHW7-1210 321 JHW6-670 320 JHW6CA50100 390 JHW6M-1220 313 JHW7-12120 322 JHW7-6104 321 JHW6-670 320 JHW6CA50101 394 JHW6M-1223 313 JHW7-12120 322 JHW7-6104 321 JHW6-670 320 JHW6CD10011 394 JHW6M-1220 313 JHW7-12120 322 JHW7-6104 321 JHW6-670 320 JHW6CD10011 394 JHW6M-1230 313 JHW7-1240 322 JHW7-6103 321 JHW6-670 320 JHW6CD50103 394 JHW6M-1230 313 JHW7-1240 322 JHW7-6103 321 JHW6CD10010 394 JHW6CD10010 394 JHW6M-1230 313 JHW7-	JHW6-634A	310	JHW6C25T14	392	JHW6CN100T10	395	JHW6M-646	313	JHW7-1282	322
JHW6-640 310 JHW6CS5T04 392 JHW6CN5ST04 395 JHW7029B 169 JHW7-1288 322 JHW6-646 310 JHW6CS5T06 392 JHW6CN5T06 395 JHW7033C 169 JHW7-1290 322 JHW6-646 310 JHW6CS5T16 392 JHW6CN5ST0 395 JHW7033C 169 JHW7-1294 322 JHW6-648 310 JHW6CT5T06 392 JHW6CN5ST0 395 JHW7033C 17H 101 JHW7-1294 322 JHW6-648 310 JHW6CT5T06 392 JHW6CN5ST0 395 JHW7033C-TH 101 JHW7-1294 322 JHW6-648 310 JHW6CA107070 396 JHW6CP07105 400 JHW7039B-TH 101 JHW7-1294 322 JHW6-652 310 JHW6CA107070 396 JHW6CP07105 400 JHW7039B-TH 101 JHW7-1298 322 JHW6-652 310 JHW6CA107070 396 JHW6CP07105 400 JHW7039B-TH 101 JHW7-1298 322 JHW6-652 310 JHW6CA107070 396 JHW6CP07105 400 JHW7039B-TH 310 JHW7-1278 322 JHW6-658 310 JHW6CA107070 396 JHW6CP07105 400 JHW7039B-TH 310 JHW7-1278 322 JHW6-658 310 JHW6CA10710 396 JHW6CT10710 401 JHW7-107 319 JHW7-1C 325 JHW6-658 310 JHW6CA30704 396 JHW6CT10710 401 JHW7-113 319 JHW7-1X9 322 JHW6-658 310 JHW6CA30704 396 JHW6M-1219 313 JHW7-12100 322 JHW7-2X9 320 JHW6-668 310 JHW6CA30704 396 JHW6M-122 313 JHW7-12100 322 JHW7-2X9 320 JHW6-664 310 JHW6CA30704 396 JHW6M-122 313 JHW7-12108 322 JHW7-2X9 320 JHW6-669 310 JHW6CA50704 396 JHW6M-122 313 JHW7-12108 322 JHW7-2X9 320 JHW6-677 310 JHW6CA50704 396 JHW6M-122 313 JHW7-12108 322 JHW7-3X9 320 JHW6-677 310 JHW6CA50704 396 JHW6M-122 313 JHW7-12108 322 JHW7-5X9 320 JHW6-676 310 JHW6CA50704 396 JHW6M-1225 313 JHW7-12108 322 JHW7-5X9 320 JHW6-676 310 JHW6CA50704 396 JHW6M-1225 313 JHW7-12108 322 JHW7-5X9 320 JHW6-676 300 JHW6CD100713 394 JHW6M-1226 313 JHW7-12108 322 JHW7-6108 321 JHW7-6108 321 JHW7-61070 390 JHW6CD100710 394 JHW6M-1228 313 JHW7-12108 322 JHW7-6108 321 JHW7-6108 321 JHW7-61070 390 JHW6CD100710 394 JHW6M-123 313 JHW7-12108 322 JHW7-6108 321 JHW7-61070 390 JHW6CD100710 394 JHW6M-123 313 JHW7-12108 322 JHW7-6108 321 JHW7-6108 321 JHW7-61070 390 JHW6CD100710 394 JHW6M-123 313 JHW7-12108 322 JHW7-6108 321 JHW7-6108 321 JHW6CD100710 390 JHW6CD100710 394 JHW6M-123 313 JHW7-1224 322 JHW7-6108 321 JHW7-6108 321 JHW7-61070 390 JHW6CD50703 394 JHW6M-1233 313 JHW7-1226 322 JHW7-6103 321 J	JHW6-636	310	JHW6C30T08	392	JHW6CN100T12	395	JHW6S.5T03	418	JHW7-1284	322
JHW6-642 310 JHW6CS5T06 392 JHW6CN5ST06 395 JHW7029B-TH 101 JHW7-1290 322 JHW6-644 310 JHW6CS5T06 392 JHW6CN5ST10 395 JHW7033C-TH 101 JHW7-1290 322 JHW6-648 310 JHW6C75T03 392 JHW6CN5ST10 395 JHW7033C-TH 101 JHW7-1294 322 JHW6-650 310 JHW6CAT5T13 392 JHW6CN5ST10 395 JHW7038 169 JHW7-1296 322 JHW6-650 310 JHW6CA100T02 396 JHW6CP02T05 400 JHW7039B-TH 101 JHW7-1298 322 JHW6-650 310 JHW6CA100T06 396 JHW6CP02T05 400 JHW7039B-TH 101 JHW7-1298 322 JHW6-656 310 JHW6CA100T06 396 JHW6CP02T06 400 JHW7-039B-TH 101 JHW7-149B 320 JHW6-656 310 JHW6CA100T01 396 JHW6CP02T06 400 JHW7-107 319 JHW7-14B 320 JHW6-656 310 JHW6CA30T04 396 JHW6CF02T05 400 JHW7-107 319 JHW7-14B 320 JHW6-660 310 JHW6CA30T04 396 JHW6CT10T10 401 JHW7-113 319 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW6-680 310 JHW6CA30T04 396 JHW6CT10T10 401 JHW7-113 319 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW6-680 310 JHW6CA30T04 396 JHW6M-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JH	JHW6-638	310	JHW6C55T02	392	JHW6CN55T02	395	JHW6S01T03	418	JHW7-1286	322
JHW6-642 310 JHW6CS5T06 392 JHW6CN5ST06 395 JHW7029B-TH 101 JHW7-1290 322 JHW6-644 310 JHW6CS5T06 392 JHW6CN5ST10 395 JHW7033C-TH 101 JHW7-1290 322 JHW6-648 310 JHW6C75T03 392 JHW6CN5ST10 395 JHW7033C-TH 101 JHW7-1294 322 JHW6-650 310 JHW6CAT5T13 392 JHW6CN5ST10 395 JHW7038 169 JHW7-1296 322 JHW6-650 310 JHW6CA100T02 396 JHW6CP02T05 400 JHW7039B-TH 101 JHW7-1298 322 JHW6-650 310 JHW6CA100T06 396 JHW6CP02T05 400 JHW7039B-TH 101 JHW7-1298 322 JHW6-656 310 JHW6CA100T06 396 JHW6CP02T06 400 JHW7-039B-TH 101 JHW7-149B 320 JHW6-656 310 JHW6CA100T01 396 JHW6CP02T06 400 JHW7-107 319 JHW7-14B 320 JHW6-656 310 JHW6CA30T04 396 JHW6CF02T05 400 JHW7-107 319 JHW7-14B 320 JHW6-660 310 JHW6CA30T04 396 JHW6CT10T10 401 JHW7-113 319 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW6-680 310 JHW6CA30T04 396 JHW6CT10T10 401 JHW7-113 319 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW6-680 310 JHW6CA30T04 396 JHW6M-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JHW7-12 JH	JHW6-640	310	JHW6C55T04	392	JHW6CN55T04	395	JHW7029B	169	JHW7-1288	322
JHW6-644 310 JHW6CS5T13 392 JHW6CNS5T08 395 JHW7033C 169 JHW7-1292 322 JHW6-646 310 JHW6C75T06 392 JHW6CNS5T10 395 JHW703SC.TH 101 JHW7-1294 322 JHW6-650 310 JHW6CA100T02 396 JHW6CNS5T12 395 JHW7038 169 JHW7-1298 322 JHW6-652 310 JHW6CA100T04 396 JHW6CP02T05 400 JHW7038-TH 101 JHW7-1298 322 JHW6-652 310 JHW6CA100T04 396 JHW6CP02T05 400 JHW7038-TH 101 JHW7-1298 322 JHW6-658 310 JHW6CA100T10 396 JHW6CP10T06 401 JHW7-107 319 JHW7-1C 325 JHW6-658 310 JHW6CA30T02 396 JHW6CT10T10 401 JHW7-107 319 JHW7-1C 325 JHW6-658 310 JHW6CA30T02 396 JHW6CT10T10 401 JHW7-113 319 JHW7-1C 325 JHW6-668 310 JHW6CA30T02 396 JHW6M-1220 313 JHW7-12100 322 JHW7-2XS 320 JHW6-662 310 JHW6CA30T06 396 JHW6M-1220 313 JHW7-12100 322 JHW7-2XS 320 JHW6-664 310 JHW6CA30T06 396 JHW6M-122 313 JHW7-12108 322 JHW7-2XS 320 JHW6-664 310 JHW6CA50T06 396 JHW6M-122 313 JHW7-12108 322 JHW7-3XS 320 JHW6-670 310 JHW6CA50T06 396 JHW6M-122 313 JHW7-12108 322 JHW7-3XS 320 JHW6-670 310 JHW6CA50T06 396 JHW6M-122 313 JHW7-12108 322 JHW7-5XS 320 JHW6-672 310 JHW6CA50T06 396 JHW6M-122 313 JHW7-12108 322 JHW7-5XS 320 JHW6-673 310 JHW6CA50T06 396 JHW6M-122 313 JHW7-12108 322 JHW7-5XS 320 JHW6-672 310 JHW6CA50T06 396 JHW6M-122 313 JHW7-12108 322 JHW7-60 319 JHW6-673 300 JHW6CA50T06 396 JHW6M-122 313 JHW7-12108 322 JHW7-60 319 JHW6-673 300 JHW6CA50T06 396 JHW6M-122 313 JHW7-12108 322 JHW7-610 321 JHW6-673 300 JHW6CD100T18 394 JHW6M-122 313 JHW7-12128 322 JHW7-6108 321 JHW6-670 390 JHW6CD100T18 394 JHW6M-123 313 JHW7-12136 322 JHW7-6108 321 JHW6-670 390 JHW6CD100T18 394 JHW6M-123 313 JHW7-1214 322 JHW7-6108 321 JHW6-670 390 JHW6CD100T18 394 JHW6M-123 313 JHW7-1214 322 JHW7-6108 321 JHW6-670 390 JHW6CD100T18 394 JHW6M-123 313 JHW7-1214 322 JHW7-6108 321 JHW6-670 390 JHW6CD100T18 394 JHW6M-123 313 JHW7-1214 322 JHW7-6108 321 JHW6-670 390 JHW6CD100T18 394 JHW6M-123 313 JHW7-1244 322 JHW7-6108 321 JHW6-670 390 JHW6CD100T18 394 JHW6M-123 313 JHW7-1234 322 JHW7-6108 321 JHW6-670 390 JHW6CD100T18 394 JHW6M-123 313 JHW7-1244 322 JHW7-6103 321 JHW6-670 390 JHW6CD100T10 394 J					JHW6CN55T06	395	JHW7029B-TH	101	JHW7-1290	322
JHW6-646 310 JHW6C75T06 392 JHW6CN55T10 395 JHW7038-TH 101 JHW7-1294 322 JHW6-648 310 JHW6CA5T13 392 JHW6CP05T05 400 JHW7038-TH 101 JHW7-1296 322 JHW6-652 310 JHW6CA100T04 396 JHW6CP05T05 400 JHW7038-TH 101 JHW7-1296 322 JHW6-654 310 JHW6CA100T06 396 JHW6CP05T05 400 JHW7038-TH 101 JHW7-140B 319 JHW6-654 310 JHW6CA100T06 396 JHW6CT10T06 400 JHW7039B-TH 101 JHW7-18 320 JHW6-656 310 JHW6CA30T02 396 JHW6CT10T10 401 JHW7-113 319 JHW7-1C 325 JHW6-666 310 JHW6CA30T04 396 JHW6CT10T10 401 JHW7-113 319 JHW7-12 325 JHW6-666 310 JHW6CA30T04 396 JHW6M-1219 313 JHW7-12100 322 JHW7-2F 320 JHW6-666 310 JHW6CA30T04 396 JHW6M-122 313 JHW7-12100 322 JHW7-2XS 320 JHW6-666 310 JHW6CA50T04 396 JHW6M-122 313 JHW7-12103 322 JHW7-2XS 320 JHW6-666 310 JHW6CA50T04 396 JHW6M-122 313 JHW7-12103 322 JHW7-3XS 320 JHW6-666 310 JHW6CA50T04 396 JHW6M-122 313 JHW7-12103 322 JHW7-3XS 320 JHW6-670 310 JHW6CA50T04 396 JHW6M-122 313 JHW7-12103 322 JHW7-5XS 320 JHW6-670 310 JHW6CA5T06 396 JHW6M-122 313 JHW7-12103 322 JHW7-5XS 320 JHW6-676 310 JHW6CA5T06 396 JHW6M-122 313 JHW7-12103 322 JHW7-5XS 320 JHW6-676 310 JHW6CA5T06 396 JHW6M-1223 313 JHW7-12103 322 JHW7-5XS 320 JHW6-676 310 JHW6CA5T06 396 JHW6M-1223 313 JHW7-12120 322 JHW7-5XS 320 JHW6-676 310 JHW6CA5T06 396 JHW6M-1223 313 JHW7-12120 322 JHW7-66 313 JHW6-676 310 JHW6CA5T06 394 JHW6M-1223 313 JHW7-12120 322 JHW7-6100 321 JHW6-676 390 JHW6CD100T13 394 JHW6M-1228 313 JHW7-12136 322 JHW7-6100 321 JHW6-676 390 JHW6CD100T13 394 JHW6M-1228 313 JHW7-12136 322 JHW7-6103 321 JHW6-6760 390 JHW6CD100T13 394 JHW6M-123 313 JHW7-12136 322 JHW7-6103 321 JHW6-6760 390 JHW6CD100T13 394 JHW6M-123 313 JHW7-12136 322 JHW7-6103 321 JHW6-6710 390 JHW6CD100T13 394 JHW6M-123 313 JHW7-1244 322 JHW7-6103 321 JHW6-67100 390 JHW6CD100T13 394 JHW6M-123 313 JHW7-1243 322 JHW7-6103 321 JHW6-67100 390 JHW6CD100T13 394 JHW6M-1234 313 JHW7-1243 322 JHW7-6123 321 JHW6-67100 390 JHW6CD100T13 394 JHW6M-1234 313 JHW7-1243 322 JHW7-6123 321 JHW6-67100 390 JHW6CD10750 394 JHW6M-1234 313 JHW7-1243 322 JHW7-6133 321 JHW6-67100 390 JHW6	JHW6-644	310			JHW6CN55T08	395	JHW7033C	169	JHW7-1292	322
JHW6-648 310 JHW6CA0T013 399 JHW6CP10T06 400 JHW7038-TH 101 JHW7-1296 322 JHW6-650 310 JHW6CA100T02 396 JHW6CP05T05 400 JHW7038-TH 101 JHW7-1298 322 JHW6-656 310 JHW6CA100T06 396 JHW6CP05T05 400 JHW7039B-TH 101 JHW7-1298 319 JHW6-656 310 JHW6CA100T10 396 JHW6CP10T06 401 JHW7-107 319 JHW7-1EB 320 JHW6-656 310 JHW6CA100T10 396 JHW6CT10T10 401 JHW7-107 319 JHW7-1C 325 JHW6-656 310 JHW6CA30T02 396 JHW6CT10T10 401 JHW7-113 319 JHW7-1Z-12 322 JHW6-656 310 JHW6CA30T04 396 JHW6M-1219 313 JHW7-12100 322 JHW7-1Z-12 322 JHW7-2Z-12 320 JHW6-662 310 JHW6CA30T06 396 JHW6M-1220 313 JHW7-12104 322 JHW7-2XS 320 JHW6-664 310 JHW6CA30T06 396 JHW6M-1220 313 JHW7-12104 322 JHW7-3XS 320 JHW6-664 310 JHW6CA50T07 396 JHW6M-1221 313 JHW7-12104 322 JHW7-3XS 320 JHW6-670 310 JHW6CA50T06 396 JHW6M-1223 313 JHW7-12116 322 JHW7-3XS 320 JHW6-670 310 JHW6CA50T06 396 JHW6M-1223 313 JHW7-12116 322 JHW7-5XS 320 JHW6-670 310 JHW6CA50T10 396 JHW6M-1223 313 JHW7-12116 322 JHW7-5XS 320 JHW6-670 310 JHW6CA50T10 396 JHW6M-1223 313 JHW7-12116 322 JHW7-5XS 320 JHW6-676 310 JHW6CA5T06 396 JHW6M-1223 313 JHW7-12120 322 JHW7-6 311 JHW6-675 310 JHW6CA5T06 396 JHW6M-1225 313 JHW7-12120 322 JHW7-6 311 JHW6-675 310 JHW6CA5T06 396 JHW6M-1225 313 JHW7-12123 322 JHW7-6 310 JHW6-675 310 JHW6CA5T06 396 JHW6M-1225 313 JHW7-12123 322 JHW7-6 321 JHW7-6 321 JHW6-675 330 JHW6CD100T18 394 JHW6M-1226 313 JHW7-12124 322 JHW7-6 321 JHW7-6 321 JHW6-675 330 JHW6CD100T18 394 JHW6M-1230 313 JHW7-12144 322 JHW7-6 116 321 JHW6C05T00 390 JHW6CD100T18 394 JHW6M-1230 313 JHW7-1224 322 JHW7-6 116 321 JHW6C05T00 390 JHW6CD10T17 394 JHW6M-1230 313 JHW7-1224 322 JHW7-6 118 321 JHW6C05T00 390 JHW6CD10T17 394 JHW6M-1230 313 JHW7-1244 322 JHW7-6 118 321 JHW6C05T00 390 JHW6CD10T13 394 JHW6M-1230 313 JHW7-1244 322 JHW7-6 120 321 JHW7-6 120 321 JHW6C05T00 390 JHW6CD5T013 394 JHW6M-1230 313 JHW7-1244 322 JHW7-6 120 321 JHW7-6 120 321 JHW6C05T01 390 JHW6CD5T01 394 JHW6M-1230 313 JHW7-1244 322 JHW7-6 130 321 JHW7-6 120 322 JHW7-6 130 321 JHW6C05T01 390 JHW6CD5T01 394 JHW6M-1243 313 JHW7-1244 322							JHW7033C-TH	101	JHW7-1294	322
JHW6-650 310 JHW6CA100T02 396 JHW6CP02T05 400 JHW70398-TH 101 JHW7-1298 322 JHW6-652 310 JHW6CA100T06 396 JHW6CP05T05 400 JHW70398-TH 101 JHW7-1408 319 JHW6-656 310 JHW6CA100T10 396 JHW6CT10T06 401 JHW7-107 319 JHW7-1C 325 JHW6-656 310 JHW6CA30T02 396 JHW6CT10T06 401 JHW7-107 319 JHW7-1C 325 JHW6-658 310 JHW6CA30T02 396 JHW6CT10T10 401 JHW7-113 319 JHW7-1C 325 JHW6-660 310 JHW6CA30T04 396 JHW6CH10T10 311 JHW7-1210 322 JHW7-125 320 JHW6-660 310 JHW6CA30T04 396 JHW6M-1220 313 JHW7-12104 322 JHW7-2XS 320 JHW6-664 310 JHW6CA30T04 396 JHW6M-1220 313 JHW7-12104 322 JHW7-XXS 320 JHW6-664 310 JHW6CA50T04 396 JHW6M-1221 313 JHW7-12104 322 JHW7-XXS 320 JHW6-670 310 JHW6CA50T04 396 JHW6M-1222 313 JHW7-12112 322 JHW7-XXS 320 JHW6-670 310 JHW6CA50T04 396 JHW6M-1223 313 JHW7-12112 322 JHW7-XXS 320 JHW6-672 310 JHW6CA50T04 396 JHW6M-1224 313 JHW7-12116 322 JHW7-5XS 320 JHW6-672 310 JHW6CA50T04 396 JHW6M-1224 313 JHW7-12120 322 JHW7-6100 321 JHW6-676 310 JHW6CA50T04 396 JHW6M-1224 313 JHW7-12120 322 JHW7-6100 321 JHW6-676 310 JHW6CA50T04 396 JHW6M-1225 313 JHW7-12124 322 JHW7-6100 321 JHW6-676 310 JHW6CD10T10 394 JHW6M-1227 313 JHW7-12124 322 JHW7-6100 321 JHW6-670 390 JHW6CD10T10 394 JHW6M-1227 313 JHW7-12132 322 JHW7-6100 321 JHW6-670 390 JHW6CD10T10 394 JHW6M-1230 313 JHW7-12144 322 JHW7-6116 321 JHW6C05T00 390 JHW6CD10T10 394 JHW6M-1230 313 JHW7-12144 322 JHW7-6116 321 JHW6C05T00 390 JHW6CD10T10 394 JHW6M-1231 313 JHW7-1224 322 JHW7-6116 321 JHW6C05T00 390 JHW6CD10T10 394 JHW6M-1231 313 JHW7-1244 322 JHW7-6120 321 JHW7-6120 321 JHW6C05T00 390 JHW6CD5T0T1 394 JHW6M-1231 313 JHW7-1244 322 JHW7-6120 321 JHW7-6120 321 JHW6C05T00 390 JHW6CD5T0T1 394 JHW6M-1234 313 JHW7-1244 322 JHW7-6120 321 JHW7-6120 321 JHW6C05T0T0 390 JHW6CD5T0T1 394 JHW6M-1234 313 JHW7-1244 322 JHW7-6120 321 JHW7-6120 321 JHW6C05T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390 JHW6CD5T0T0 390										_
JHW6-652 310 JHW6CA100T04 396 JHW6CP05T05 400 JHW7039B-T1 101 JHW7-140B 319 JHW6-656 310 JHW6CA100T10 396 JHW6CP10T06 400 JHW7039B-T1 101 JHW7-1B 320 JHW6-656 310 JHW6CA30T02 396 JHW6CP10T06 401 JHW7-107 319 JHW7-1KS 320 JHW6-656 310 JHW6CA30T02 396 JHW6CP10T10 401 JHW7-113 319 JHW7-1KS 320 JHW6-656 310 JHW6CA30T04 396 JHW6M-129 313 JHW7-1210 322 JHW7-2F 320 JHW6-668 310 JHW6CA30T06 396 JHW6M-129 313 JHW7-1210 322 JHW7-2F 320 JHW6-666 310 JHW6CA30T06 396 JHW6M-122 313 JHW7-1210 322 JHW7-3KS 320 JHW6-666 310 JHW6CA50T02 396 JHW6M-1222 313 JHW7-1210 322 JHW7-3KS 320 JHW6-670 310 JHW6CA50T04 396 JHW6M-1222 313 JHW7-12116 322 JHW7-3KS 320 JHW6-670 310 JHW6CA50T04 396 JHW6M-1223 313 JHW7-12116 322 JHW7-5KS 320 JHW6-676 310 JHW6CA50T04 396 JHW6M-1224 313 JHW7-1210 322 JHW7-5KS 320 JHW6-676 310 JHW6CA5T06 396 JHW6M-1224 313 JHW7-12120 322 JHW7-5KS 320 JHW6-670 310 JHW6CA5T06 396 JHW6M-1224 313 JHW7-12120 322 JHW7-5KS 320 JHW6-670 310 JHW6CA5T06 396 JHW6M-1224 313 JHW7-12120 322 JHW7-5KS 320 JHW6-675 310 JHW6CA5T06 396 JHW6M-1225 313 JHW7-12120 322 JHW7-610 321 JHW6-675 310 JHW6CD10T10 394 JHW6M-1225 313 JHW7-12124 322 JHW7-610 321 JHW6-675 390 JHW6CD10T10 394 JHW6M-1225 313 JHW7-1216 322 JHW7-6108 321 JHW6-675 390 JHW6CD10T10 394 JHW6M-1229 313 JHW7-1214 322 JHW7-6118 321 JHW6-6750 390 JHW6CD10T10 394 JHW6M-1233 313 JHW7-1214 322 JHW7-6118 321 JHW6-6750 390 JHW6CD10T10 394 JHW6M-1233 313 JHW7-1226 322 JHW7-6118 321 JHW6-6750 390 JHW6-67505 394 JHW6-123 313 JHW7-1226 322 JHW7-6120 321 JHW6-67507 390 JHW6-67505 394 JHW6-1233 313 JHW7-1226 322 JHW7-6120 321 JHW6-67507 390 JHW6-67505 394 JHW6-1236 313 JHW7-1236 322 JHW7-6120 321 JHW6-67507 390 JHW6-67505 394 JHW6-1236 313 JHW7-1236 322 JHW7-6120 321 JHW6-67501 390 JHW6-67505 397 JHW6-124 313 JHW7-1244 322 JHW7-6130 321 JHW6-67507 390 JHW6-67505 397 JHW6-124 313 JHW7-1244 322 JHW7-6130 321 JHW6-67507 390 JHW6-67505 397 JHW6-124 313 JHW7-1246 322 JHW7-6142 321 JHW6-67507 390 JHW6-67505 397 JHW6-M-1246 313 JHW7-1256 322 JHW7-6144 321 JHW6-67507 390 JHW6-67505 397 JHW6-M-1246										
JHW6-654 310 JHW6CA100T06 396 JHW6CP10T06 401 JHW7-107 319 JHW7-1C 325 JHW6-656 310 JHW6CA30T02 396 JHW6CT10T06 401 JHW7-117 319 JHW7-1C 325 JHW6-658 310 JHW6CA30T02 396 JHW6CT10T06 401 JHW7-117 319 JHW7-1C 325 JHW7-666 310 JHW6CA30T04 396 JHW6M-1219 313 JHW7-12100 322 JHW7-2F 320 JHW6-662 310 JHW6CA30T06 396 JHW6M-1220 313 JHW7-12104 322 JHW7-2F 320 JHW6-664 310 JHW6CA50T02 396 JHW6M-1220 313 JHW7-12108 322 JHW7-2XS 320 JHW6-666 310 JHW6CA50T04 396 JHW6M-1222 313 JHW7-12108 322 JHW7-3XS 320 JHW6-670 310 JHW6CA50T06 396 JHW6M-1222 313 JHW7-12112 322 JHW7-3XS 320 JHW6-676 310 JHW6CA50T06 396 JHW6M-1223 313 JHW7-12112 322 JHW7-3XS 320 JHW6-676 310 JHW6CA50T06 396 JHW6M-1224 313 JHW7-12112 322 JHW7-5KS 320 JHW6-676 310 JHW6CA50T06 396 JHW6M-1224 313 JHW7-12120 322 JHW7-610 321 JHW6-676 310 JHW6CA50T06 396 JHW6M-1225 313 JHW7-12120 322 JHW7-6100 321 JHW6-676 310 JHW6CA50T06 396 JHW6M-1225 313 JHW7-12120 322 JHW7-6100 321 JHW6-676 390 JHW6CD10713 394 JHW6M-1226 313 JHW7-12128 322 JHW7-6100 321 JHW6-675 390 JHW6CD10713 394 JHW6M-1228 313 JHW7-12132 322 JHW7-6104 321 JHW6-675 390 JHW6CD10713 394 JHW6M-1228 313 JHW7-12136 322 JHW7-6118 321 JHW6-6750 390 JHW6CD10713 394 JHW6M-1231 313 JHW7-1214 322 JHW7-6116 321 JHW6-6750 390 JHW6CD10712 394 JHW6M-1231 313 JHW7-1224 322 JHW7-6116 321 JHW6-6750 390 JHW6CD10712 394 JHW6M-1231 313 JHW7-1224 322 JHW7-6116 321 JHW6-6750 390 JHW6CD10712 394 JHW6M-1231 313 JHW7-1226 322 JHW7-6120 321 JHW6-61070 392 JHW6-67506 394 JHW6-M-1231 313 JHW7-1226 322 JHW7-6120 321 JHW6-61070 392 JHW6-67506 394 JHW6-M-1231 313 JHW7-1226 322 JHW7-6120 321 JHW7-6124 321 JHW6-61070 390 JHW6-675075 397 JHW6-M-1231 313 JHW7-1244 322 JHW7-6130 321 JHW7-6124 321 JHW6-61070 390 JHW6-675075 397 JHW6-M-1231 313 JHW7-1244 322 JHW7-6130 321 JHW7-6130 321 JHW6-675075 397 JHW6-M-1231 313 JHW7-1244 322 JHW7-6130 321 JHW7-6130 321 JHW6-675075 397 JHW6-M-1231 313 JHW7-1244 322 JHW7-6130 321 JHW7-6130 321 JHW6-675075 397 JHW6-M-1231 313 JHW7-1244 322 JHW7-6130 321 JHW6-675075 397 JHW6-M-1231 313 JHW7-1246 322 JHW7-6130										
JHW6-656										
JHW6-658									_	
JHW6-660 310 JHW6CA30T04 396 JHW6M-1219 313 JHW7-12100 322 JHW7-2F 320 JHW6-662 310 JHW6CA50T06 396 JHW6M-1221 313 JHW7-12104 322 JHW7-2KS 320 JHW6-664 310 JHW6CA50T04 396 JHW6M-1221 313 JHW7-12108 322 JHW7-3KS 320 JHW6-670 310 JHW6CA50T04 396 JHW6M-1222 313 JHW7-12112 322 JHW7-5KS 320 JHW6-670 310 JHW6CA50T04 396 JHW6M-1222 313 JHW7-12112 322 JHW7-5KS 320 JHW6-670 310 JHW6CA50T04 396 JHW6M-1223 313 JHW7-12110 322 JHW7-5KS 320 JHW6-676 310 JHW6CA50T10 396 JHW6M-1224 313 JHW7-12120 322 JHW7-6 319 JHW6-676 310 JHW6CA50T10 396 JHW6M-1224 313 JHW7-12120 322 JHW7-6 319 JHW6-676 310 JHW6CA75T04 396 JHW6M-1225 313 JHW7-12120 322 JHW7-6 319 JHW6-676 310 JHW6CA75T04 396 JHW6M-1225 313 JHW7-12124 322 JHW7-6100 321 JHW6-675 309 JHW6CD100T16 394 JHW6M-1227 313 JHW7-12128 322 JHW7-6104 321 JHW6-65S 309 JHW6CD100T16 394 JHW6M-1227 313 JHW7-12136 322 JHW7-6116 321 JHW6-65T00 390 JHW6CD100T18 394 JHW6M-1228 313 JHW7-12136 322 JHW7-6116 321 JHW6-65T00 390 JHW6CD100T10 394 JHW6M-1229 313 JHW7-12144 322 JHW7-6116 321 JHW6-65T05 390 JHW6CD10T10 394 JHW6M-1230 313 JHW7-1224 322 JHW7-6116 321 JHW6-65T07 390 JHW6CD10T15 394 JHW6M-1230 313 JHW7-1224 322 JHW7-6116 321 JHW6-65T07 390 JHW6CD30T15 394 JHW6-1233 313 JHW7-1228 322 JHW7-6122 321 JHW7-6120 321 JHW6-610T10 392 JHW6-65T06 394 JHW6-1233 313 JHW7-1228 322 JHW7-6120 321 JHW7-6120 321 JHW6-610T10 390 JHW6-65T00 394 JHW6-1235 313 JHW7-1230 322 JHW7-6120 321 JHW7-6120 321 JHW6-610T10 390 JHW6-65T00 394 JHW6-1235 313 JHW7-1236 322 JHW7-6130 321 JHW7-6130 321 JHW6-610T00 390 JHW6-65T01 390 JHW6-65T01 390 JHW6-65T01 390 JHW6-65T01 390 JHW6-65T01 390 JHW6-65T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 390 JHW6-605T01 39										
JHW6-662 310 JHW6CA30T06 396 JHW6M-1220 313 JHW7-12104 322 JHW7-3XS 320 JHW6-664 310 JHW6CA50T02 396 JHW6M-1221 313 JHW7-121108 322 JHW7-3XS 320 JHW6-666 310 JHW6CA50T06 396 JHW6M-1223 313 JHW7-12112 322 JHW7-4XS 320 JHW6-670 310 JHW6CA50T06 396 JHW6M-1223 313 JHW7-12112 322 JHW7-5XS 320 JHW6-672 310 JHW6CA50T10 396 JHW6M-1223 313 JHW7-12112 322 JHW7-5XS 320 JHW6-672 310 JHW6CA50T10 396 JHW6M-1224 313 JHW7-12120 322 JHW7-6100 321 JHW6-676 310 JHW6CA75T06 396 JHW6M-1225 313 JHW7-12124 322 JHW7-6100 321 JHW6-6XS 309 JHW6CA75T06 396 JHW6M-1225 313 JHW7-12124 322 JHW7-6100 321 JHW6-6XS 309 JHW6CD100T16 394 JHW6M-1227 313 JHW7-12128 322 JHW7-6108 321 JHW6-605T00 390 JHW6CD100T13 394 JHW6M-1227 313 JHW7-12136 322 JHW7-6108 321 JHW6-605T00 390 JHW6CD100T18 394 JHW6M-1229 313 JHW7-12144 322 JHW7-6116 321 JHW6-605T00 390 JHW6CD100T18 394 JHW6M-1229 313 JHW7-12144 322 JHW7-6116 321 JHW6-605T00 390 JHW6CD100T18 394 JHW6M-1229 313 JHW7-12144 322 JHW7-6116 321 JHW6-605T07 390 JHW6CD100T13 394 JHW6-1231 313 JHW7-12144 322 JHW7-6116 321 JHW6-605T07 390 JHW6CD100T16 394 JHW6-1231 313 JHW7-1224 322 JHW7-6120 321 JHW6-61070 390 JHW6CD30T15 394 JHW6-1231 313 JHW7-1226 322 JHW7-6120 321 JHW6-6100T10 392 JHW6-6030T08 394 JHW6-1231 313 JHW7-1230 322 JHW7-6120 321 JHW6-6100T10 392 JHW6-605T06 394 JHW6-1233 313 JHW7-1230 322 JHW7-6120 321 JHW7-6120 390 JHW6-605T06 394 JHW6-1234 313 JHW7-1230 322 JHW7-6120 321 JHW7-6120 390 JHW6-605T013 394 JHW6-1234 313 JHW7-1234 322 JHW7-6120 321 JHW7-6126 321 JHW6-610T10 390 JHW6-605T013 394 JHW6-1243 313 JHW7-1234 322 JHW7-6130 321 JHW7-6130 321 JHW6-610T01 390 JHW6-605T013 394 JHW6-1243 313 JHW7-1244 322 JHW7-6130 321 JHW7-6130 321 JHW6-610T01 390 JHW6-605T013 394 JHW6-1240 313 JHW7-1244 322 JHW7-6130 321 JHW7-6130 321 JHW6-610T01 390 JHW6-605T013 394 JHW6-1240 313 JHW7-1244 322 JHW7-6130 321 JHW7-6130 321 JHW6-610T01 390 JHW6-605T013 394 JHW6-1240 313 JHW7-1244 322 JHW7-6130 321 JHW7-6130 321 JHW6-610T01 390 JHW6-605T013 397 JHW6-M6-1240 313 JHW7-1244 322 JHW7-6130 321 JHW7-6130 321 JHW6-610T01 3										
JHW6-664 310 JHW6CA50T02 396 JHW6M-1221 313 JHW7-12108 322 JHW7-3XS 320 JHW6-666 310 JHW6CA50T04 396 JHW6M-1223 313 JHW7-12112 322 JHW7-4XS 320 JHW6-670 310 JHW6CA50T06 396 JHW6M-1223 313 JHW7-12116 322 JHW7-5XS 320 JHW6-672 310 JHW6CA50T10 396 JHW6M-1224 313 JHW7-12110 322 JHW7-6 311 JHW6-672 310 JHW6CA50T10 396 JHW6M-1224 313 JHW7-12120 322 JHW7-6 319 JHW6-672 310 JHW6CA50T10 396 JHW6M-1225 313 JHW7-12124 322 JHW7-6 321 JHW7-6 321 JHW6-6XS 309 JHW6CA75T06 396 JHW6M-1225 313 JHW7-12128 322 JHW7-6 321 JHW7-6 321 JHW6-7 309 JHW6CD100T13 394 JHW6M-1228 313 JHW7-12132 322 JHW7-6 321 JHW6-7 309 JHW6CD100T13 394 JHW6M-1228 313 JHW7-12136 322 JHW7-6 321 JHW6-6 321 JHW6-6 320 JHW6CD100T18 394 JHW6M-1228 313 JHW7-12136 322 JHW7-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW7-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 JHW6-6 321 J									_	
JHW6-666 310 JHW6CA50T04 396 JHW6M-1222 313 JHW7-12112 322 JHW7-4XS 320 JHW6-670 310 JHW6CA50T06 396 JHW6M-1223 313 JHW7-12116 322 JHW7-5XS 320 JHW6-672 310 JHW6CA50T10 396 JHW6M-1224 313 JHW7-12120 322 JHW7-6100 321 JHW6-676 310 JHW6CA50T10 396 JHW6M-1225 313 JHW7-12124 322 JHW7-6100 321 JHW6-675 310 JHW6CA50T10 396 JHW6M-1225 313 JHW7-12124 322 JHW7-6100 321 JHW6-675 310 JHW6CA50T10 396 JHW6M-1226 313 JHW7-12128 322 JHW7-6104 321 JHW6-7 309 JHW6CD100T06 394 JHW6M-1227 313 JHW7-12132 322 JHW7-6108 321 JHW6CD5T00 390 JHW6CD100T18 394 JHW6M-1228 313 JHW7-12132 322 JHW7-6112 321 JHW6CD5T01 390 JHW6CD100T18 394 JHW6M-1229 313 JHW7-12144 322 JHW7-6116 321 JHW6CD5T01 390 JHW6CD100T10 394 JHW6M-1229 313 JHW7-12144 322 JHW7-6116 321 JHW6CD5T05 390 JHW6CD10T12 394 JHW6M-1230 313 JHW7-12144 322 JHW7-6116 321 JHW6CD5T05 390 JHW6CD30T08 394 JHW6M-1231 313 JHW7-1226 322 JHW7-6120 321 JHW7-6120 321 JHW6CD5T07 390 JHW6CD30T08 394 JHW6M-1231 313 JHW7-1228 322 JHW7-6120 321 JHW7-6120 321 JHW6CD5T07 390 JHW6CD30T08 394 JHW6M-1233 313 JHW7-1228 322 JHW7-6120 321 JHW6CD5T07 390 JHW6CD30T08 394 JHW6M-1233 313 JHW7-1230 322 JHW7-6120 321 JHW6CD5T00 392 JHW6CD5T06 394 JHW6CD35T13 394 JHW6M-1233 313 JHW7-1230 322 JHW7-6124 321 JHW6CD10T10 392 JHW6CD5T513 394 JHW6M-1235 313 JHW7-1230 322 JHW7-6126 321 JHW7-6126 321 JHW6CD5T01 390 JHW6CD5T70 394 JHW6M-1235 313 JHW7-1230 322 JHW7-6126 321 JHW7-6130 321 JHW6CD5T01 390 JHW6CD5T13 394 JHW6M-1235 313 JHW7-1236 322 JHW7-6130 321 JHW7-6130 321 JHW6CD5T01 390 JHW6CD5T10 391 JHW6CD5T10 391 JHW6M-1240 313 JHW7-1238 322 JHW7-6130 321 JHW7-6130 321 JHW6CD10T01 390 JHW6CD5T10 391 JHW6M-1240 313 JHW7-1240 322 JHW7-6134 321 JHW7-6130 321 JHW6CD10T00 390 JHW6CD5T05 397 JHW6M-1240 313 JHW7-1240 322 JHW7-6140 321 JHW6CD10T00 390 JHW6CD5T05 397 JHW6M-1240 313 JHW7-1240 322 JHW7-6140 321 JHW6CD10T10 390 JHW6CD5T05 397 JHW6M-1240 313 JHW7-1240 322 JHW7-6140 321 JHW6CD10T10 390 JHW6CD5T05 397 JHW6M-1240 313 JHW7-1240 322 JHW7-6140 321 JHW6CD10T10 390 JHW6CD5T05 397 JHW6M-1240 313 JHW7-1250 322 JHW7-6140 321										
JHW6-670 310 JHW6-CA50T06 396 JHW6M-1223 313 JHW7-12116 322 JHW7-5XS 320 JHW6-672 310 JHW6-672 310 JHW6-676 310 JHW6-676 396 JHW6M-1224 313 JHW7-12120 322 JHW7-6 319 JHW6-676 310 JHW6-675 396 JHW6M-1225 313 JHW7-12128 322 JHW7-6 321 JHW6-6XS 309 JHW6-CA5T06 396 JHW6M-1225 313 JHW7-12128 322 JHW7-6 321 JHW6-6XS 309 JHW6-CD100T06 394 JHW6-M-1226 313 JHW7-12132 322 JHW7-6 321 JHW6-CD100T06 390 JHW6-CD100T13 394 JHW6-M-1227 313 JHW7-12132 322 JHW7-6 321 JHW6-CD5T00 390 JHW6-CD100T18 394 JHW6-M-1228 313 JHW7-12144 322 JHW7-6 321 JHW6-CD5T03 390 JHW6-CD100T18 394 JHW6-M-1230 313 JHW7-12144 322 JHW7-6 321 JHW6-CD5T03 390 JHW6-CD100T12 394 JHW6-M-1230 313 JHW7-12144 322 JHW7-6 321 JHW6-CD5T05 390 JHW6-CD30T08 394 JHW6-M-1231 313 JHW7-1224 322 JHW7-6 321 JHW6-CD5T09 390 JHW6-CD30T08 394 JHW6-M-1231 313 JHW7-1228 322 JHW7-6 321 JHW6-CD5T09 390 JHW6-CD30T15 394 JHW6-M-1234 313 JHW7-1230 322 JHW7-6 322 JHW7-6 321 JHW6-CD5T09 390 JHW6-CD30T15 394 JHW6-M-1234 313 JHW7-1230 322 JHW7-6 322 JHW7-6 321 JHW6-CD5T09 390 JHW6-CD30T15 394 JHW6-M-1234 313 JHW7-1230 322 JHW7-6 322 JHW7-6 321 JHW6-CD5T09 390 JHW6-CD5T06 394 JHW6-M-1234 313 JHW7-1230 322 JHW7-6 320 JHW7-6 321 JHW6-CD5T09 390 JHW6-CD5T06 394 JHW6-M-1234 313 JHW7-1230 322 JHW7-6 321 JHW6-CD5T00 390 JHW6-CD5T06 394 JHW6-M-1234 313 JHW7-1234 322 JHW7-6 321 JHW6-CD5T06 394 JHW6-M-1235 313 JHW7-1234 322 JHW7-6 320 JHW6-CD5T06 394 JHW6-M-1234 313 JHW7-1234 322 JHW7-6 323 321 JHW6-CD5T06 390 JHW6-CD5T06 394 JHW6-M-1234 313 JHW7-1236 322 JHW7-6 322 JHW7-6 323 321 JHW6-CD5T06 390 JHW6-CD5T06 391 JHW6-M-1244 313 JHW7-1240 322 JHW7-6 322 JHW7-6 323 321 JHW6-CD5T06 390 JHW6-CD5T05 397 JHW6-M-1243 313 JHW7-1246 322 JHW7-6 332 JHW7-6 332 JHW6-CD5T05 397 JHW6-M-1243 313 JHW7-1244 322 JHW7-6 332 JHW7-6 332 JHW6-CD5T05 397 JHW6-M-1243 313 JHW7-1246 322 JHW7-6 344 321 JHW6-CD5T06 399 JHW6-CD5T05 397 JHW6-M-1243 313 JHW7-1256 322 JHW7-6 322 JHW7-6 321 JHW6-CD5T06 399 JHW6-CD5T05 397 JHW6-M-1243 313 JHW7-1256 322 JHW7-6 322 JHW7-6 321 JHW6-CD5T06 399 JHW6-CD5T05 397 JHW6-M-1243 313 JHW7-125										
JHW6-672 310 JHW6CA50T10 396 JHW6M-1224 313 JHW7-12120 322 JHW7-6 319 JHW6-676 310 JHW6CA75T04 396 JHW6M-1225 313 JHW7-12124 322 JHW7-6100 321 JHW6-68S 309 JHW6CD100T06 394 JHW6M-1226 313 JHW7-12128 322 JHW7-6108 321 JHW6-7 309 JHW6CD100T06 394 JHW6M-1227 313 JHW7-12132 322 JHW7-6108 321 JHW6-05T00 390 JHW6CD100T18 394 JHW6M-1228 313 JHW7-12136 322 JHW7-61108 321 JHW6-05T01 390 JHW6-0100T18 394 JHW6-1229 313 JHW7-12144 322 JHW7-6116 321 JHW6-05T03 390 JHW6-0100T10 394 JHW6-1229 313 JHW7-12144 322 JHW7-6118 321 JHW6-05T05 390 JHW6-0100T12 394 JHW6-1230 313 JHW7-1224 322 JHW7-6118 321 JHW6-05T05 390 JHW6-0100T12 394 JHW6-1230 313 JHW7-1226 322 JHW7-6120 321 JHW6-05T07 390 JHW6-0500T08 394 JHW6-1233 313 JHW7-1228 322 JHW7-6120 321 JHW6-05T09 390 JHW6-0500T08 394 JHW6-1233 313 JHW7-1230 322 JHW7-6120 321 JHW6-0100T06 392 JHW6-055T06 394 JHW6-1233 313 JHW7-1230 322 JHW7-6126 321 JHW6-0100T01 392 JHW6-055T03 394 JHW6-1236 313 JHW7-1234 322 JHW7-6126 321 JHW6-010T01 390 JHW6-055T03 394 JHW6-1236 313 JHW7-1236 322 JHW7-6130 321 JHW6-010T04 390 JHW6-055T03 394 JHW6-1236 313 JHW7-1236 322 JHW7-6130 321 JHW6-010T04 390 JHW6-055T03 397 JHW6-1243 313 JHW7-1240 322 JHW7-6134 321 JHW6-010T06 390 JHW6-055T03 397 JHW6-1241 313 JHW7-1244 322 JHW7-6136 321 JHW6-010T01 390 JHW6-050T05 397 JHW6-01-1243 313 JHW7-1244 322 JHW7-6136 321 JHW6-010T01 390 JHW6-050T05 397 JHW6-01-1243 313 JHW7-1240 322 JHW7-6136 321 JHW6-010T01 390 JHW6-050T05 397 JHW6-01-1243 313 JHW7-1244 322 JHW7-6136 321 JHW6-010T01 390 JHW6-050T05 397 JHW6-01-1243 313 JHW7-1254 322 JHW7-6136 321 JHW6-010T01 390 JHW6-050T05 397 JHW6-01-1243 313 JHW7-1256 322 JHW7-6146										
JHW6-676 310 JHW6CA75T04 396 JHW6M-1225 313 JHW7-12124 322 JHW7-6100 321 JHW6-6XS 309 JHW6CA75T06 396 JHW6M-1226 313 JHW7-12128 322 JHW7-6104 321 JHW6-7 309 JHW6CD100T16 394 JHW6M-1227 313 JHW7-12132 322 JHW7-6108 321 JHW6-6T000 390 JHW6CD100T13 394 JHW6M-1228 313 JHW7-12136 322 JHW7-6112 321 JHW6-65T03 390 JHW6CD100T18 394 JHW6M-1228 313 JHW7-12144 322 JHW7-6116 321 JHW6-65T03 390 JHW6CD10T10 394 JHW6M-1230 313 JHW7-1244 322 JHW7-6118 321 JHW6-65T05 390 JHW6CD10T12 394 JHW6M-1231 313 JHW7-1226 322 JHW7-6120 321 JHW6-65T07 390 JHW6CD30T08 394 JHW6M-1231 313 JHW7-1226 322 JHW7-6120 321 JHW6-65T09 390 JHW6CD30T15 394 JHW6M-1233 313 JHW7-1228 322 JHW7-6120 321 JHW6-6100T06 392 JHW6-65T06 394 JHW6M-1234 313 JHW7-1230 322 JHW7-6124 321 JHW6-6100T10 392 JHW6-655T13 394 JHW6M-1234 313 JHW7-1232 322 JHW7-6126 321 JHW6-6100T10 392 JHW6-655T03 394 JHW6M-1235 313 JHW7-1232 322 JHW7-6126 321 JHW6-6100T10 390 JHW6-655T03 394 JHW6-1235 313 JHW7-1232 322 JHW7-6126 321 JHW6-6100T10 390 JHW6-655T03 394 JHW6-1235 313 JHW7-1230 322 JHW7-6130 321 JHW6-6100T0 390 JHW6-655T03 394 JHW6-1235 313 JHW7-1236 322 JHW7-6130 321 JHW6-610702 390 JHW6-655T03 394 JHW6-1236 313 JHW7-1236 322 JHW7-6130 321 JHW6-610704 390 JHW6-6055T03 394 JHW6-1236 313 JHW7-1236 322 JHW7-6130 321 JHW6-610704 390 JHW6-6055T03 394 JHW6-1240 313 JHW7-1240 322 JHW7-6130 321 JHW6-610704 390 JHW6-6055T03 397 JHW6-1240 313 JHW7-1240 322 JHW7-6130 321 JHW6-610708 390 JHW6-6055T03 397 JHW6-1240 313 JHW7-1240 322 JHW7-6136 321 JHW6-610708 390 JHW6-60505 397 JHW6-1243 313 JHW7-1244 322 JHW7-6138 321 JHW6-610710 390 JHW6-60505 397 JHW6-1243 313 JHW7-1244 322 JHW7-6136 321 JHW6-610710 390 JHW6-60505 397 JHW6-1243 313 JHW7-1244 322 JHW7-6140 321 JHW6-610710 390 JHW6-60505 397 JHW6-1243 313 JHW7-1244 322 JHW7-6140 321 JHW6-610710 390 JHW6-60505 397 JHW6-606-130 397 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-130 390 JHW6-606-13								_		
JHW6-6XS								-		
JHW6CD5T00										
JHW6C05T00 390 JHW6CD100T13 394 JHW6M-1228 313 JHW7-12136 322 JHW7-6112 321 JHW6C05T01 390 JHW6CD10T18 394 JHW6M-1229 313 JHW7-12144 322 JHW7-6116 321 JHW6C05T05 390 JHW6CD10T12 394 JHW6M-1230 313 JHW7-1224 322 JHW7-6120 321 JHW6C05T07 390 JHW6CD30T08 394 JHW6M-1231 313 JHW7-1226 322 JHW7-6120 321 JHW6C05T07 390 JHW6CD30T08 394 JHW6M-1232 313 JHW7-1228 322 JHW7-6122 321 JHW6C05T09 390 JHW6CD30T15 394 JHW6M-1233 313 JHW7-1230 322 JHW7-6122 321 JHW6C100T06 392 JHW6CD55T16 394 JHW6M-1234 313 JHW7-1230 322 JHW7-6126 321 JHW6C100T10 392 JHW6CD55T13 394 JHW6M-1235 313 JHW7-1232 322 JHW7-6126 321 JHW6C100T10 390 JHW6CD55T13 394 JHW6M-1235 313 JHW7-1234 322 JHW7-6128 321 JHW6C10T01 390 JHW6CD55T20 394 JHW6M-1235 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T04 390 JHW6CD75T06 394 JHW6M-1238 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T04 390 JHW6CD75T13 394 JHW6M-1238 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T04 390 JHW6CD75T13 394 JHW6M-1238 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T04 390 JHW6CD75T13 394 JHW6M-1238 313 JHW7-1240 322 JHW7-6136 321 JHW7-6136 321 JHW7-6130 321 JHW6C10T04 390 JHW6CD75T13 394 JHW6M-1240 313 JHW7-1240 322 JHW7-6136 321 JHW7-6136 321 JHW6C10T08 390 JHW6CD75T13 394 JHW6M-1241 313 JHW7-1240 322 JHW7-6136 321 JHW7-6136 321 JHW6C10T08 390 JHW6CF05T03 397 JHW6M-1241 313 JHW7-1242 322 JHW7-6136 321 JHW7-6136 321 JHW6C10T04 390 JHW6CF05T05 397 JHW6M-1241 313 JHW7-1244 322 JHW7-6136 321 JHW6C10T10 390 JHW6CF50T05 397 JHW6M-1243 313 JHW7-1244 322 JHW7-6136 321 JHW7-6140 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1243 313 JHW7-1248 322 JHW7-6140 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1243 313 JHW7-1248 322 JHW7-6140 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1240 313 JHW7-1250 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1250 313 JHW7-1250 322 JHW7-6146 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1250 313 JHW7-1256 322 JHW7-6156 321 JHW6C15T04 392 JHW6CH20T02 399 JHW6M-619A 313 JHW7-1256 322 JHW7-6156 321 JHW7-6156 321 JHW6C15T04 392 JHW6CH20T06 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321 JHW6C15T04 392										
JHW6C05T01 390 JHW6CD100T18 394 JHW6M-1229 313 JHW7-12144 322 JHW7-6116 321 JHW6C05T03 390 JHW6CD10T10 394 JHW6M-1230 313 JHW7-1224 322 JHW7-6118 321 JHW6C05T05 390 JHW6CD10T12 394 JHW6M-1231 313 JHW7-1226 322 JHW7-6120 321 JHW6C05T07 390 JHW6CD30T08 394 JHW6M-1232 313 JHW7-1228 322 JHW7-6122 321 JHW6C05T09 390 JHW6CD5T05 394 JHW6M-1233 313 JHW7-1230 322 JHW7-6124 321 JHW6C100T06 392 JHW6CD55T06 394 JHW6M-1235 313 JHW7-1232 322 JHW7-6126 321 JHW6C10T01 392 JHW6CD55T03 394 JHW6M-1235 313 JHW7-1234 322 JHW7-6126 321 JHW6C10T01 390 JHW6CD5T05 394 JHW6M-1236 313 JHW7-1236 322 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>_</td>										_
JHW6C05T03 390 JHW6CD10T10 394 JHW6M-1230 313 JHW7-1224 322 JHW7-6118 321 JHW6C05T05 390 JHW6CD10T12 394 JHW6M-1231 313 JHW7-1226 322 JHW7-6120 321 JHW6C05T07 390 JHW6CD30T08 394 JHW6M-1232 313 JHW7-1228 322 JHW7-6122 321 JHW6C05T09 390 JHW6CD30T15 394 JHW6M-1233 313 JHW7-1230 322 JHW7-6124 321 JHW6C100T06 392 JHW6CD55T06 394 JHW6M-1234 313 JHW7-1232 322 JHW7-6126 321 JHW6C100T01 392 JHW6CD55T13 394 JHW6M-1235 313 JHW7-1234 322 JHW7-6126 321 JHW6C10T01 390 JHW6CD55T20 394 JHW6M-1236 313 JHW7-1234 322 JHW7-6128 321 JHW6C10T02 390 JHW6CD75T06 394 JHW6M-1238 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T04 390 JHW6CD75T13 <										_
JHW6C05T05 390 JHW6CD10T12 394 JHW6M-1231 313 JHW7-1226 322 JHW7-6120 321 JHW6C05T07 390 JHW6CD30T08 394 JHW6M-1232 313 JHW7-1228 322 JHW7-6122 321 JHW6C05T09 390 JHW6CD30T15 394 JHW6M-1233 313 JHW7-1230 322 JHW7-6124 321 JHW6C100T06 392 JHW6CD55T06 394 JHW6M-1234 313 JHW7-1232 322 JHW7-6126 321 JHW6C100T10 392 JHW6CD55T20 394 JHW6M-1235 313 JHW7-1234 322 JHW7-6128 321 JHW6C10T01 390 JHW6CD55T20 394 JHW6M-1236 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T02 390 JHW6CD5T5T06 394 JHW6M-1238 313 JHW7-1238 322 JHW7-6130 321 JHW6C10T04 390 JHW6CD5T5T3 394 JHW6M-1240 313 JHW7-1240 322<										
JHW6C05T07 390 JHW6CD30T08 394 JHW6M-1232 313 JHW7-1228 322 JHW7-6122 321 JHW6C05T09 390 JHW6CD30T15 394 JHW6M-1233 313 JHW7-1230 322 JHW7-6124 321 JHW6C100T06 392 JHW6CD55T06 394 JHW6M-1234 313 JHW7-1232 322 JHW7-6126 321 JHW6C10T01 392 JHW6CD55T13 394 JHW6M-1235 313 JHW7-1234 322 JHW7-6128 321 JHW6C10T01 390 JHW6CD55T20 394 JHW6M-1236 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T02 390 JHW6CD75T06 394 JHW6M-1238 313 JHW7-1238 322 JHW7-6130 321 JHW6C10T04 390 JHW6CD75T03 394 JHW6M-1240 313 JHW7-1240 322 JHW7-6132 321 JHW6C10T06 390 JHW6CF05T03 397 JHW6M-1240 313 JHW7-1240 322 JHW7-6136 321 JHW6C10T08 390 JHW6CF05T05 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
JHW6C05T09 390 JHW6CD30T15 394 JHW6M-1233 313 JHW7-1230 322 JHW7-6124 321 JHW6C100T06 392 JHW6CD55T06 394 JHW6M-1234 313 JHW7-1232 322 JHW7-6126 321 JHW6C10T01 392 JHW6CD55T20 394 JHW6M-1235 313 JHW7-1236 322 JHW7-6128 321 JHW6C10T02 390 JHW6CD75T06 394 JHW6M-1236 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T02 390 JHW6CD75T06 394 JHW6M-1238 313 JHW7-1238 322 JHW7-6132 321 JHW6C10T04 390 JHW6CD75T13 394 JHW6M-1240 313 JHW7-1240 322 JHW7-6134 321 JHW6C10T06 390 JHW6CF05T03 397 JHW6M-1241 313 JHW7-1242 322 JHW7-6134 321 JHW6C10T10 390 JHW6CF0705 397 JHW6M-1242 313 JHW7-1244 322 JHW7-6140 321 JHW6C10T12 390 JHW6CF0705										
JHW6C100T06 392 JHW6CD55T06 394 JHW6M-1234 313 JHW7-1232 322 JHW7-6126 321 JHW6C100T10 392 JHW6CD55T13 394 JHW6M-1235 313 JHW7-1234 322 JHW7-6128 321 JHW6C10T01 390 JHW6CD55T20 394 JHW6M-1236 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T02 390 JHW6CD75T06 394 JHW6M-1238 313 JHW7-1238 322 JHW7-6132 321 JHW6C10T04 390 JHW6CD75T13 394 JHW6M-1240 313 JHW7-1240 322 JHW7-6134 321 JHW6C10T06 390 JHW6CF05T03 397 JHW6M-1241 313 JHW7-1242 322 JHW7-6136 321 JHW6C10T08 390 JHW6CF10T05 397 JHW6M-1242 313 JHW7-1244 322 JHW7-6138 321 JHW6C10T10 390 JHW6CF20T05 397 JHW6M-1242 313 JHW7-1246 322 JHW7-6138 321 JHW6C10T12 390 JHW6CF20T05 397 JHW6M-1243 313 JHW7-1246 322 JHW7-6140 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1244 313 JHW7-1248 322 JHW7-6140 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1244 313 JHW7-1256 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH10T03 399 JHW6CH20T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH10T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6148 321 JHW7-6146 321 JHW6C15T04 392 JHW6CH12T03 399 JHW6M-1250 313 JHW7-1254 322 JHW7-6148 321 JHW7-6150 392 JHW7-6150 399 JHW6CH5T0A 313 JHW7-1256 322 JHW7-6152 321 JHW7-6156 321 JHW6C15T06 392 JHW6CH20T02 399 JHW6M-610A 313 JHW7-1256 322 JHW7-6156 321 JHW7-6156 321 JHW6C15T06 392 JHW6CH20T02 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321 JHW7-6156 321										
JHW6C10T10 392 JHW6CD55T13 394 JHW6M-1235 313 JHW7-1234 322 JHW7-6128 321 JHW6C10T01 390 JHW6CD55T20 394 JHW6M-1236 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T02 390 JHW6CD75T06 394 JHW6M-1238 313 JHW7-1238 322 JHW7-6132 321 JHW7-6132 321 JHW6C10T04 390 JHW6CD75T13 394 JHW6M-1240 313 JHW7-1240 322 JHW7-6134 321 JHW6C10T06 390 JHW6CF05T03 397 JHW6M-1241 313 JHW7-1242 322 JHW7-6136 321 JHW6C10T08 390 JHW6CF10T05 397 JHW6M-1242 313 JHW7-1244 322 JHW7-6138 321 JHW6C10T10 390 JHW6CF20T05 397 JHW6M-1243 313 JHW7-1246 322 JHW7-6140 321 JHW6C10T12 390 JHW6CF30T05 397 JHW6M-1243 313 JHW7-1246 322 JHW7-6140 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1244 313 JHW7-1248 322 JHW7-6142 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1246 313 JHW7-1248 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1246 313 JHW7-1250 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH10T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6148 321 JHW6C15T04 392 JHW6CH12T03 399 JHW6M-617A 313 JHW7-1256 322 JHW7-6148 321 JHW6C15T04 392 JHW6CH20T02 399 JHW6M-619A 313 JHW7-1256 322 JHW7-6152 321 JHW7-6156 321 JHW6C15T06 392 JHW6CH20T06 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321 JHW7-6156 321 JHW7-6156 322 JHW7-6156 321 JHW6C15T06 392 JHW6CH20T06 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321 JHW7-6156 321										
JHW6C10T01 390 JHW6CD55T20 394 JHW6M-1236 313 JHW7-1236 322 JHW7-6130 321 JHW6C10T02 390 JHW6CD75T06 394 JHW6M-1238 313 JHW7-1238 322 JHW7-6132 321 JHW6C10T04 390 JHW6CD75T13 394 JHW6M-1240 313 JHW7-1240 322 JHW7-6134 321 JHW6C10T06 390 JHW6CF05T03 397 JHW6M-1241 313 JHW7-1242 322 JHW7-6136 321 JHW6C10T08 390 JHW6CF10T05 397 JHW6M-1242 313 JHW7-1244 322 JHW7-6138 321 JHW6C10T10 390 JHW6CF20T05 397 JHW6M-1243 313 JHW7-1246 322 JHW7-6140 321 JHW6C10T12 390 JHW6CF30T05 397 JHW6M-1244 313 JHW7-1248 322 JHW7-6142 321 JHW6C15T01 390 JHW6CF50T05 397 JHW6M-1246 313 JHW7-1250 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH100T03 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
JHW6C10T02 390 JHW6CD75T06 394 JHW6M-1238 313 JHW7-1238 322 JHW7-6132 321 JHW6C10T04 390 JHW6CD75T13 394 JHW6M-1240 313 JHW7-1240 322 JHW7-6134 321 JHW6C10T06 390 JHW6CF05T03 397 JHW6M-1241 313 JHW7-1242 322 JHW7-6136 321 JHW6C10T08 390 JHW6CF10T05 397 JHW6M-1242 313 JHW7-1244 322 JHW7-6138 321 JHW6C10T10 390 JHW6CF20T05 397 JHW6M-1243 313 JHW7-1246 322 JHW7-6140 321 JHW6C10T12 390 JHW6CF30T05 397 JHW6M-1244 313 JHW7-1248 322 JHW7-6142 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1246 313 JHW7-1250 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6146 321 JHW6C15T04 392 JHW6CH20T02 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
JHW6C10T04 390 JHW6CD75T13 394 JHW6M-1240 313 JHW7-1240 322 JHW7-6134 321 JHW6C10T06 390 JHW6CF05T03 397 JHW6M-1241 313 JHW7-1242 322 JHW7-6136 321 JHW6C10T08 390 JHW6CF10T05 397 JHW6M-1242 313 JHW7-1244 322 JHW7-6138 321 JHW6C10T10 390 JHW6CF20T05 397 JHW6M-1243 313 JHW7-1246 322 JHW7-6140 321 JHW6C10T12 390 JHW6CF30T05 397 JHW6M-1244 313 JHW7-1248 322 JHW7-6142 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1246 313 JHW7-1250 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6146 321 JHW6C15T02 392 JHW6CH20T02 399 JHW6M-619A 313 JHW7-1256 322 JHW7-6152 321 JHW6C15T06 392 JHW6CH20T06 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
JHW6C10T06 390 JHW6CF05T03 397 JHW6M-1241 313 JHW7-1242 322 JHW7-6136 321 JHW6C10T08 390 JHW6CF10T05 397 JHW6M-1242 313 JHW7-1244 322 JHW7-6138 321 JHW6C10T10 390 JHW6CF20T05 397 JHW6M-1243 313 JHW7-1246 322 JHW7-6140 321 JHW6C10T12 390 JHW6CF30T05 397 JHW6M-1244 313 JHW7-1248 322 JHW7-6142 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1246 313 JHW7-1250 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6146 321 JHW6C15T02 392 JHW6CH20T02 399 JHW6M-619A 313 JHW7-1256 322 JHW7-6152 321 JHW6C15T06 392 JHW6CH20T06 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321										
JHW6C10T08 390 JHW6CF10T05 397 JHW6M-1242 313 JHW7-1244 322 JHW7-6138 321 JHW6C10T10 390 JHW6CF20T05 397 JHW6M-1243 313 JHW7-1246 322 JHW7-6140 321 JHW6C10T12 390 JHW6CF30T05 397 JHW6M-1244 313 JHW7-1248 322 JHW7-6142 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1246 313 JHW7-1250 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6146 321 JHW6C15T02 392 JHW6CH20T02 399 JHW6M-619A 313 JHW7-1256 322 JHW7-6152 321 JHW6C15T06 392 JHW6CH20T06 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321	JHW6C10T04	390					JHW7-1240	322		
JHW6C10T10 390 JHW6CF20T05 397 JHW6M-1243 313 JHW7-1246 322 JHW7-6140 321 JHW6C10T12 390 JHW6CF30T05 397 JHW6M-1244 313 JHW7-1248 322 JHW7-6142 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1246 313 JHW7-1250 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6146 321 JHW6C15T02 392 JHW6CH20T03 399 JHW6M-617A 313 JHW7-1254 322 JHW7-6152 321 JHW6C15T04 392 JHW6CH20T02 399 JHW6M-619A 313 JHW7-1256 322 JHW7-6152 321 JHW6C15T06 392 JHW6CH20T06 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321	JHW6C10T06	390	JHW6CF05T03	397	JHW6M-1241	313	JHW7-1242	322	JHW7-6136	321
JHW6C10T12 390 JHW6CF30T05 397 JHW6M-1244 313 JHW7-1248 322 JHW7-6142 321 JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1246 313 JHW7-1250 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6146 321 JHW6C15T02 392 JHW6CH12T03 399 JHW6M-617A 313 JHW7-1254 322 JHW7-6148 321 JHW6C15T04 392 JHW6CH20T02 399 JHW6M-619A 313 JHW7-1256 322 JHW7-6152 321 JHW6C15T06 392 JHW6CH20T06 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321	JHW6C10T08	390	JHW6CF10T05	397	JHW6M-1242	313	JHW7-1244	322		
JHW6C10T14 390 JHW6CF50T05 397 JHW6M-1246 313 JHW7-1250 322 JHW7-6144 321 JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6146 321 JHW6C15T02 392 JHW6CH12T03 399 JHW6M-617A 313 JHW7-1254 322 JHW7-6148 321 JHW6C15T04 392 JHW6CH20T02 399 JHW6M-619A 313 JHW7-1256 322 JHW7-6152 321 JHW6C15T06 392 JHW6CH20T06 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321	JHW6C10T10	390	JHW6CF20T05	397	JHW6M-1243	313	JHW7-1246	322	JHW7-6140	321
JHW6C15T01 392 JHW6CH100T03 399 JHW6M-1250 313 JHW7-1252 322 JHW7-6146 321 JHW6C15T02 392 JHW6CH12T03 399 JHW6M-617A 313 JHW7-1254 322 JHW7-6148 321 JHW6C15T04 392 JHW6CH20T02 399 JHW6M-619A 313 JHW7-1256 322 JHW7-6152 321 JHW6C15T06 392 JHW6CH20T06 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321	JHW6C10T12	390	JHW6CF30T05	397	JHW6M-1244	313	JHW7-1248	322	JHW7-6142	321
JHW6C15T02 392 JHW6CH12T03 399 JHW6M-617A 313 JHW7-1254 322 JHW7-6148 321 JHW6C15T04 392 JHW6CH20T02 399 JHW6M-619A 313 JHW7-1256 322 JHW7-6152 321 JHW6C15T06 392 JHW6CH20T06 399 JHW6M-620A 313 JHW7-1258 322 JHW7-6156 321	JHW6C10T14	390	JHW6CF50T05	397	JHW6M-1246	313	JHW7-1250	322	JHW7-6144	321
JHW6C15T04	JHW6C15T01	392	JHW6CH100T03	399	JHW6M-1250	313	JHW7-1252	322	JHW7-6146	321
JHW6C15T06392 JHW6CH20T06399 JHW6M-620A313 JHW7-1258322 JHW7-6156321	JHW6C15T02	392	JHW6CH12T03	399	JHW6M-617A	313	JHW7-1254	322	JHW7-6148	321
	JHW6C15T04	392	JHW6CH20T02	399	JHW6M-619A	313	JHW7-1256	322	JHW7-6152	321
JHW6C15T08392 JHW6CH30T02399 JHW6M-622A313 JHW7-1260322 JHW7-6160321	JHW6C15T06	392	JHW6CH20T06	399	JHW6M-620A	313	JHW7-1258	322	JHW7-6156	321
	JHW6C15T08	392	JHW6CH30T02	399	JHW6M-622A	313	JHW7-1260	322	JHW7-6160	321



										8
\	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
)	JHW7-6172	321	JHW7M-632	324	JHW8-656	326	JHW8811BW		JHW8907	179
	JHW7-6184		JHW7M-635	324	JHW8-658	326	JHW8811BW-TH	106	JHW8907A	179
	JHW7-624	321	JHW7M-638	324	JHW8-660	326	JHW8811W	183	JHW8908	179
	JHW7-626	321	JHW7M-641	324	JHW8-664	326	JHW8811W-TH	106	JHW8908A	179
	JHW7-628	321	JHW7M-646	324	JHW8-666	326	JHW8812AW	183	JHW8909	179
	JHW7-630	321	JHW7M-650	324	JHW8-668	326	JHW8812AW-TH	106	JHW8909A	179
	JHW7-632	321	JHW7M-660	324	JHW8-670	326	JHW8812BW	183	JHW8910	179
	JHW7-634		JHW7M-665	324	JHW8-672	326	JHW8812BW-TH	106	JHW8910A	179
	JHW7-636		JHW7M-670		JHW8-676	326	JHW8812W	183	JHW8911	179
	JHW7-638		JHW7M-675		JHW8-678	326	JHW8812W-TH	106	JHW8911A	179
	JHW7-640	321	JHW8033A	171	JHW8-680	326	JHW8813AW	183	JHW8912	179
	JHW7-642	321	JHW8033C	171	JHW8-682	326	JHW8813AW-TH	106	JHW8913	179
	JHW7-644	321	JHW8-108	325	JHW8-684	326	JHW8813BW	183	JHW8914	179
	JHW7-646	321	JHW8-115	325	JHW8-688	326	JHW8813BW-TH	106	JHW8915	179
	JHW7-648	321	JHW8-140B	325	JHW8-692	326	JHW8813W	183	JHW8916	179
	JHW7-650	321	JHW8-1XS	325	JHW8-694	326	JHW8813W-TH	106	JHW8FB25F38M.	420
	JHW7-652	321	JHW8-20	325	JHW8-696	326	JHW8814AW	183	JHW8FC25F38F	421
	JHW7-654	321	JHW8231	348	JHW8-698	326	JHW8814AW-TH	106	JHW8FC38F	421
	JHW7-656	321	JHW8-2E	325	JHW8-7	325	JHW8814W	183	JHW8FG38MF	420
	JHW7-658	321	JHW8-2XS	325	JHW8720	171	JHW8814W-TH	106	JHW8FN25M	421
	JHW7-660	321	JHW8-3XS	325	JHW8723	171	JHW8815AW	183	JHW8FN25M38M	421
	JHW7-662	321	JHW8-4XS	325	JHW8725	171	JHW8815AW-TH	106	JHW8FN38M	421
	JHW7-664	321	JHW8-6100	326	JHW8725B	171	JHW8815BW	183	JHW8FR38M25F.	420
	JHW7-666	321	JHW8-6104		JHW8727		JHW8815BW-TH	106	JHW8G025W	420
	JHW7-668		JHW8-6108		JHW8727A		JHW8815W		JHW8G04W	
)	JHW7-670		JHW8-6110		JHW8729		JHW8815W-TH		JHW8H1G	
	JHW7-672		JHW8-6112		JHW8729A		JHW8816BW		JHW8H2525D06.	
	JHW7-674		JHW8-6116		JHW8731A		JHW8816BW-TH		JHW8H2538D06.	
	JHW7-676		JHW8-6120		JHW8-8		JHW8816CW		JHW8H3825D06.	
	JHW7-678		JHW8-6122		JHW8807AW		JHW8816CW-TH		JHW8H3825D10.	
	JHW7-680		JHW8-6124		JHW8807AW-TH.		JHW8816W		JHW8H3825D20.	
	JHW7-682		JHW8-6128		JHW8807W		JHW8816W-TH		JHW8H3838D06.	
	JHW7-684		JHW8-6132		JHW8807W-TH		JHW8817AW		JHW8H3838D10.	
	JHW7-686		JHW8-6136		JHW8808AW		JHW8817AW-TH		JHW8H3838D20.	
	JHW7-688		JHW8-6138		JHW8808AW-TH.		JHW8817W		JHW8M14L7P	
	JHW7-690		JHW8-6140		JHW8808BW		JHW8817W-TH		JHW8M7L7P	
	JHW7-692		JHW8-6144		JHW8808BW-TH.		JHW8818AW		JHW8R38D	
	JHW7-694		JHW8-6148		JHW8808CW		JHW8818AW-TH		JHW8R38DF	
	JHW7-696		JHW8-6152		JHW8808CW-TH.		JHW8818W		JHW8R38DM	
	JHW7-6XS		JHW8-6156		JHW8808W		JHW8818W-TH		JHW8RH38D	
	JHW7723		JHW8-6160		JHW8808W-TH		JHW8819AW		JHW8RH38DF	
	JHW7723-TH		JHW8-6172		JHW8809AW		JHW8819AW-TH		JHW8RH38DM	
	JHW7725B		JHW8-6184		JHW8809AW-TH.		JHW8819BW		JHW8V38N	
	JHW7725B-TH		JHW8-6196	326	JHW8809BW		JHW8819BW-TH		JHW8V38R	
	JHW7727A		JHW8-6208		JHW8809BW-TH.		JHW8819CW		JHW9-1D	
	JHW7727A-TH	101	JHW8-6220	326	JHW8809W		JHW8819CW-TH		JHW9-2G	
	JHW7731A		JHW8-6232	326	JHW8809W-TH		JHW8819W		JHW9A55T06	
	JHW7731A-TH		JHW8-6244	326	JHW8810AW		JHW8819W-TH	106	JHW9A55T13	
	JHW7731B	169	JHW8-6256	326	JHW8810AW-TH.	106	JHW88SET-TH	106	JHW9E100T10	415
١	JHW7731B-TH	101	JHW8-646	326	JHW8810W	183	JHW8905	179	JHW9E55T06	415
	JHW7-8	319	JHW8-648	326	JHW8810W-TH	106	JHW8905A	179	JHW9E55T13	415
	JHW7M-627	324	JHW8-652	326	JHW8811AW	183	JHW8906	179	JHW9H55T06	415



Product Code									V	VILLIA	MS.
JHWBMA-82		Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
J.HWBMD-868. 246 J.HWBWM-1415. 170 J.HWC-72. 382 J.HWC-C-SAAW. 365 J.HWEMM-6708. 163 J.HWBMD-869. 246 J.HWBWM-1417. 170 J.HWC-73. 382 J.HWC-C-SAAW. 365 J.HWEMM-6101. 163 J.HWBMD-869. 246 J.HWBWM-1417. 170 J.HWC-73. 382 J.HWC-C-SAAW. 365 J.HWEMM-6101. 163 J.HWBMD-869. 246 J.HWBWM-1818. 170 J.HWC-73. 382 J.HWC-C-SAAW. 365 J.HWEMM-1813. 163 J.HWBMD-869. 246 J.HWBWM-1812. 170 J.HWC-80. 388 J.HWC-C-SAAW. 365 J.HWEMM-1813. 163 J.HWBMD-861. 246 J.HWBWM-1812. 170 J.HWC-80. 388 J.HWC-C-SAAW. 365 J.HWEMM-1813. 163 J.HWBMD-861. 246 J.HWBWM-1812. 170 J.HWC-80. 386 J.HWC-C-SAAW. 365 J.HWEMM-1818. 163 J.HWBMD-815. 246 J.HWBWM-1812. 170 J.HWC-80. 385 J.HWC-C-SAAW. 365 J.HWEMM-1819. 183 J.HWBMD-815. 246 J.HWBWM-1814. 170 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J.HWC-80. 385 J)	JHWBM-624	245	JHWBWM-1213	170	JHWC-715	386	JHWCC-412S	365	JHWELECTRICALT	В 33
J.HWBMD.697. 246 J.HWBWM.1415. 170 J.HWC.73. 382 J.HWC.62AW. 365 J.HWBWM.6910. 163 J.HWBMD.698 246 J.HWBWM.1417. 170 J.HWC.74. 382 J.HWC.62AAW. 365 J.HWBWM.1513. 163 J.HWBMD.610. 246 J.HWBWM.1518. 170 J.HWC.8. 381 J.HWBMD.610. 246 J.HWBWM.1519. 170 J.HWC.8. 381 J.HWBC.6AAW. 365 J.HWBWM.1518. 163 J.HWBMD.611. 246 J.HWBWM.1512. 170 J.HWC.8. 381 J.HWC.6AAW. 365 J.HWBWM.1518. 163 J.HWBMD.612. 246 J.HWBWM.1522. 170 J.HWC.803. 385 J.HWC.6AAW. 365 J.HWBWM.1518. 163 J.HWBMD.612. 246 J.HWBWM.1522. 170 J.HWC.803. 385 J.HWC.6AAW. 365 J.HWBWM.1518. 163 J.HWBMD.613. 246 J.HWBWM.224. 170 J.HWC.803. 385 J.HWC.6AAW. 365 J.HWBWM.1512. 163 J.HWBMD.615. 246 J.HWBWM.224. 170 J.HWC.803. 385 J.HWC.6AAW. 365 J.HWBWM.224. 170 J.HWC.803. 385 J.HWC.6D6. 240 J.HWBWM.224. 170 J.HWC.803. 385 J.HWC.6D6. 240 J.HWBWM.224. 170 J.HWC.818 385 J.HWC.6D6. 240 J.HWBWM.224. 170 J.HWC.818 385 J.HWC.6D6. 240 J.HWBWM.224. 240 J.HWBWM.224. 385 J.HWC.6D6. 240 J.HWBWM.224. 240 J.HWBWM.224. 385 J.HWC.823. 386 J.HWC.823. 386 J.HWC.823. 386 J.HWC.823. 386 J.HWC.823. 386 J.HWC.823. 386 J.HWC.823. 386 J.HWC.823. 386 J.HWC.823. 386 J.HWC.823. 386 J.HWC.823. 386 J.HWC.823. 386 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.HWC.824. 385 J.		JHWBM-626	245	JHWBWM-1214	170	JHWC-718	386	JHWCC-4AAW	365	JHWEWM-0607	163
JHWBMD-609. 246 JHWBWM-1618 170 JHWC-75. 382 JHWC-C-6AAW 365 JHWBWM-1611. 163 JHWBMD-610. 246 JHWBWM-1618 170 JHWC-75. 381 JHWC-C-6AAW 365 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHWBWM-1618. 163 JHW		JHWBMD-606	246	JHWBWM-1315	170	JHWC-72	382	JHWCC-4LAAW	365	JHWEWM-0708	163
J.HWBMD-690. 246 JHWBWM-1821. 170 JHWC-5. 382 JHWCC-6.AAW 365 JHWBWM-1213. 163 JHWBMD-611. 246 JHWBWM-1719. 170 JHWC-6. 386 JHWC-C-6.AAW 365 JHWBWM-1821. 163 JHWBMD-612. 246 JHWBWM-1922. 170 JHWC-80. 385 JHWC-C-6.AAW 365 JHWBWM-1921. 163 JHWBMD-613. 246 JHWBWM-1922. 170 JHWC-807. 385 JHWC-C-6.AAW 365 JHWBWM-1921. 163 JHWBMD-614. 246 JHWBWM-1922. 170 JHWC-807. 385 JHWC-6.AAW 365 JHWBWM-1921. 163 JHWBMD-615. 246 JHWBWM-1922. 170 JHWC-80A. 386 JHWC-6.AAW 365 JHWBMD-615. 246 JHWBWM-1921. 170 JHWC-80A. 386 JHWC-6.15 221 JHWBMD-615. 246 JHWBWM-1921. 170 JHWC-812. 385 JHWBMD-615. 246 JHWC-10. 381 JHWC-82. 385 JHWBMD-618. 246 JHWC-10. 381 JHWC-82. 385 JHWBMD-618. 246 JHWC-10. 381 JHWC-82. 385 JHWBMD-618. 246 JHWC-10. 383 JHWC-82. 386 JHWBMD-619. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 246 JHWC-10. 385 JHWC-82. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHWBMD-62. 386 JHW		JHWBMD-607	246	JHWBWM-1415	170	JHWC-73	382	JHWCC-5AAW	365	JHWEWM-0910	163
J.HWBMD-610. 246 J.HWBWM-1821 170 J.HWC-8. 381 J.HWC-6.ALAW 365 J.HWEWM-1815. 163 J.HWBMD-612 249 J.HWBWM-1821 170 J.HWC-803 385 J.HWC-6.BLAW 365 J.HWEWM-1719. 163 J.HWBMD-613. 246 J.HWBWM-1224 170 J.HWC-803 385 J.HWC-6.BLAW 365 J.HWEWM-1719. 163 J.HWBMD-613. 246 J.HWBWM-224 170 J.HWC-80A 386 J.HWC-6.BLAW 365 J.HWEWM-1719. 163 J.HWBMD-615. 246 J.HWBWM-224 170 J.HWC-80A 386 J.HWC-6.BLAW 365 J.HWEWM-1719. 163 J.HWBMD-615. 246 J.HWBWM-224 170 J.HWC-80A 386 J.HWC-80A 386 J.HWC-81 421 J.HWBWM-224 163 J.HWBMD-617. 246 J.HWBWM-227 170 J.HWC-80A 386 J.HWC-810 421 J.HWBWM-227 163 J.HWBMD-617. 246 J.HWBWM-3032 170 J.HWC-82 386 J.HWC-810 421 J.HWEWM-2730. 163 J.HWBMD-617. 246 J.HWBWM-3032 170 J.HWC-82 386 J.HWC-83 379 J.HWE-218. 496 J.HWBMD-622 246 J.HWC-100 385 J.HWC-82 386 J.HWC-83 379 J.HWE-218. 496 J.HWBMD-622 246 J.HWC-101 385 J.HWC-83 386 J.HWC-83 389 J.HWC-83 389 J.HWC-83 389 J.HWC-83 389 J.HWC-82 386 J.HWC-84 389 J.HWE-218. 496 J.HWBMD-623 246 J.HWC-102 385 J.HWC-83 386 J.HWC-83 389 J.HWC-84 389 J.HWC-82 386 J.HWC-84 389 J.HWE-218. 496 J.HWBMD-623 246 J.HWC-102 385 J.HWC-83 386 J.HWC-84 389 J.HWC-84 389 J.HWE-22A 496 J.HWBMD-623 246 J.HWC-102 385 J.HWC-83 389 J.HWC-83 389 J.HWC-83 389 J.HWC-84 389 J.HWC-84 389 J.HWE-22A 496 J.HWBMD-623 246 J.HWC-102 382 J.HWC-85 389 J.HWC-85 389 J.HWC-85 389 J.HWC-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWC-85 389 J.HWC-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWC-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWC-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWC-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 389 J.HWBMD-85 38		JHWBMD-608	246	JHWBWM-1417	170	JHWC-74	382	JHWCC-5LAAW	365	JHWEWM-1011	163
JHVBMD-611		JHWBMD-609	246	JHWBWM-1618	170	JHWC-75	382	JHWCC-6AAW	365	JHWEWM-1213	163
JHYRIMO 612		JHWBMD-610	246	JHWBWM-1719	170	JHWC-8	381	JHWCC-6LAAW	365	JHWEWM-1415	163
J.HWBMD-613, 246 J.HWBWM-2124, 170 J.HWC-807, 385 J.HWC-PST, 421 J.HWEWM-2124, 163 J.HWBMD-615, 246 J.HWBWM-2247, 170 J.HWC-812, 385 J.HWC-PST, 421 J.HWEWM-2247, 163 J.HWBMD-615, 246 J.HWBWM-2273, 170 J.HWC-812, 385 J.HWC-PSDT, 421 J.HWEWM-2273, 170 J.HWC-812, 385 J.HWC-PSDT, 421 J.HWEWM-2273, 170 J.HWC-812, 385 J.HWC-PSDT, 421 J.HWEWM-2273, 163 J.HWBMD-618, 246 J.HWC-10, 381 J.HWC-824, 385 J.HWC-8-8, 379 J.HWE-21A, 496 J.HWBMD-62, 246 J.HWC-10, 385 J.HWC-82A, 386 J.HWC-8-8, 379 J.HWE-21A, 496 J.HWBMD-62, 246 J.HWC-101, 385 J.HWC-83, 386 J.HWC-8-8, 379 J.HWE-21A, 496 J.HWBMD-622, 246 J.HWC-102, 385 J.HWC-83, 386 J.HWC-8-8, 389 J.HWC-8-8, 389 J.HWC-8-24, 496 J.HWBMD-622, 246 J.HWC-101, 381 J.HWC-84A, 386 J.HWC-W-11, 182 J.HWE-22A, 496 J.HWBMD-624, 246 J.HWC-107, 385 J.HWC-8-3, 385 J.HWC-8-3, 385 J.HWC-8-25, 249 J.HWC-107, 389 J.HWC-8-14, 386 J.HWD-107, 389 J.HWC-8-24, 496 J.HWBMD-625, 249 J.HWC-107, 381 J.HWC-8-4, 386 J.HWD-107, 381 J.HWC-8-24, 385 J.HWD-107, 381 J.HWD-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HWC-107, 381 J.HW		JHWBMD-611	246	JHWBWM-1821	170	JHWC-80	386	JHWCC-8AAW	365	JHWEWM-1618	163
JHWBMD-614 246 JHWBWM-2224 170 JHWC-80A 386 JHWCP15T 421 JHWBWM-2224 163 JHWBMD-615 246 JHWBWM-227 170 JHWC-812 385 JHWCP05T 421 JHWBWM-2273 163 JHWBMD-616 246 JHWBWM-3032 170 JHWC-818 385 JHWCP05T 421 JHWBWM-2273 183 JHWBMD-617 246 JHWBWM-3032 170 JHWC-82 386 JHWCP05T 421 JHWBWM-2230 163 JHWBMD-618 246 JHWC-100 335 JHWC-82A 386 JHWC-84 379 JHWE-126 446 JHWC-101 335 JHWC-82A 386 JHWC-84 379 JHWE-126 446 JHWC-101 335 JHWC-82A 386 JHWC-84 379 JHWE-126 446 JHWBMD-619 246 JHWC-101 335 JHWC-82A 386 JHWC-84 379 JHWE-126 446 JHWBMD-620 246 JHWC-103 385 JHWC-83A 386 JHWC-84 379 JHWE-126 446 JHWBMD-622 246 JHWC-103 385 JHWC-83A 386 JHWC-84 379 JHWE-24A 496 JHWBMD-622 246 JHWC-103 385 JHWC-83A 386 JHWC-84 380 JHWC-84 380 JHWBMD-624 246 JHWC-103 385 JHWC-83A 386 JHWC-84 225 JHWBC-84 496 JHWBMD-625 246 JHWC-12 381 JHWC-84 386 JHWD-85 6 275 JHWE-25A 496 JHWBMD-625 246 JHWC-12 381 JHWC-84 386 JHWD-84 260 JHWBE-25A 486 JHWBMD-84 24 JHWC-12 382 JHWC-84 386 JHWC-85 386 JHWBB-11 494 JHWE-25B 496 JHWBP4014TH 121 JHWC-125 382 JHWC-85 386 JHWBB-11 494 JHWE-26 496 JHWBP4014TH 121 JHWC-125 382 JHWC-85 386 JHWBB-11 494 JHWE-23 496 JHWBP4014TH 121 JHWC-125 382 JHWC-85 386 JHWBB-11 494 JHWE-23 496 JHWBS-130 224 JHWC-132 382 JHWC-86 389 JHWBB-11 494 JHWE-23 496 JHWBS-130 224 JHWC-15 381 JHWC-96 385 JHWBB-17 494 JHWC-83 496 JHWBS-130 224 JHWC-15 381 JHWC-96 385 JHWBB-17 494 JHWC-83 496 JHWBS-130 224 JHWC-15 381 JHWC-96 385 JHWBB-17 494 JHWC-81 496 JHWBS-318 224 JHWC-15 381 JHWC-96 385 JHWBB-17 494 JHWC-81 496 JHWBS-318 224 JHWC-16 TH 130 JHWC-96 385 JHWBB-17 494 JHWC-81 496 JHWBS-318 224 JHWC-16 TH 130 JHWC-96 385 JHWBB-17 494 JHWC-81 496 JHWBS-318 224 JHWC-16 TH 130 JHWC-96 385 JHWBB-17 494 JHWC-81 496 JHWBS-318 224 JHWC-16 TH 130 JHWC-96 385 JHWBB-17 494 JHWC-81 496 JHWBS-318 224 JHWC-16 TH 130 JHWC-96 385 JHWBB-17 494 JHWC-81 496 JHWBS-318 494 JHWC-81 496 JHWBS-318 494 JHWC-81 496 JHWBS-318 494 JHWC-81 496 JHWBS-318 494 JHWBS-318 494 JHWBS-318 496 JHWBS-318 494 JHWBS-318 496 JHWBS-318 494 JHWBS-318 496 JHWBS-318 494 JHWBS-318 496 JHWBS		JHWBMD-612	246	JHWBWM-1922	170	JHWC-803	385	JHWCC-8LAAW	365	JHWEWM-1719	163
JHWBMD-615. 246 JHWBWM-2427. 170 JHWC-812. 385 JHWCP25T. 421 JHWBWM-2427. 163 JHWBMD-616 246 JHWBWM-2730. 170 JHWC-818. 385 JHWCP695T. 421 JHWBWM-323. 163 JHWBMD-619 246 JHWC-10. 381 JHWC-82. 386 JHWC-83. 379 JHWC-8218. 496 JHWBMD-619 246 JHWC-10. 385 JHWC-824. 385 JHWC-89. 379 JHWC-8218. 496 JHWBMD-620 246 JHWC-1010. 385 JHWC-83. 386 JHWC-89. 379 JHWC-824. 496 JHWBMD-620 246 JHWC-102. 385 JHWC-83. 386 JHWC-84. 599 JHWC-824. 496 JHWBMD-620 246 JHWC-102. 385 JHWC-836. 385 JHWC-84. 599 JHWC-84. 499 JHWC-824. 496 JHWBMD-620 246 JHWC-102. 385 JHWC-836. 385 JHWC-85. 386 JHWC-84. 599 JHWC-824. 496 JHWBMD-620. 246 JHWC-102. 385 JHWC-836. 385 JHWC-85. 386 JHWC-85. 259 JHWC-824. 496 JHWBMD-620. 246 JHWC-102. 381 JHWC-84. 389 JHWC-85. 496 JHWBMD-620. 246 JHWC-102. 381 JHWC-84. 389 JHWC-85. 496 JHWBP3-107 121 JHWC-122. 381 JHWC-84. 389 JHWC-85. 496 JHWBP3-107 141 JHWC-124. 382 JHWC-85. 386 JHWBB-11T. 494 JHWE-28. 496 JHWBP3-107 11. 121 JHWC-125. 382 JHWC-85. 386 JHWBB-11T. 494 JHWE-82. 496 JHWBP3-107 11. 121 JHWC-125. 382 JHWC-85. 386 JHWBB-11T. 494 JHWC-83. 496 JHWB-9104TH. 121 JHWC-125. 382 JHWC-85. 386 JHWBB-14T. 494 JHWC-83. 496 JHWB-9104TH. 121 JHWC-125. 382 JHWC-85. 386 JHWBB-14T. 494 JHWC-83. 496 JHWB-9104TH. 121 JHWC-125. 382 JHWC-85. 386 JHWBB-14T. 494 JHWC-83. 496 JHWB-910. 386 JHWBB-910. 396 JHWB-910.	JHWBMD-613	246	JHWBWM-2124	170	JHWC-807	385	JHWCP05T	421	JHWEWM-2124	163	
JHWBMD-616		JHWBMD-614	246	JHWBWM-2224	170	JHWC-80A	386	JHWCP15T	421	JHWEWM-2224	163
JHWBMD-616		JHWBMD-615	246	JHWBWM-2427	170	JHWC-812	385	JHWCP25T	421	JHWEWM-2427	163
JHWBMD-617. 246 JHWC-10. 381 JHWC-824. 386 JHWC-89. 379 JHWC-82. 486 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-824. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHWC-825. 386 JHW				_						-	
JHWBMD-618										-	
JHWBMD-619											
J.HWBMD-820										-	
JHWBMD-622											
JHWBMD-623										-	
JHWBMD-624								• • • • • • • • • • • • • • • • • • • •		-	
JHWBP3410TH							_			-	
JHWBP3410TH											
JHWBP3410TH											
JHWBP4014TH 121 JHWC-125 382 JHWC-858 385 JHWB-12T 494 JHWEX-10 496 JHWBP4014TH 121 JHWC-126 382 JHWC-86 386 JHWB-14T 494 JHWEX-30 496 JHWBS-05B 274 JHWC-12-TH 130 JHWC-90 385 JHWB-16T 494 JHWFJ-20 368 JHWBS-12B 274 JHWC-132 382 JHWC-91 385 JHWB-16T 494 JHWFJ-20 368 JHWBS-130 234 JHWC-133 382 JHWC-91 385 JHWB-16T 494 JHWFJ-30 368 JHWBS-130 234 JHWC-133 382 JHWC-92 385 JHWB-17T 494 JHWGMNT 31 JHWS-130B 234 JHWC-15 381 JHWC-93 385 JHWB-17T 494 JHWGMNT 31 JHWS-130B 234 JHWC-15 381 JHWC-93 385 JHWB-17T 494 JHWGMNT 31 JHWS-130B 234 JHWC-16 381 JHWC-010AAW 365 JHWB-2TT 494 JHWGS-1 496 JHWBS-14AA 273 JHWC-16 381 JHWC-10AAW 365 JHWB-2TT 494 JHWGS-1 17H 135 JHWBS-14AA 273 JHWC-16 381 JHWC-10AAW 365 JHWB-2TT 494 JHWGS-1 17H 135 JHWBS-62A 272 JHWC-20 381 JHWC-10AAW 365 JHWB-2TT 494 JHWGS-3 496 JHWBS-62A 272 JHWC-20 381 JHWC-12AAW 365 JHWB-24T 494 JHWGS-3 496 JHWBS-63B 114 JHWC-24 381 JHWC-12AAW 365 JHWB-24T 494 JHWGS-3 496 JHWBS-63B 114 JHWC-24 381 JHWC-12AAW 365 JHWB-26T 494 JHWGS-3 496 JHWBS-63B 114 JHWC-24 381 JHWC-12AAW 365 JHWB-26T 494 JHWGS-3 482 JHWG-24 482 JHWG-24 381 JHWC-12AAW 365 JHWB-26T 494 JHWGS-3 482 JHWG-24 482 JHWG-24 381 JHWC-12AAW 365 JHWB-26T 494 JHWGS-1 496 JHWBS-63BR 114 JHWC-24 381 JHWC-12AAW 365 JHWB-26T 494 JHWGS-1 482 JHWG-24 482 JHWG-24 381 JHWC-24AW 365 JHWB-26T 494 JHWG-3 482 JHWG-3 482 JHWC-3 482 JHWC-3 482 JHWC-3 482 JHWG-3 494 JHWH-104 305 JHWBS-63BR 114 JHWC-3 381 JHWC-3 485 JHWB-26T 494 JHWH-104 305 JHWBS-61B 114 JHWC-3 482 JHWC-402C 365 JHWB-26T 494 JHWH-104 305 JHWBS-7 1CBA 273 JHWG-32 TH 130 JHWC-402C 365 JHWB-26T 494 JHWH-104 305 JHWB-37 1CBA 273 JHWG-32 TH 130 JHWC-402C 365 JHWB-37 494 JHWH-104 305 JHWB-37 1CBA 273 JHWG-32 TH 130 JHWC-402C 365 JHWB-37 494 JHWH-108 305 JHWB-37 1CBA 273 JHWG-32 TH 130 JHWC-402C 365 JHWB-37 494 JHWH-10B-TH 118 JHWB-1216 238 JHWC-42 382 JHWC-406C 365 JHWB-37 494 JHWH-110B-TH 118 JHWB-1216 238 JHWC-42 382 JHWC-406C 365 JHWB-37 494 JHWH-110B-TH 118 JHWB-1216 238 JHWC-42 382 JHWC-406C 365 JHWB-37 494 JHWH-110B-TH 118 JHWB-1216 238 JHWC-410 386 JHWG-406C 365							_				
JHWBP4014TH		JHWBP3410TH	121			JHWC-85	386	-		JHWEX-29	496
JHWBS-05B		JHWBP4014TH	121			JHWC-858	385	_		JHWEXS-10	496
JHWBS-12B				JHWC-126	382	JHWC-86	386	JHWEB-14T	494	JHWEXS-30	496
JHWBS-130 234 JHWC-133 382 JHWC-92 385 JHWEB-17T 494 JHWGMNT 31 JHWBS-130B 224 JHWC-15 381 JHWC-93 385 JHWEB-1T 494 JHWGMNTTB 31 JHWBS-131BF 234 JHWC-15 130 JHWCC-10AAW 365 JHWEB-21T 494 JHWGS-1 496 JHWBS-11 496 JHWBS-11 496 JHWBS-11 497 JHWGS-1 497 JHWGS-1 498 JHWGS-1 498 JHWGS-1 498 JHWGS-1 498 JHWGS-1 498 JHWGS-1 499 JHWGS-1 499 JHWGS-1 499 JHWGS-1 499 JHWGS-1 499 JHWGS-1 499 JHWGS-1 499 JHWGS-1 499 JHWGS-2 496 JHWBS-41AAT 114 JHWC-16 113 JHWCC-10LAAW 365 JHWEB-22T 494 JHWGS-2 496 JHWBS-52A 272 JHWC-20 381 JHWCC-12AAW 365 JHWEB-23T 494 JHWGS-3 496 JHWBS-62 114 JHWC-20 130 JHWCC-12AAW 365 JHWEB-25T 494 JHWGS-3 496 JHWBS-63BBR 114 JHWC-24 381 JHWCC-12AAW 365 JHWEB-25T 494 JHWGS-3 496 JHWBS-63BBR 114 JHWC-24 131 JHWCC-12AAW 365 JHWEB-25T 494 JHWGS-3 496 JHWBS-63BBR 114 JHWC-24 381 JHWCC-2AAW 365 JHWEB-25T 494 JHWGS-12 482 JHWBS-63BBR 114 JHWC-28 381 JHWCC-2AAW 365 JHWEB-25T 494 JHWH-104 305 JHWBS-63BBT 114 JHWC-32 381 JHWCC-3AAW 365 JHWEB-29T 494 JHWH-104 305 JHWBS-71ARKA 273 JHWC-32 381 JHWCC-402C 365 JHWEB-27 494 JHWH-104B 305 JHWBS-71ABKA 273 JHWC-32 381 JHWCC-402C 365 JHWEB-31T 494 JHWH-110B 305 JHWBS-71CBA 273 JHWC-30 381 JHWC-402C 365 JHWEB-31T 494 JHWH-110B 305 JHWBU-1212 238 JHWC-40 382 JHWCC-404C 365 JHWEB-31T 494 JHWH-110B 305 JHWBU-1214 238 JHWC-42 382 JHWCC-404C 365 JHWEB-31T 494 JHWH-110B 305 JHWBU-1218 238 JHWC-42 382 JHWCC-404C 365 JHWEB-31T 494 JHWH-110B 305 JHWBU-1218 238 JHWC-40 382 JHWCC-404C 365 JHWEB-31T 494 JHWH-110B 305 JHWBU-1218 238 JHWC-40 382 JHWC-406CT 125 JHWEB-31T 494 JHWH-110B 305 JHWBU-1218 238 JHWC-40 382 JHWC-406C 365 JHWEB-31T 494 JHWH-110B 305 JHWBU-1218 238 JHWC-40 382 JHWC-406C 365 JHWEB-3T 494 JHWH-115B 305 JHWBU-	/			JHWC-12-TH	130	JHWC-90	385	JHWEB-15T	494	JHWFJ-20	368
JHWBS-130B		JHWBS-12B	274	JHWC-132	382	JHWC-91	385	JHWEB-16T	494	JHWFJ-30	368
JHWBS-131BF 234 JHWC-15-TH 130 JHWCC-10AAW 365 JHWEB-21T 494 JHWGS-1 496 JHWBS-41AA 273 JHWC-16. 381 JHWCC-10LAAW 365 JHWEB-22T 494 JHWGS-1. TH 135 JHWGS-1AATH 114 JHWC-16-TH 130 JHWCC-11/2AAW 365 JHWEB-23T 494 JHWGS-2 496 JHWBS-52A 272 JHWC-20 381 JHWCC-12LAAW 365 JHWEB-24T 494 JHWGS-3 496 JHWBS-62. 114 JHWC-20-TH 130 JHWCC-12LAAW 365 JHWEB-25T 494 JHWGS-3. TH 135 JHWBS-63B 114 JHWC-24 381 JHWCC-12LAAW 365 JHWEB-26T 494 JHWGS-3. TH 135 JHWBS-63BBAR 114 JHWC-24-TH 130 JHWCC-12LAAW 365 JHWEB-26T 494 JHWGS-1-TH 496 JHWBS-63BBAR 114 JHWC-24-TH 130 JHWCC-2AAW 365 JHWEB-27T 494 JHWGS-12. 482 JHWBS-63BRIP 114 JHWC-32 381 JHWCC-3AAW 365 JHWEB-28T 494 JHWH-104 305 JHWBS-63BBIP 114 JHWC-32 381 JHWCC-3LAAW 365 JHWEB-28T 494 JHWH-104B 305 JHWBS-71ARKA 273 JHWC-32-TH 130 JHWCC-402C 365 JHWEB-29T 494 JHWH-104B-TH 118 JHWBS-71CBA 273 JHWC-36 381 JHWC-402CTH 125 JHWEB-30T 494 JHWH-110B 305 JHWBB-1212 238 JHWC-40 382 JHWC-402S 365 JHWEB-31T 494 JHWH-110B 305 JHWBB-1212 238 JHWC-422 382 JHWC-404C 365 JHWEB-31T 494 JHWH-110B 305 JHWBB-1216 238 JHWC-422 382 JHWC-404C 365 JHWEB-31T 494 JHWH-110B 305 JHWBB-1216 238 JHWC-422 382 JHWC-404C 365 JHWEB-31T 494 JHWH-110B-TH 118 JHWBU-1216 238 JHWC-42 382 JHWC-404C 365 JHWEB-35T 494 JHWH-110B-TH 118 JHWBU-1216 238 JHWC-46 382 JHWC-404C 365 JHWEB-35T 494 JHWH-110-TH 118 JHWBU-1216 238 JHWC-46 382 JHWC-406C 365 JHWEB-35T 494 JHWH-115-TH 118 JHWBU-1216 238 JHWC-46 382 JHWC-406C 365 JHWEB-35T 494 JHWH-115-TH 118 JHWBU-1216 238 JHWC-46 382 JHWC-406C 365 JHWEB-35T 494 JHWH-115-TH 118 JHWBU-1220 238 JHWC-46 382 JHWC-406C 365 JHWEB-35T 494 JHWH-115-TH 118 JHWBU-1220 238 JHWC-612 386 JHWC-406C 365 JHWEB-5T 494 JHWH-115-TH 118 JHWBW-1010 170 JHWC-616 386 JHWC-408C 365 JHWEB-5T 494 JHWH-1226 306 JHWBWM-1011 170 JHWC-621 386 JHWC-408C 365 JHWEB-5T 494 JHWH-1226 306 JHWBWM-1011 170 JHWC-621 386 JHWC-408C 365 JHWEB-5T 494 JHWH-1228 306 JHWBWM-1011 170 JHWC-621 386 JHWC-408C 365 JHWEB-5T 494 JHWH-1231 306 JHWBWM-1011 170 JHWC-621 386 JHWC-408C 365 JHWEB-5T 494 JHWH-1231 306 JHWBWM-1012 170 JHWC-621 386		JHWBS-130	234	JHWC-133	382	JHWC-92	385	JHWEB-17T	494	JHWGMNT	31
JHWBS-41AA 273 JHWC-16. 381 JHWCC-10LAAW 365 JHWEB-22T. 494 JHWGS-1-TH. 135 JHWBS41AATH. 114 JHWC-16-TH. 130 JHWCC-11/2AAW 365 JHWEB-23T. 494 JHWGS-2. 496 JHWBS-52A 272 JHWC-20. 381 JHWCC-12LAAW 365 JHWEB-25T. 494 JHWGS-3. 496 JHWBS-62. 114 JHWC-20-TH. 130 JHWCC-12LAAW 365 JHWEB-25T. 494 JHWGS-3-TH. 135 JHWBS-63BBAR 114 JHWC-24. 381 JHWCC-12LAAW 365 JHWEB-25T. 494 JHWGS-4. 496 JHWBS-63BBAR 114 JHWC-24-TH. 130 JHWCC-12AAW 365 JHWEB-26T. 494 JHWGS-4. 496 JHWBS-63BBAR. 114 JHWC-28. 381 JHWCC-2AAW 365 JHWEB-26T. 494 JHWGS-12. 482 JHWBS-63BTIP. 114 JHWC-28. 381 JHWCC-3AAW 365 JHWEB-28T. 494 JHWH-104. 305 JHWBS-71ARKA 273 JHWC-32. 381 JHWCC-3LAAW 365 JHWEB-29T. 494 JHWH-104. 305 JHWBS-71ARKA 273 JHWC-32-TH. 130 JHWCC-402C. 365 JHWEB-29T. 494 JHWH-104B-TH. 118 JHWBS-71CBA. 273 JHWC-36. 381 JHWCC-402CTH. 125 JHWBB-30T. 494 JHWH-110 305 JHWBTHB03T01 249 JHWC-40. 382 JHWCC-402C. 365 JHWEB-3T. 494 JHWH-110 305 JHWBTHB03T01 249 JHWC-40. 382 JHWCC-402C. 365 JHWEB-3T. 494 JHWH-110B-TH. 118 JHWBU-1212. 238 JHWC-42. 382 JHWCC-404CTH. 125 JHWBB-3T. 494 JHWH-110B-TH. 118 JHWBU-1214. 238 JHWC-42. 382 JHWCC-404CTH. 125 JHWBB-3T. 494 JHWH-110B-TH. 118 JHWBU-1216. 238 JHWC-42-TH. 130 JHWCC-404CTH. 125 JHWEB-3T. 494 JHWH-110B-TH. 118 JHWBU-1218. 238 JHWC-42-TH. 130 JHWC-404CTH. 125 JHWBB-3T. 494 JHWH-110B-TH. 118 JHWBU-1218. 238 JHWC-42-TH. 130 JHWC-404CTH. 125 JHWBB-3T. 494 JHWH-110B-TH. 118 JHWBU-1218. 238 JHWC-46. 382 JHWC-406C. 365 JHWBB-3T. 494 JHWH-110B-TH. 118 JHWBU-1220. 238 JHWC-46. 382 JHWC-406C. 365 JHWBB-3T. 494 JHWH-110B-TH. 118 JHWBU-1224. 238 JHWC-46. 382 JHWC-406C. 365 JHWBB-3T. 494 JHWH-110B-TH. 118 JHWBU-1224. 238 JHWC-406. 365 JHWBB-3T. 494 JHWH-1224. 306 JHWBU-1218. 238 JHWC-46. 386 JHWC-406C. 365 JHWBB-3T. 494 JHWH-1224. 306 JHWBU-1224. 238 JHWC-46. 386 JHWC-406C. 365 JHWBB-3T. 494 JHWH-1224. 306 JHWBW-1010 170 JHWC-616. 386 JHWC-406S. 365 JHWBB-3T. 494 JHWH-1224. 306 JHWBW-1011 170 JHWC-62. 382 JHWC-406S. 365 JHWBB-3T. 494 JHWH-1230. 306 JHWBW-1011 170 JHWC-62-TH. 130 JHWC-408S. 365 JHWBB-3T. 494 JHWH-1230. 306		JHWBS-130B	234	JHWC-15	381	JHWC-93	385	JHWEB-1T	494	JHWGMNTTB	31
JHWBS41AATH		JHWBS-131BF	234	JHWC-15-TH	130	JHWCC-10AAW	365	JHWEB-21T	494	JHWGS-1	496
JHWBS-52A 272 JHWC-20 381 JHWCC-12AAW 365 JHWEB-24T 494 JHWGS-3 496 JHWBS-62 114 JHWC-20-TH 130 JHWCC-12LAAW 365 JHWEB-25T 494 JHWGS-3-TH 135 JHWBS-63B 114 JHWC-24 381 JHWCC-12LAAW 365 JHWEB-26T 494 JHWGS-4 496 JHWBS-63BRR 114 JHWC-24-TH 130 JHWCC-2AAW 365 JHWEB-26T 494 JHWGS-4 496 JHWBS-63BRIP 114 JHWC-28 381 JHWCC-3AAW 365 JHWEB-28T 494 JHWH-104 305 JHWBS-71CBA 273 JHWC-32 381 JHWCC-402C 365 JHWEB-28T 494 JHWH-104B 305 JHWBS-71CBA 273 JHWC-32-11 130 JHWCC-402C 365 JHWEB-28T 494 JHWH-104B-TH 118 JHWBU-1212 238 JHWC-40 382 JHWC-402S 365 JHWEB-30T 494 JHWH-11		JHWBS-41AA	273	JHWC-16	381	JHWCC-10LAAW.	365	JHWEB-22T	494	JHWGS-1-TH	135
JHWBS-62		JHWBS41AATH	114	JHWC-16-TH	130	JHWCC11/2AAW.	365	JHWEB-23T	494	JHWGS-2	496
JHWBS-62		JHWBS-52A	272	JHWC-20	381	JHWCC-12AAW	365	JHWEB-24T	494	JHWGS-3	496
JHWBS-63B 114 JHWC-24 381 JHWCC-1AAW 365 JHWEB-26T 494 JHWGS-4 496 JHWBS-63BBAR 114 JHWC-24-TH 130 JHWCC-2AAW 365 JHWEB-27T 494 JHWGS-12 482 JHWBS-63BRK 114 JHWC-28 381 JHWCC-3AAW 365 JHWEB-28T 494 JHWH-104 305 JHWBS-63BTIP 114 JHWC-32 381 JHWCC-402C 365 JHWEB-29T 494 JHWH-104B 305 JHWBS-71CBA 273 JHWC-32-TH 130 JHWCC-402C 365 JHWEB-20T 494 JHWH-104B-TH 118 JHWBS-71CBA 273 JHWC-32-TH 130 JHWCC-402C 365 JHWEB-20T 494 JHWH-104B-TH 118 JHWBS-71CBA 273 JHWC-40 382 JHWCC-402CTH 125 JHWEB-30T 494 JHWH-104B-TH 118 JHWBU-1212 238 JHWC-42 382 JHWCC-404C 365 JHWEB-31T 494		JHWBS-62	114	JHWC-20-TH	130			JHWEB-25T	494		
JHWBS-63BBAR 114 JHWC-24-TH 130 JHWCC-2AAW 365 JHWEB-27T 494 JHWGSC-12 482 JHWBS-63BRK 114 JHWC-28 381 JHWCC-3AAW 365 JHWEB-28T 494 JHWH-104 305 JHWBS-63BTIP 114 JHWC-32 381 JHWCC-402C 365 JHWEB-29T 494 JHWH-104B 305 JHWBS-71CBA 273 JHWC-32-TH 130 JHWCC-402C 365 JHWEB-30T 494 JHWH-104B-TH 118 JHWBS-71CBA 273 JHWC-36 381 JHWCC-402CTH 125 JHWEB-30T 494 JHWH-110-MB-TH 118 JHWBU-1212 238 JHWC-40 382 JHWCC-402S 365 JHWEB-31T 494 JHWH-110B-TH 118 JHWBU-1212 238 JHWC-42 382 JHWCC-404C 365 JHWEB-32T 494 JHWH-110B-TH 118 JHWBU-1216 238 JHWC-42 382 JHWCC-404CTH 125 JHWEB-34T 494											
JHWBS-63BRK. 114 JHWC-28. 381 JHWCC-3AAW 365 JHWEB-28T. 494 JHWH-104. 305 JHWBS-63BTIP 114 JHWC-32 381 JHWCC-3LAAW. 365 JHWEB-29T. 494 JHWH-104B. 305 JHWBS-71ARKA. 273 JHWC-32TH. 130 JHWCC-402C. 365 JHWEB-2T. 494 JHWH-104B. 118 JHWBS-71CBA. 273 JHWC-36 381 JHWCC-402C. 365 JHWEB-30T. 494 JHWH-110 305 JHWBTHB03T01 249 JHWC-40 382 JHWCC-402S 365 JHWEB-31T 494 JHWH-110 305 JHWBU-1212 238 JHWC-42 382 JHWCC-404C 365 JHWEB-32T 494 JHWH-110B.TH 118 JHWBU-1214 238 JHWC-422 382 JHWCC404CTH 125 JHWEB-34T 494 JHWH-110-TH 118 JHWBU-1216 238 JHWC-422 382 JHWCC-404S 365<											
JHWBS-63BTIP 114 JHWC-32 381 JHWC-3LAAW 365 JHWEB-29T 494 JHWH-104B 305 JHWBS-71ARKA 273 JHWC-32-TH 130 JHWC-402C 365 JHWEB-2T 494 JHWH-104B-TH 118 JHWBS-71CBA 273 JHWC-36 381 JHWCC-402CTH 125 JHWEB-30T 494 JHWH-110 305 JHWBHD-1212 238 JHWC-40 382 JHWCC-402S 365 JHWEB-31T 494 JHWH-110B-TH 118 JHWBU-1212 238 JHWC-42 382 JHWCC-404C 365 JHWEB-32T 494 JHWH-110B-TH 118 JHWBU-1214 238 JHWC-422 382 JHWCC404CTH 125 JHWEB-34T 494 JHWH-110B-TH 118 JHWBU-1216 238 JHWC-422 382 JHWCC404CTH 125 JHWEB-34T 494 JHWH-110-TH 118 JHWBU-1218 238 JHWC-42-TH 130 JHWCC-404S 365 JHWEB-35T 494											
JHWBS-71ARKA 273 JHWC-32-TH 130 JHWCC-402C 365 JHWEB-2T 494 JHWH-104B-TH 118 JHWBS-71CBA 273 JHWC-36 381 JHWCC402CTH 125 JHWEB-30T 494 JHWH-110 305 JHWBHD-1212 238 JHWC-40 382 JHWCC-402S 365 JHWEB-31T 494 JHWH-110B-TH 118 JHWBU-1212 238 JHWC-42 382 JHWCC-404C 365 JHWEB-32T 494 JHWH-110B-TH 118 JHWBU-1214 238 JHWC-42 382 JHWCC404CTH 125 JHWEB-34T 494 JHWH-110B-TH 118 JHWBU-1216 238 JHWC-42 382 JHWCC404CTH 125 JHWEB-34T 494 JHWH-110B-TH 118 JHWBU-1218 238 JHWC-42 382 JHWCC-404C 365 JHWEB-35T 494 JHWH-110B-TH 118 JHWBU-1218 238 JHWC-42 382 JHWC-404S 365 JHWEB-35T 494											
JHWBS-71CBA 273 JHWC-36 381 JHWCC402CTH 125 JHWBB-30T 494 JHWH-110 305 JHWBTHB03T01 249 JHWC-40 382 JHWCC-402S 365 JHWEB-31T 494 JHWH-110B 305 JHWBU-1212 238 JHWC-42 382 JHWCC-404C 365 JHWEB-32T 494 JHWH-110B-TH 118 JHWBU-1214 238 JHWC-422 382 JHWCC404CTH 125 JHWEB-34T 494 JHWH-110-TH 118 JHWBU-1216 238 JHWC-42-TH 130 JHWCC-404S 365 JHWEB-35T 494 JHWH-115-TH 118 JHWBU-1218 238 JHWC-44 382 JHWC-406C 365 JHWEB-36T 494 JHWH-115B 305 JHWBU-1220 238 JHWC-46 382 JHWC-406CTH 125 JHWEB-3T 494 JHWH-115-TH 118 JHWBU-1222 238 JHWC-60 382 JHWC-406CTH 125 JHWEB-3T 494 JH											
JHWBTHB03T01 249 JHWC-40 382 JHWCC-402S 365 JHWEB-31T 494 JHWH-110B 305 JHWBU-1212 238 JHWC-42 382 JHWCC-404C 365 JHWEB-32T 494 JHWH-110B-TH 118 JHWBU-1214 238 JHWC-422 382 JHWCC-404CTH 125 JHWEB-34T 494 JHWH-110-TH 118 JHWBU-1216 238 JHWC-42-TH 130 JHWCC-404S 365 JHWEB-35T 494 JHWH-115-TH 118 JHWBU-1218 238 JHWC-44 382 JHWCC-406C 365 JHWEB-36T 494 JHWH-115B 305 JHWBU-1220 238 JHWC-46 382 JHWCC-406CTH 125 JHWEB-3T 494 JHWH-115-TH 118 JHWBU-1222 238 JHWC-60 382 JHWCC-406CTH 125 JHWEB-3T 494 JHWH-115-TH 118 JHWBWM-0810 170 JHWC-612 386 JHWCC-406S 365 JHWEB-3T 494								-			
JHWBU-1212 238 JHWC-42 382 JHWCC-404C 365 JHWBB-32T 494 JHWH-110B-TH 118 JHWBU-1214 238 JHWC-422 382 JHWCC404CTH 125 JHWBB-34T 494 JHWH-110-TH 118 JHWBU-1216 238 JHWC-42-TH 130 JHWCC-404S 365 JHWBB-35T 494 JHWH-115 305 JHWBU-1218 238 JHWC-44 382 JHWCC-406C 365 JHWBB-36T 494 JHWH-115B 305 JHWBU-1220 238 JHWC-46 382 JHWCC406CTH 125 JHWBB-3T 494 JHWH-115-TH 118 JHWBU-1222 238 JHWC-60 382 JHWCC406CTH 125 JHWBB-3T 494 JHWH-115-TH 118 JHWBU-1224 238 JHWC-61 386 JHWCC-406S 365 JHWBB-5T 494 JHWH-1224 306 JHWBWM-0810 170 JHWC-616 386 JHWCC-408C 365 JHWBB-6T 494 JHWH-											
JHWBU-1214 238 JHWC-422 382 JHWCC404CTH 125 JHWEB-34T 494 JHWH-110-TH 118 JHWBU-1216 238 JHWC-42-TH 130 JHWCC-404S 365 JHWEB-35T 494 JHWH-115 305 JHWBU-1218 238 JHWC-44 382 JHWCC-406C 365 JHWEB-36T 494 JHWH-115B 305 JHWBU-1220 238 JHWC-46 382 JHWCC406CTH 125 JHWEB-3T 494 JHWH-115-TH 118 JHWBU-1222 238 JHWC-60 382 JHWCC406CTH 125 JHWEB-3T 494 JHWH-1224 306 JHWBU-1224 238 JHWC-612 386 JHWCC-406S 365 JHWEB-5T 494 JHWH-1226 306 JHWBWM-0810 170 JHWC-616 386 JHWCC-408C 365 JHWEB-6T 494 JHWH-1230 306 JHWBWM-1011 170 JHWC-62 382 JHWCC-410C 365 JHWEB-8T 494 JHWH-1231 306 JHWBWM-1012 170 JHWC-62-TH 130 JHW											
JHWBU-1216 238 JHWC-42-TH 130 JHWCC-404S 365 JHWEB-35T 494 JHWH-115 305 JHWBU-1218 238 JHWC-44 382 JHWCC-406C 365 JHWEB-36T 494 JHWH-115B 305 JHWBU-1220 238 JHWC-46 382 JHWCC406CTH 125 JHWEB-3T 494 JHWH-115-TH 118 JHWBU-1222 238 JHWC-60 382 JHWCC406CTH 125 JHWEB-4T 494 JHWH-1224 306 JHWBWM-0810 170 JHWC-612 386 JHWCC-406S 365 JHWEB-5T 494 JHWH-1226 306 JHWBWM0810TH 102 JHWC-62 382 JHWCC-408C 365 JHWEB-6T 494 JHWH-1230 306 JHWBWM-1011 170 JHWC-62 382 JHWCC-410C 365 JHWEB-8T 494 JHWH-1231 306 JHWBWM-1012 170 JHWC-62-TH 130 JHWCC-410C 365 JHWEB-9T 494 JHWH-1232 306 JHWBWM-1113 170 JHWC-709 386 JHWCC											
JHWBU-1218 238 JHWC-44 382 JHWCC-406C 365 JHWEB-36T 494 JHWH-115B 305 JHWBU-1220 238 JHWC-46 382 JHWCC406CTH 125 JHWEB-3T 494 JHWH-115-TH 118 JHWBU-1222 238 JHWC-60 382 JHWCC406CTH 125 JHWEB-4T 494 JHWH-1224 306 JHWBU-1224 238 JHWC-612 386 JHWCC-406S 365 JHWEB-5T 494 JHWH-1226 306 JHWBWM-0810 170 JHWC-616 386 JHWCC-408C 365 JHWEB-6T 494 JHWH-1228 306 JHWBWM0810TH 102 JHWC-62 382 JHWCC-408S 365 JHWEB-7T 494 JHWH-1230 306 JHWBWM-1011 170 JHWC-621 386 JHWCC-410C 365 JHWEB-8T 494 JHWH-1231 306 JHWBWM-1012 170 JHWC-62-TH 130 JHWCC-410S 365 JHWEB-9T 494 JHWH-1232 306 JHWBWM-1113 170 JHWC-709 386 JHWCC-											
JHWBU-1220 238 JHWC-46 382 JHWCC406CTH 125 JHWEB-3T 494 JHWH-115-TH 118 JHWBU-1222 238 JHWC-60 382 JHWCC406CTH 125 JHWEB-4T 494 JHWH-1224 306 JHWBU-1224 238 JHWC-612 386 JHWCC-406S 365 JHWEB-5T 494 JHWH-1226 306 JHWBWM-0810 170 JHWC-616 386 JHWCC-408C 365 JHWEB-6T 494 JHWH-1228 306 JHWBWM0810TH 102 JHWC-62 382 JHWCC-408S 365 JHWEB-7T 494 JHWH-1230 306 JHWBWM-1011 170 JHWC-621 386 JHWCC-410C 365 JHWEB-8T 494 JHWH-1231 306 JHWBWM-1012 170 JHWC-62-TH 130 JHWCC-410S 365 JHWEB-9T 494 JHWH-1234 306 JHWBWM-1113 170 JHWC-709 386 JHWCC-412C 365 JHWELECTRICAL 33 JHWH-1234 306											
JHWBU-1222 238 JHWC-60 382 JHWCC406CTH 125 JHWBB-4T 494 JHWH-1224 306 JHWBU-1224 238 JHWC-612 386 JHWCC-406S 365 JHWEB-5T 494 JHWH-1226 306 JHWBWM-0810 170 JHWC-616 386 JHWCC-408C 365 JHWEB-6T 494 JHWH-1228 306 JHWBWM0810TH 102 JHWC-62 382 JHWCC-408S 365 JHWEB-7T 494 JHWH-1230 306 JHWBWM-1011 170 JHWC-621 386 JHWCC-410C 365 JHWEB-8T 494 JHWH-1231 306 JHWBWM-1012 170 JHWC-62-TH 130 JHWCC-410S 365 JHWEB-9T 494 JHWH-1232 306 JHWBWM-1113 170 JHWC-709 386 JHWCC-412C 365 JHWELECTRICAL 33 JHWH-1234 306											
JHWBU-1224 238 JHWC-612 386 JHWCC-406S 365 JHWEB-5T 494 JHWH-1226 306 JHWBWM-0810 170 JHWC-616 386 JHWCC-408C 365 JHWEB-6T 494 JHWH-1228 306 JHWBWM0810TH 102 JHWC-62 382 JHWCC-408S 365 JHWEB-7T 494 JHWH-1230 306 JHWBWM-1011 170 JHWC-621 386 JHWCC-410C 365 JHWEB-8T 494 JHWH-1231 306 JHWBWM-1012 170 JHWC-62-TH 130 JHWCC-410S 365 JHWEB-9T 494 JHWH-1232 306 JHWBWM-1113 170 JHWC-709 386 JHWCC-412C 365 JHWELECTRICAL 33 JHWH-1234 306											
JHWBWM-0810 170 JHWC-616 386 JHWCC-408C 365 JHWEB-6T 494 JHWH-1228 306 JHWBWM0810TH 102 JHWC-62 382 JHWCC-408S 365 JHWEB-7T 494 JHWH-1230 306 JHWBWM-1011 170 JHWC-621 386 JHWCC-410C 365 JHWEB-8T 494 JHWH-1231 306 JHWBWM-1012 170 JHWC-62-TH 130 JHWCC-410S 365 JHWEB-9T 494 JHWH-1232 306 JHWBWM-1113 170 JHWC-709 386 JHWCC-412C 365 JHWELECTRICAL 33 JHWH-1234 306											
JHWBWM0810TH				JHWC-612	386	JHWCC-406S	365	JHWEB-5T	494		
JHWBWM-1011 170 JHWC-621 386 JHWCC-410C 365 JHWEB-8T 494 JHWH-1231 306 JHWBWM-1012 170 JHWC-62-TH 130 JHWCC-410S 365 JHWEB-9T 494 JHWH-1232 306 JHWBWM-1113 170 JHWC-709 386 JHWCC-412C 365 JHWELECTRICAL 33 JHWH-1234 306		JHWBWM-0810	170	JHWC-616	386	JHWCC-408C	365	JHWEB-6T	494	JHWH-1228	306
JHWBWM-1012	1	JHWBWM0810TH	l 102	JHWC-62	382	JHWCC-408S	365	JHWEB-7T	494	JHWH-1230	306
JHWBWM-1113	J	JHWBWM-1011	170	JHWC-621	386	JHWCC-410C	365	JHWEB-8T	494	JHWH-1231	306
		JHWBWM-1012	170	JHWC-62-TH	130	JHWCC-410S	365	JHWEB-9T	494	JHWH-1232	306
520		JHWBWM-1113	170	JHWC-709	386	JHWCC-412C	365	JHWELECTRICAL	33	JHWH-1234	306
											520

Toll Free 1 800 563 1293

Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
JHWH-1236	306	JHWHD-652		JHWHM-1238		JHWHSF-30N		JHWISFXTM410	252
JHWH-1238		JHWHDMNT	_	JHWHM-1241		JHWHSF-30S		JHWISFXTM412	
JHWH-1240		JHWHDMNTTB		JHWHM-1246	308	JHWHSF-30T		JHWISFXTM413	
JHWH-1242		JHWHK-050		JHWHM-1250		JHWHSF-30XH		JHWISFXTM415	
JHWH-1244		JHWHK-1/16		JHWHM-1254		JHWHSF-8SET		JHWISFXTM416	
JHWH-1246		JHWHK-1/4		JHWHM-1255		JHWHSFDB40XH		JHWISFXTM610	
JHWH-1248		JHWHK-1/8		JHWHM-1260		JHWHW-6034		JHWISFXTM612	
JHWH-1250		JHWHK-10MM		JHWHNX-130		JHWHW-6040		JHWISFXTM613	
JHWH-1252		JHWHK-12MM		JHWHNX-130B		JHWHW-6046		JHWISFXTM615	
JHWH-1254		JHWHK-14MM		JHWHNX-131		JHWHW-6052		JHWISFXTM616	
JHWH-1256		JHWHK-17MM		JHWHNX-131B		JHWHW-6058		JHWISSX1218	
JHWH-1258		JHWHK-2.5MM		JHWHSB-1.5A		JHWHW-6064		JHWISSX1230	
JHWH-1260	306	JHWHK-2MM	188	JHWHSB-2.6A	374	JHWHW-6070		JHWISSX312	290
JHWH-1264		JHWHK-3/16		JHWHSB-3.8A	374	JHWHW-6076		JHWISSX314	290
JHWH-1266		JHWHK-3/32		JHWHSF-100A	376	JHWHW-6082	184	JHWISSX316	
JHWH-1268		JHWHK-3/8		JHWHSF-105A		JHWHW-6088	184	JHWISSX320	
JHWH-1270	306	JHWHK-3MM	188	JHWHSF-10H		JHWHW-6094		JHWISSX324	
JHWH-1272	306	JHWHK-4MM		JHWHSF-10M	376	JHWHW-6100	184	JHWISSX412	290
JHWH-1274		JHWHK-5/32		JHWHSF-10N	376	JHWHW-6112	184	JHWISSX414	290
JHWH-1276		JHWHK-5/64		JHWHSF-10S	376	JHWHW-6124	184	JHWISSX416	290
JHWH-140A		JHWHK-5MM		JHWHSF-10T	376	JHWISDX624LD	290	JHWISSX418	290
JHWH-20A	304	JHWHK-6MM	188	JHWHSF-150A	376	JHWISFX412	252	JHWISSX420	290
HWH-41AA	304	JHWHK-7/32	188	JHWHSF-151A	376	JHWISFX414	252	JHWISSX424	290
IHWH-41AA-TH	118	JHWHK-7/64	188	JHWHSF-155A	376	JHWISFX416	252	JHWISSX430	290
IHWH-51AB	304	JHWHK-8MM	188	JHWHSF-15B	376	JHWISFX418	252	JHWISSX612	290
JHWH-51AB1	304	JHWHK-9/64	188	JHWHSF-15H	376	JHWISFX420	252	JHWISSX614	290
IHWH-51B	304	JHWHKT-1/4	186	JHWHSF-15M	376	JHWISFX612	252	JHWISSX616	290
HWH-51B-TH	118	JHWHKT-1/8	186	JHWHSF-15N	376	JHWISFX614	252	JHWISSX618	290
IHWH-52EHRK	304	JHWHKT-10MM	186	JHWHSF-15S	376	JHWISFX618	252	JHWISSX620	290
IHWH-52EHRKA	304	JHWHKT-2.5MM	186	JHWHSF-15SS	376	JHWISFX620	252	JHWISSX624	290
JHWH-A1	304	JHWHKT-2MM	186	JHWHSF-15T	376	JHWISFXM410	252	JHWISSX624MD	290
JHWHB-140A	305	JHWHKT-3/16	186	JHWHSF-15XH	376	JHWISFXM412	252	JHWISSX630	290
JHWHB-20A	304	JHWHKT-3/32	186	JHWHSF-200A	376	JHWISFXM413	252	JHWISSX912	290
JHWHB-51B	304	JHWHKT-3/8	186	JHWHSF-202A	376	JHWISFXM415	252	JHWISSX914	290
JHWHB-51B-TH	118	JHWHKT-3MM	186	JHWHSF-205A	376	JHWISFXM416	252	JHWISSX916	290
JHWHBP-0A	375	JHWHKT-4MM	186	JHWHSF-20H	376	JHWISFXM610	252	JHWISSX918	290
JHWHBP-2-0A	375	JHWHKT-5/16	186	JHWHSF-20M	376	JHWISFXM612	252	JHWISSX920	290
JHWHBP-2A	375	JHWHKT-5/32	186	JHWHSF-20N	376	JHWISFXM613	252	JHWISSX924	290
JHWHBP-3-0A	375	JHWHKT-5MM	186	JHWHSF-20S	376	JHWISFXM615	252	JHWISSX930	290
IHWHBP-4A	375	JHWHKT-6MM	186	JHWHSF-20T	376	JHWISFXM616	252	JHWISSXM1013	291
IHWHBP-5-0A	375	JHWHKT-7/32	186	JHWHSF-20XH	376	JHWISFXT1212	252	JHWISSXM1016	291
IHWHBP-6A	375	JHWHKT-7/64	186	JHWHSF-250A	376	JHWISFXT1216	252	JHWISSXM1018	291
JHWHBP-8A	375	JHWHKT-8MM	186	JHWHSF-255A	376	JHWISFXT412	252	JHWISSXM1216	291
JHWHD-628	307	JHWHKT-9/64	186	JHWHSF-25H	376	JHWISFXT414	252	JHWISSXM410	291
JHWHD-630	307	JHWHKTSTAND	186	JHWHSF-25M	376	JHWISFXT416	252	JHWISSXM412	291
JHWHD-632	307	JHWHM-1219	308	JHWHSF-25N	376	JHWISFXT418	252	JHWISSXM413	291
JHWHD-634	307	JHWHM-1222	308	JHWHSF-25S	376	JHWISFXT420	252	JHWISSXM415	292
JHWHD-636	307	JHWHM-1224	308	JHWHSF-25T	376	JHWISFXT612	252	JHWISSXM416	292
IHWHD-640	307	JHWHM-1227	308	JHWHSF-25XH	376	JHWISFXT614	252	JHWISSXM418	292
JHWHD-642	307	JHWHM-1230	308	JHWHSF-300A	376	JHWISFXT616	252	JHWISSXM610	291
JHWHD-644	307	JHWHM-1232	308	JHWHSF-305A	376	JHWISFXT618	252	JHWISSXM612	291
JHWHD-646	307	JHWHM-1235	308	JHWHSF-30H	376	JHWISFXT620	252	JHWISSXM613	291
JHWHD-648		JHWHM-1236	200	JHWHSF-30M	276	JHWISFXTD612	252	JHWISSXM615	



								V	VILLIA	MS
Product	Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
JHWISS	XM616	292	JHWISXTD612A	290	JHWMA-3HBA	211	JHWMD-616	208	JHWMS-2-13H	256
JHWISS	XM618	292	JHWISXTM1013	291	JHWMA-3LA	211	JHWMD-618	208	JHWMS410HRC	297
JHWISS	XM910	291	JHWISXTM1016	292	JHWMA-4-1/2A	210	JHWMECMNT	26	JHWMS4-12HRC	297
JHWISS	XM912	291	JHWISXTM1018	292	JHWMA41/2HBA.	211	JHWMECMNTTB	26	JHWMS-4-16RC	297
JHWISS	XM913	291	JHWISXTM1216	292	JHWMA4-1/2LA	211	JHWMEGA	18	JHWMS-4-23RC	297
JHWISS	XM915	292	JHWJHW-16	374	JHWMA-4A	210	JHWMEGAMM	18	JHWMS-6-8H	313
JHWISS	XM916	292	JHWJHW-24	374	JHWMA-4HBA	211	JHWMEGASAE	18	JHWMSB-12HRC	245
JHWISS	XM918	292	JHWJHW-32	374	JHWMA-4LA	211	JHWMEGATB	18	JHWMSB-12RC	244
JHWISS	XMD416	292	JHWJHW-48	374	JHWMA-4SA	212	JHWMFE-6	205	JHWMSB-16F	221
JHWISS	XT1218	290	JHWJHW-56	374	JHWMA-5A	210	JHWMID10A	152	JHWMSB-16FTB	221
		290	JHWLLED-150		JHWMA-5HBA		JHWMID12A	152	JHWMSB-17F	220
JHWISS	XT312	290	JHWM-102		JHWMA-5LA		JHWMID14A	152	JHWMSB-17FTB	220
		290	JHWM-102-TH		JHWMA-5SA		JHWMID65A		JHWMSB-17RC	
		290	JHWM-104		JHWMA-6A		JHWMID75A		JHWMSB-18HF	
		290	JHWM-104-TH		JHWMA-6HBA		JHWMID7A		JHWMSB18HFTB	
		290	JHWM-106A		JHWMA-6LA		JHWMID8A		JHWMSB-20HRC	
	_	290	JHWM-110		JHWMA-6SA		JHWMID9A		JHWMSB-20RC	
		290	JHWM-115		JHWMA-7A		JHWMIDS4A		JHWMSB-29F	
		290	JHWM-115-TH		JHWMA-7HBA		JHWMIDS5A		JHWMSB-29FTB	
		290	JHWM-1208		JHWMA-7LA		JHWMIDS6A		JHWMSB-29HF	
		290	JHWM-1210		JHWMA-8A		JHWMM-604		JHWMSB29HFTB	
		290					JHWMM-605		JHWMSB-39F	
			JHWM-1211		JHWMA-8HBA					
		290	JHWM-1212		JHWMA-8LA		JHWMM-605.5		JHWMSB-39FTB	
		290	JHWM-1214		JHWMAMMOTH		JHWMM-606		JHWMSBD12HRC	
		290	JHWM-1216		JHWMAMMOTHM		JHWMM-607		JHWMSBD19HRC	
		290	JHWM-1218		JHWMAMMOTHS		JHWMM-608		JHWMSH-15RC	
		290	JHWM-124		JHWMAMMOTHTI		JHWMM-609		JHWMSH-20	
		290	JHWM-140A		JHWMASTER		JHWMM-610		JHWMSH-20TB	
		290	JHWM-140A-TH		JHWMASTERTB		JHWMM-611		JHWMSM-12HRC	
		290	JHWM-15A		JHWMAXXUM		JHWMM-612		JHWMSM-17HF	
		290	JHWM-202		JHWMAXXUMMM		JHWMM-613		JHWMSM17HFTB	
JHWISS	XT916	290	JHWM-203	206	JHWMAXXUMSAE	20	JHWMM-614	208	JHWMSM-30HF	
		290	JHWM-206	206	JHWMAXXUMTB	20	JHWMMD-604	209	JHWMSM30HFTB	196
JHWISS	XT920	290	JHWM-211	206	JHWMB-130	205	JHWMMD-605	209	JHWMSMD12HRC	; 209
JHWISS	XT924	290	JHWM-42A	204	JHWMB-130B	205	JHWMMD-605.5.	209	JHWMSS-15RC	282
JHWISS	XT930	290	JHWM-42RK	204	JHWMB-131BA	205	JHWMMD-606	209	JHWMSS-15SRC	282
JHWISS	XTM410	292	JHWM-52A	204	JHWMB-52EHA	204	JHWMMD-607	209	JHWMSS-20FTB	266
JHWISS	XTM412	291	JHWM-52ARK	204	JHWMB52EHATH.	109	JHWMMD-608	209	JHWMSS-22F	265
JHWISS	XTM413	291	JHWM-52EHA	204	JHWMD-1210	207	JHWMMD-609	209	JHWMSS-22FTB	265
JHWISS	XTM415	292	JHWM52EHATH	109	JHWMD-1211	207	JHWMMD-610	209	JHWMSS-24RC	282
JHWISS	XTM416	292	JHWM-52EHFA	204	JHWMD-1212	207	JHWMMD-611	209	JHWMSS-29F	265
JHWISS	XTM418	292	JHWM-52EHRKA .	204	JHWMD-1214	207	JHWMMD-612	209	JHWMSS-29FTB	265
JHWISS	XTM612	291	JHWM-808	207	JHWMD-1216	207	JHWMMD-613	209	JHWMSS-33F	264
JHWISS	XTM613	291	JHWM-810	207	JHWMD-1218	207	JHWMMD-614	209	JHWMSS-33FTB	264
JHWISS	XTM615	291	JHWM-812	207	JHWMD-605	208	JHWMNTCART	34	JHWMSS-47F	264
JHWISS	XTM616	292	JHWMA-050A	210	JHWMD-606	208	JHWMNTCARTTB	34	JHWMSS-47TB	264
		292	JHWMA-10A	210	JHWMD-607	208	JHWMONSTER		JHWMSSD-12RC	284
		291	JHWMA-10LA		JHWMD-608		JHWMONSTERTE		JHWMWS-10A	
		291	JHWMA-2-1/2A		JHWMD-609		JHWMS-12-13H		JHWMWS10RCU	
		291	JHWMA-2A		JHWMD-610		JHWMS-12-18H		JHWMWS10RS	
		291	JHWMA-3-1/2A		JHWMD-611		JHWMS1410HRC		JHWMWS10RSS	
		292	JHWMA3-1/2LA		JHWMD-612		JHWMS-1416RC.		JHWMWS-1110	
		292	JHWMA-3A		JHWMD-614		JHWMS-1424RC.		JHWMWS-1115	
									-	E //1

Toll Free 1 800 563 1293



40000	ALC: U	8							
Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
JHWMWS-12RC	157	JHWP-24	384	JHWPL-114CS	354	JHWPL-49C	352	JHWR-27A	54
JHWMWS-12RCF	161	JHWP-25	384	JHWPL116C	354	JHWPL-527	363	JHWR-28A	54
JHWMWS-12RCS	160	JHWP-25-TH	132	JHWPL-126C	354	JHWPL-528	363	JHWR-29A	54
JHWMWS-15A	149	JHWP-26	384	JHWPL126CTH	124	JHWPL-529	363	JHWR-2A	54
JHWMWS-15SA	149	JHWP-27	384	JHWPL-1300	358	JHWPL-529A	363	JHWR-30A	54
JHWMWS-18A	149	JHWP-28	384	JHWPL-146C	355	JHWPL-529B	363	JHWR-31A	54
JHWMWS-1B	149	JHWP-28A	384	JHWPL-149C	355	JHWPL-529C	363	JHWR-36A	54
JHWMWS-26	163	JHWP-28A-TH	132	JHWPL149CTH	123	JHWPL-529D	363	JHWR-37A	54
JHWMWS-27	188	JHWP-28-TH	132	JHWPL-1515	364	JHWPL-530A	363	JHWR-3A	54
JHWMWS-27TA	149	JHWP-29	384	JHWPL-1519C	348	JHWPL-530B	363	JHWR-41A	54
JHWMWS-30	173	JHWP-3	383	JHWPL1519CTH	122	JHWPL-530C	363	JHWR-42A	54
JHWMWS-31	163	JHWP-30	384	JHWPL-1520C	348	JHWPL-530D	363	JHWR-48A	54
JHWMWS-3510	168	JHWP-32	384	JHWPL1520CTH	122	JHWPL-531	364	JHWR-49A	54
JHWMWS-47	187	JHWP-32-TH	131	JHWPL-1523C	348	JHWPL-532	364	JHWR-4A	54
JHWMWS-47-TH	108	JHWP-38	384	JHWPL1523CTH	122	JHWPL-533	364	JHWR-5A	54
JHWMWS-4RC	157	JHWP-38-TH	131	JHWPL-1524C	348	JHWPL-534	364	JHWR-8A	54
JHWMWS-5A	149	JHWP-39	384	JHWPL1524CTH	122	JHWPL-57C	351	JHWR-8BLUE	54
JHWMWS-6A	149	JHWP-39-TH	131	JHWPL-1600C	362	JHWPL-57C-TH	123	JHWR-8RED	54
JHWMWS-BWM1	0 170	JHWP-4	383	JHWPL-1600C1	362	JHWPL-6C	349	JHWR-9	54
JHWMWS-BWM1	2 170	JHWP-40	384	JHWPL-1600C2	362	JHWPL-75C	354	JHWRB-1214	172
JHWMWSHKT-8	186	JHWP-40-TH	131	JHWPL-1600C3	362	JHWPL76C	354	JHWRB1214TH	103
JHWMWS-MS10	152	JHWP-42	384	JHWPL-1606	361	JHWPL-76C-TH	123	JHWRB-1618	172
JHWO-471		JHWP-42-TH		JHWPL-1612	361	JHWPL-77C	354	JHWRB1618TH	103
JHWO-471A		JHWP-4-TH		JHWPL-1620	361	JHWPL-8C		JHWRB-1820	
JHWO-471-TH		JHWP-5		JHWPL-1621	361	JHWPL-8C-TH		JHWRB-2022	172
JHWO-472		JHWP-51		JHWPL-1622	361	JHWPL-95C		JHWRB2022TH	103
JHWO-472A		JHWP-52		JHWPL-1623		JHWPL-98C		JHWRB-2024	
JHWO-472-TH		JHWP-53		JHWPL-1624		JHWPLM-1CS		JHWRB-2428	
JHWO-474		JHWP-54		JHWPL-1625		JHWPLM-2C		JHWRB2428TH	
JHWO-474A		JHWP-55		JHWPL-1626		JHWPLS-17		JHWRB-3036	172
JHWO-474A-TH		JHWP-56		JHWPL-1627	361	JHWPLS-4GL		JHWRB-3440	172
JHWO-474-TH		JHWP-57		JHWPL-1628	361	JHWPLS-4SG		JHWRB-42	171
JHWOES-0607		JHWP-58		JHWPL-1629	361	JHWPLS-6A		JHWRB-44	171
JHWOES-0809		JHWP-59		JHWPL-1630		JHWPS-12		JHWRB-46	
JHWOES-1011		JHWP-6		JHWPL-1631		JHWPS-17		JHWRB-48	
JHWOES-1214		JHWP-60		JHWPL-167		JHWPS-3A		JHWRB-50	
JHWOES-1618		JHWP-61		JHWPL-204C		JHWPS-4		JHWRB-52	
JHWOILFIELD		JHWP-62		JHWPL204CTH		JHWPS-8		JHWRB-54	
JHWOILFIELDTB		JHWP-63A		JHWPL205C		JHWQ-208		JHWRB-56	
JHWP-10		JHWP-64A		JHWPL-208		JHWQ-210		JHWRB-58	
JHWP-10-TH		JHWP-65A		JHWPL-209		JHWR-10A		JHWRB-60	
JHWP-12		JHWP-6-TH		JHWPL-209X		JHWR-11A		JHWRB-64	
JHWP-13		JHWP-8		JHWPL-211BC		JHWR-13A		JHWRB-68	
JHWP-14		JHWP-8-TH		JHWPL-211C		JHWR-13BLUE		JHWRB-810	
JHWP-14-TH		JHWPBS-7		JHWPL-40CS		JHWR-13R		JHWRB-810-TH	
JHWP-15		JHWPC-17		JHWPL-411C		JHWR-13RED		JHWRBM-0708	
JHWP-15-TH		JHWPC-17-TH		JHWPL-44C		JHWR-17		JHWRBM-0910	
JHWP-16		JHWPC-27		JHWPL-45C		JHWR-18BLUE		JHWRBM-1112	
JHWP-16-TH		JHWPC-8		JHWPL-46C		JHWR-18RED		JHWRBM-1314	
JHWP-17		JHWPETROSET		JHWPL-46C-TH		JHWR-1A		JHWRBM-1517	
JHWP-17-TH		JHWPETROSETTE		JHWPL-47C		JHWR-20A		JHWRBM-1618	
JHWP-18		JHWPL-10C		JHWPL-47C-TH		JHWR-23A		JHWRBM-1921	
JHWP-18-TH		JHWPL-10C-TH		JHWPL-48C		JHWR-24A		JHWRBM-22	
VIIVVI - 10-111	131	SHIVE LEIDO-III	122	31 1441 L-700	332	J114411-74	34	J114411DIVI-22	112

		NI							VILLIA	MS
	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
)	JHWRBM-23	172	JHWS-211P	275	JHWSCF52	279	JHWSDE-43	337	JHWSFH1816BW	182
	JHWRBM-24	172	JHWS-220P	275	JHWSCF54	279	JHWSDE-46	337	JHWSFH-1816W	182
	JHWRBM-25	172	JHWS-40AA	273	JHWSCF56	279	JHWSDE-50	337	JHWSFH1817AW.	182
	JHWRBM-26	172	JHWS-40AA-TH	114	JHWSCF58	279	JHWSDE-53	337	JHWSFH-1817W	182
	JHWRBM-27	172	JHWS-41AA	273	JHWSCF60	279	JHWSDE-8	337	JHWSFH1818AW.	182
	JHWRBM-29	172	JHWS-41AA-TH	114	JHWSCF62	279	JHWSDP-1-3	337	JHWSFH-1818W	182
	JHWRBM-30	172	JHWS-41RK	273	JHWSCF64	279	JHWSDP13TH	121	JHWSFH1819AW.	182
	JHWRBM-32	172	JHWS-52A	272	JHWSCOE30	278	JHWSDP-2-4	337	JHWSFH1819BW.	182
	JHWRBM-36	172	JHWS-52ARK	272	JHWSCOE32	278	JHWSDP24TH	121	JHWSFH1819CW.	182
	JHWRBO-1214	173	JHWS-52EHA	272	JHWSCOE34	278	JHWSDP-2-8	337	JHWSFH1819WA	182
	JHWRBO-1618	173	JHWS52EHATH	114	JHWSCOE36	278	JHWSDP28TH	121	JHWSFH1820BW	182
	JHWRBO-2022	173	JHWS-52EHFA		JHWSCOE38	278	JHWSDP-2-ST	337	JHWSFH1820WA	182
	JHWRBO-2024	173	JHWS-52EHLA	272	JHWSCOE40	278	JHWSDP2STTH	121	JHWSH-10A	377
	JHWRBO-2226	173	JHWS52EHLATH	114	JHWSCOE42	278	JHWSDP-3-6	337	JHWSH-12A	377
	JHWRBO-2428	173	JHWS-52EHRKA	272	JHWSCOE44	278	JHWSDP36TH	121	JHWSH-130	274
	JHWRBO-2630	173	JHWS-52LAB	272	JHWSCOE46	278	JHWSDP-4-6	337	JHWSH-130B	274
	JHWRBO-810	173	JHWS-52LARK	272	JHWSCOE48	278	JHWSDP46TH	121	JHWSH-131BF	274
	JHWRC-25	54	JHWS-53A	272	JHWSCOE50	278	JHWSDR-22	337	JHWSH-16A	377
	JHWRC-25-15P		JHWS-70		JHWSCOE52	278	JHWSDR-22-TH	120	JHWSH-2A	
	JHWRC-37	54	JHWSA-10A	286	JHWSCOE54	278	JHWSDR-24	337	JHWSH-4A	377
	JHWRC-37-15P		JHWSA-10A-3P		JHWSCOE56	278	JHWSDR-24-TH	120	JHWSH-6A	377
	JHWRC-50	54	JHWSA-10A-3S	288	JHWSCOE58	278	JHWSDR-26	337	JHWSH-8A	377
	JHWRC-50-15P	54	JHWSA-10LA	286	JHWSCOE60	278	JHWSDR-26-TH	120	JHWSHF-10A	377
	JHWRC-75		JHWSA-12A	286	JHWSCOE64	278	JHWSDR-28	337	JHWSHF-10LA	377
	JHWRFW-12		JHWSA-12A-4P		JHWSCOE68	278	JHWSDR-28-TH	120	JHWSHF-12A	_
	JHWRFW-14		JHWSA-12A-4S		JHWSCOE72		JHWSDR-30		JHWSHF-12SA	_
	JHWRFW-16		JHWSA-12LA		JHWSCOE76		JHWSDR-30-TH		JHWSHF-16A	-
	JHWRFW-18		JHWSA-16A		JHWSCOE78		JHWSDS-33		JHWSHF-16LA	
	JHWRFW-20		JHWSA-16LA		JHWSCOE80		JHWSDS-62		JHWSHF-20A	-
	JHWRFW-22		JHWSA-18A		JHWSD-1216		JHWSDS-62-TH		JHWSHF-2A	
	JHWRFW-24		JHWSA-18LA		JHWSD-1218		JHWSFH1808AW		JHWSHF-3A	_
	JHWRFW-26		JHWSA-20A		JHWSD-1220		JHWSFH1808BW		JHWSHF-4A	
	JHWRFW-28		JHWSA-20LA		JHWSD-1222		JHWSFH1808CW		JHWSHF-4SA	
	JHWRFW-30		JHWSA-8A		JHWSD-1224		JHWSFH-1808W.		JHWSHF-6A	
	JHWRFW-32		JHWSA-8LA		JHWSD-1225		JHWSFH1809AW		JHWSHF-8A	
	JHWS-102P		JHWSB-30		JHWSD-1226		JHWSFH1809BW		JHWSHF-8SA	
	JHWS-102P-TH		JHWSB-40		JHWSD-1228		JHWSFH-1809W		JHWSHHF-14A	
	JHWS-10A		JHWSB-40AA		JHWSD-1230		JHWSFH1810AW		JHWSHHF-16A	
	JHWS-110P		JHWSB-526		JHWSD-1232		JHWSFH1810BW		JHWSHHF-32A	
	JHWS-110P-TH		JHWSB-52EHA		JHWSD-1234		JHWSFH-1810W.		JHWSHHW-14A	
	JHWS-1120NRC		JHWSB52EHATH		JHWSD-1236		JHWSFH1811AW		JHWSHHW-32A	
	JHWS-1121NRC		JHWSB-52EHLA		JHWSD-616		JHWSFH-1811W.		JHWSHSFDB40H.	
	JHWS-1122NRC		JHWSC116THTB		JHWSD-618		JHWSFH1812AW		JHWSHSFDB40M	
	JHWS-115P		JHWSC225THTB		JHWSD-620		JHWSFH1812BW		JHWSHSFDB40N.	
	JHWS-115P-TH		JHWSC409THTB		JHWSD-622		JHWSFH-1812W.		JHWSHSFDB40S	
	JHWS-121P		JHWSCF36		JHWSD-624		JHWSFH1813AW		JHWSHSFDB40T	
	JHWS-121P-TH JHWS-140A		JHWSCF38		JHWSD-626 JHWSD-628		JHWSFH-1813W JHWSFH1814AW.		JHWSHSFDB8 JHWSMD-1213	
	JHWS-140A		JHWSCF40							
	JHWS-15A		JHWSCF42 JHWSCF44		JHWSD-630 JHWSD-632		JHWSFH1814BW		JHWSMD-1214 JHWSMD-1215	
)	JHWS-202P		JHWSCF46		JHWSD-634		JHWSFH1815AW		JHWSMD-1216	
	JHWS-205P		JHWSCF48		JHWSD-636		JHWSFH-1815W.		JHWSMD-1217	
	JHWS-20A		JHWSCF50		JHWSDE-4		JHWSFH1816AW		JHWSMD-1218	
	J 20/1	270	3.111007.00	210	5.11105L-1		5.1115.111616AV	102	571710IIID-1210IIII	E 4 9



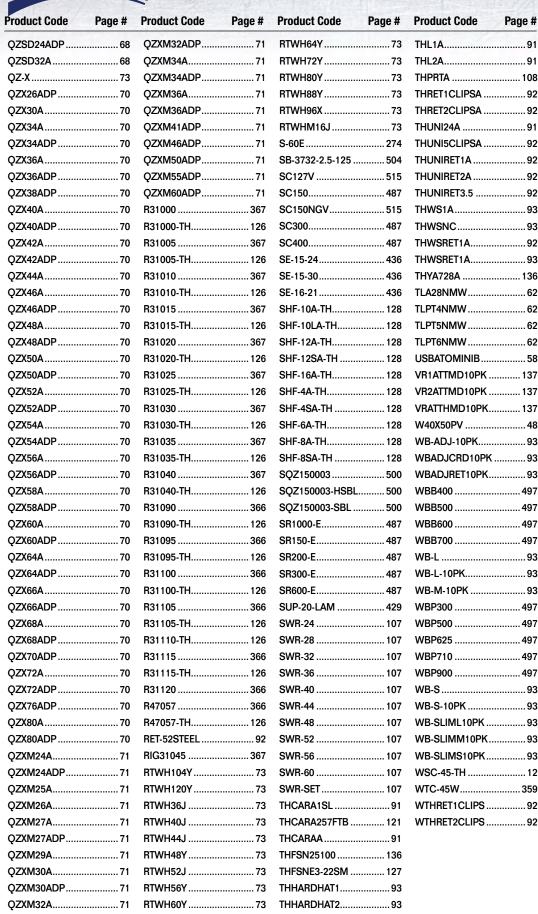
ALC: NO.		8							
Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
JHWSMD-1219	284	JHWSPRS-6P	334	JHWST-1248	276	JHWSTM-1221	282	JHWTS38394	248
JHWSMD-1221	284	JHWSPRS-6T	334	JHWST-612	277	JHWSTM-1222	282	JHWTS38437	248
JHWSMD-1222	284	JHWSPRS-8CKP	332	JHWST-614	277	JHWSTM-1223	282	JHWTS38472	248
JHWSMD-1224	284	JHWSPR-T-10-3	340	JHWST-616	277	JHWSTM-1224	282	JHWTS38500	248
JHWSMD-1227	284	JHWSPR-T-15-4	340	JHWST-618	277	JHWSTM-1225	282	JHWTS38512	248
JHWSMD-1230	284	JHWSPR-T-20-4	340	JHWST-619	277	JHWSTM-1226	282	JHWTS38551	248
JHWSPR-0-14-5	336	JHWSPR-T-25-5	340	JHWST-620	277	JHWSTM-1227	282	JHWTS38562	248
JHWSPR-C-14-1	338	JHWSPR-T-27-5	340	JHWST-622	277	JHWSTM-1228	282	JHWTS38591	248
JHWSPR-C-14-6	338	JHWSPR-T-30-6	340	JHWST-624	277	JHWSTM-1229	282	JHWTS38625	248
JHWSPR-C-18-3	338	JHWSPR-T-40-5	340	JHWST-625	277	JHWSTM-1230	282	JHWTS38669	248
JHWSPR-C-18-4	338	JHWSPR-T-45-5	340	JHWST-626	277	JHWSTM-1232	282	JHWTS38687	248
JHWSPR-C-18-8	338	JHWSPR-T-6-3	340	JHWST-628	277	JHWSTM-1234	282	JHWTS38750	248
JHWSPR-C-32-3	338	JHWSPR-T-7-3	340	JHWST-630	277	JHWSTM-1236	282	JHWTS50100	286
JHWSPR-C-36-1	338	JHWSPR-T-8-3	340	JHWST-632	277	JHWTB-101	54	JHWTS50750	286
JHWSPR-C-36-10	338	JHWSPR-T-9-3	340	JHWST-634	277	JHWTB-102	54	JHWTS50812	286
JHWSPR-C-36-4	338	JHWSPR-X-10-3	340	JHWST636	277	JHWTB103	54	JHWTS50875	286
JHWSPR-C-36-6	338	JHWSPR-X-15-4	340	JHWST-640	277	JHWTB-104	54	JHWTS50937	286
JHWSPR-C-52-4	338	JHWSPR-X-20-4	340	JHWST-812	280	JHWTB-12	54	JHWTS51551	286
JHWSPR-C-52-6	338	JHWSPR-X-25-5	340	JHWST-812-TH	116	JHWTB-35	54	JHWTS51591	286
JHWSPR-C-94-3	338	JHWSPR-X-27-5	340	JHWST-814	280	JHWTB-49	54	JHWTS51625	286
JHWSPR-C-94-5	338	JHWSPR-X-30-6	340	JHWST-814-TH	116	JHWTB-6119B	52	JHWTS51669	286
JHWSPR-K-14-4	338	JHWSPR-X-40-6	340	JHWST-816	280	JHWTB-6123B	52	JHWTS51709	286
JHWSPR-K-14-5	338	JHWSPR-Z-0-3	339	JHWST-816-TH	116	JHWTB-6124B	52	JHWTS51750	286
JHWSPR-K-14-6	338	JHWSPR-Z-1-3	339	JHWST-818	280	JHWTB-6218B	52	JHWTS51827	286
JHWSPR-K-36-4	338	JHWSPR-Z-2-4	339	JHWST-818-TH	116	JHWTM-1000	74	JHWTSCS3813	248
JHWSPR-K-36-6	338	JHWSPR-Z-3-6	339	JHWST-820	280	JHWTM-1500	74	JHWTSFS3807	248
JHWSPR-K-36-9	338	JHWSPSXL618	290	JHWST-820-TH	116	JHWTM16X1	486	JHWTSFS5005	286
JHWSPR-K-38-12	338	JHWSPSXMD418.	292	JHWST-822	280	JHWTM16X1-TH	136	JHWTSMS3809	248
JHWSPR-K-38-8	338	JHWSPSXMD616.	292	JHWST-822-TH	116	JHWTM-2000	74	JHWTSMS5107	286
JHWSPR-K-56-6	338	JHWSPSXMD618.	292	JHWST-824	280	JHWTM-2500	74	JHWW26RC7	49
JHWSPR-K-56-7	338	JHWSPSXTL618	290	JHWST-824-TH	116	JHWTM25X1	486	JHWW26RC7B	49
JHWSPR-K-72-4	338	JHWST-1212	276	JHWST-826	280	JHWTM25X1-TH	136	JHWW26RC7BL	49
JHWSPR-K-72-6	338	JHWST1214	276	JHWST-826-TH	116	JHWTM-290	74	JHWW26TC4	49
JHWSPR-N-5-6	341	JHWST-1216	276	JHWST-828	280	JHWTM-391	74	JHWW26TC4B	49
JHWSPR-N-6-6	341	JHWST-1218	276	JHWST-828-TH	116	JHWTM-391RSD.	75	JHWW26TC4BL	49
JHWSPR-N-7-6	341	JHWST-1219	276	JHWST-830	280	JHWTM-392	74	JHWW40RC7	48
JHWSPR-N-8-6	341	JHWST-1220	276	JHWST-830-TH	116	JHWTM-392RSD.	75	JHWW40RC7B	48
JHWSPR-N-9-6	341	JHWST-1221	276	JHWST-832	280	JHWTM-393	74	JHWW40RC7BL	48
JHWSPR-P-0-3	339	JHWST-1222	276	JHWST-832-TH	116	JHWTM-393RSD.	75	JHWW40TC4	48
JHWSPR-P-1-1	339	JHWST-1224	276	JHWST-834	280	JHWTM-394	75	JHWW40TC4B	48
JHWSPR-P-1-3	339	JHWST-1225	276	JHWST-836	280	JHWTM-394RSD.	75	JHWW40TC4BL	48
JHWSPR-P-1-8	339	JHWST-1226	276	JHWST-840	280	JHWTM-395	75	JHWW55RC11	46
JHWSPR-P-2-1	339	JHWST-1228	276	JHWSTM-1210	282	JHWTM-395RSD.	75	JHWW55RC11B	46
JHWSPR-P-2-4	339	JHWST-1230	276	JHWSTM-1211	282	JHWTM-492	75	JHWW55RC11BL	46
JHWSPR-P-2-6	339	JHWST-1231	276	JHWSTM-1212	282	JHWTM-493	75	JHWW55RC5BS .	47
JHWSPR-P-2-8	339	JHWST-1232	276	JHWSTM-1213	282	JHWTM-750LW	74	JHWW55TC10	46
JHWSPR-P-3-6	339	JHWST-1234	276	JHWSTM-1214	282	JHWTMAX\$45E2.	212	JHWW55TC10B	46
JHWSPR-R-1-4	341	JHWST-1236	276	JHWSTM-1215	282	JHWTMAXS5E2	212	JHWW55TC10BL	46
JHWSPR-R-2-5	341	JHWST-1238	276	JHWSTM-1216	282	JHWTMAXS6E2	212	JHWWBSC2460C	50
JHWSPR-R-3-6	341	JHWST-1240	276	JHWSTM-1217	282	JHWTMNT	30	JHWWBSC2460S	550
JHWSPRS-12CKPT	Γ332	JHWST-1242	276	JHWSTM-1218	282	JHWTMNTTB	30	JHWWG2408TH	121
JHWSPRS-4C	333	JHWST-1244	276	JHWSTM-1219	282	JHWTOTEBAGB	53	JHWWG2408TH	121
JHWSPRS-6CK	333	JHWST-1246	276	JHWSTM-1220	282	JHWTS38375	248	JHWWG-3	494

	M.E.						V	VILLIA	MS
Product Code	Page #	Product Code	Page #	Product Code Pag	je#	Product Code	Page #	Product Code	Page #
JHWWG-5	494	JHWWS-3510	168	JHWWSBSP-8RC	250	JHWWSS-30F	261	JHWX-1284	319
JHWWG-6	494	JHWWS-4-11RC	294	JHWWSC116TH	10	JHWWSS-30FTB	261	JHWX-1288	319
JHWWG6412TH.	121	JHWWS-4-14	294	JHWWSC225TH	9	JHWWSS-38F	261	JHWX-1294	319
JHWWG6412TH.	121	JHWWS-4-19RC	294	JHWWSC-27-TH	12	JHWWSS-38FTB	261	JHWX-1296	319
JHWWRS-1	335	JHWWS-44	188	JHWWSC409TH	8	JHWWSS-3XT	274	JHWX-20	318
JHWWRST1	335	JHWWS-45	187	JHWWSC-72-TH	11	JHWWSS-57F	260	JHWX-20B	318
JHWWRST4	335	JHWWS-45-TH	108	JHWWSH-13	303	JHWWSS-57TB	260	JHWX-20C	318
JHWWRST8	335	JHWWS-46	187	JHWWSH-13TB	303	JHWWSS-810RC	277	JHWX-41C	318
JHWWS-1108SP	164	JHWWS-46-TH	108	JHWWSH-16RC	306	JHWWSS-814RC	280	JHWX-41CB	318
JHWWS-1113CA	164	JHWWS-474	185	JHWWSH-16TB	306	JHWWSS-8HRC	237	JHWX-41C-TH	119
JHWWS1142PC	A 164	JHWWS-476	185	JHWWSH-22	302	JHWWS-SC11	144	JHWX-51B	317
JHWWS-1164RC	156	JHWWS-4-7RC	294	JHWWSH-22TB	302	JHWWSSCF-15	279	JHWX-51B-TH	119
JHWWS-1168RC	156	JHWWS-483	185	JHWWSH-26RC	306	JHWWSSCF-7	279	JHWX-52	318
JHWWS1168RCF	161	JHWWS4RWA	157	JHWWSH-29	302	JHWWSSCOE-7	278	JHWX-52A1	318
JHWWS1168RCS	S 160	JHWWS-5	173	JHWWSH-29TB	302	JHWWSSD11HRC.	281	JHWX-52EHRK	317
JHWWS1170BS0	C 147	JHWWS-6-10HA	310	JHWWSH-43	301	JHWWSSD-11RC	280	JHWX-52H36	318
JHWWS1170RCU	J 155	JHWWS-6-14HA	310	JHWWSH-43TB	301	JHWWSSS-6LRC	287	JHWXFN-0810	174
JHWWS1170RS	154	JHWWS-6-18TB	310	JHWWSHD11HRC	307	JHWWSSS-6RC	286	JHWXFN0810TH .	102
JHWWS1170RS0	2 150	JHWWS-7-19TB	320	JHWWSHKT-10	186	JHWWSSSP-4RC	288	JHWXFN-1214	174
JHWWS1170RSS	3 155	JHWWS-7707	169	JHWWSM-11TRC	210	JHWWSX-17	319	JHWXFN1214TH .	102
JHWWS1170SC	۱43 ا	JHWWS-8707	171	JHWWSM-13F	195	JHWWSX-20	317	JHWXFN-1618	174
JHWWS1170YS0	151	JHWWSB-10HRC.	237	JHWWSM-13FTB	195	JHWWSX-20TB	317	JHWXFN1618TH .	102
JHWWS1171BS0	C 147	JHWWSB-10RC	236	JHWWSM-15HF	195	JHWWSX-21	316	JHWXFN-2022	174
JHWWS1171RS0	2 150	JHWWSB-12HF	217	JHWWSM15HFTB	195	JHWWSX-21TB	316	JHWXFN2022TH .	102
JHWWS1171SC	۱43 ا	JHWWSB12HFTB.	217	JHWWSM-19HF	194	JHWWSX-28	316	JHWXFN-2432	174
JHWWS1171YS0	151	JHWWSB-13HRC.	237	JHWWSM19HFTB	194	JHWWSX-28TB	316	JHWXFN2432TH .	102
JHWWS1172BS0	147	JHWWSB-13RC	236	JHWWSM-20RC	207	JHWWTC-11	359	JHWXFN-2836	174
JHWWS1172RS0	2 150	JHWWSB-15F		JHWWSM-22F	194	JHWWTC-11-TH	124	JHWXFN2836TH .	102
JHWWS1172SC	_	JHWWSB-15FTB		JHWWSM-22FTB	194	JHWWTHSCAFL	90	KB18-01	
JHWWS1172YS0		JHWW\$B-23F		JHWWSM-26HF	193	JHWWTHSCAFM	90	KBSK-01	499
JHWWS1174BTA	147	JHWWSB-23FTB	216	JHWWSM26HFTB	193	JHWWTHSCAFXL	90	KBTU-01	499
JHWWS-1174TA.		JHWWSB-23HF	215	JHWWSM-38HF	193	JHWX-110	318	KE18-01	499
JHWWS-1175	143	JHWWSB23HFTB.	215	JHWWSM38HFTB	193	JHWX-115		KERU-01	499
JHWWS-1176	143	JHWWSB-28F	215	JHWWSM-4TRC	212	JHWX-12100	319	KG09-01	499
JHWWS1180RS		JHWWSB-28FTB		JHWWSM-7HBA		JHWX-1234		KLE5417T	
JHWWS1190BS0		JHWWSB-32F		JHWWSM-7RC		JHWX-1236		KLE5417T	
JHWWS1190SC		JHWWSB-32FTB		JHWWSMB-29F		JHWX-1240		KSBG0910D	
JHWWS-1191SC		JHWWSB-56F		JHWWSMB29FTB		JHWX-1242		KSBG18-10DISP.	
JHWWS-12		JHWWSB-56FTB		JHWWSMD10HRC		JHWX-1244		KWTBM	
JHWWS-12-12		JHWWSB-5XT		JHWWSMD-6RC		JHWX-1246		KWTELECWKT	
JHWWS-12-8		JHWWSB-6ADPA.		JHWWS-MID10		JHWX-1248		KWTELEKITL	
JHWWS-14		JHWWSB-7A		JHWWSMS-9LRC		JHWX-1252		KWTELEKITM	
JHWWS-14-11		JHWWSB-7U		JHWWSS-14HRC		JHWX-1254		KWTELEKITXL	
JHWWS1414RC.		JHWWSBB-7RC		JHWWSS-15F		JHWX-1256		KWTHRSGHR	
JHWWS-1419RC		JHWWSBCF-8		JHWWSS-15FTB		JHWX-1258		KWTIWWKIT	
JHWWS-14-TH		JHWWSBCO-10		JHWWSS-15RC		JHWX-1260		KWTPFBOX	
JHWWS-1605		JHWWSBCOM-10		JHWWSS-18HF		JHWX-1264		KWTPFFOR	
JHWWS-16-7H		JHWWSBD-13RC		JHWWSS18HFTB		JHWX-1268		KWTPFIND	
JHWWS-16-8H		JHWWSBD-7RC		JHWWSS-19F		JHWX-1270		LAP-KNIFE	
JHWWS-1705A		JHWWSBD-9RC		JHWWSS-19FTB		JHWX-1272		LTS-100-E	
JHWWS-1710A		JHWWSBHMD-7		JHWWSS-22F		JHWX-1276		LTS-30-E	
JHWWS-2-13 JHWWS-2-8		JHWWSBS-10RC. JHWWSBS-7LRC.		JHWWSS-22FTB		JHWX-1280 JHWX-1282		LTS-50-E MOIE3-16C-TH	
			.75()	JHWWSS-23RC		.IHWX-1787	-210		



Product Ondo	D #	8	D#	Donadoral Carlo	D	Dundant Onda		December 10 and 1	D #
Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
NP-12-COM		PYT1500132		QJO8A		QJRXSM8A		QJXM22A	
		PYT1500139		QJO9A		QJRXSM9A		QJXM23A	
NP-12-VEN		PYT1500140		QJOM10A		QJSD12A		QJXM24A	
NP-16-U7/8-HP		QCB-1250		QJOM11A		QJSD16A		QJXM25A	
NP-19-U7/8-HP		QCB-150		QJOM12A		QJSD8A		QJXM26A	
NP-22-U7/8-HP		QCB-300		QJOM13A		QJX10A		QJXM27A	
P-HB		QCB-450		QJOM14A		QJX12A		QJXM6A	
PB13-0.5-10/14-1140-		QCB-600		QJOM15A		QJX14A		QJXM7A	
PB13-0.5-14/18-1140-		QCB-900		QJOM16A		QJX16A		QJXM8A	
PB13-0.5-R-10-1140-		QCG-150		QJOM17A		QJX18A		QJXM9A	
PB13-0.5-R-14-1140-	5P 441	QCG-300		QJOM18A		QJX20A		QJ-Y	
PB13-0.5-R-18-1140-	5P 441	QJBOER12A		QJOM19A	69	QJX22A		QS-L-10PK	
PB13-0.5-R-24-1140-	5P 441	QJBOER16A		QJOM20A		QJX24A		QS-M-10PK	
PB57A		QJBOER18A	71	QJOM21A	69	QJX26A	70	QS-P-10PK	
PC-10-DTF	431	QJBOER20A	71	QJOM22A	69	QJX28A	70	QSPCOIL-10PK	
PC-10-DTR	431	QJBOERM16A	71	QJOM23A	69	QJX30A	70	QS-PM-10PK	138
PC-11-19-PS	428	QJBOERM18A	71	QJOM24A	69	QJX32A	70	QSPMCOIL10PK	138
PC-12-14-PS	428	QJD12A-80	68	QJOM25A	69	QJX34A	70	QS-S-10PK	138
PC-12-COM	433	QJD16A	68	QJOM26A	69	QJX8A	70	QS-XL-10PK	138
PC-12-TEN	431	QJD8A-72	68	QJOM27A	69	QJX9A	70	QWHDBLU110PK	138
PC-12-VEN	432	QJO10A	68	QJOM6A	69	QJXB16A	72	QWHDBLU1CASE	138
PC-15-GNP	430	QJO12A	68	QJOM7A	69	QJXB18A	72	QWHDYLW110PK	138
PC-15-TBX	428	QJO14A	68	QJOM8A	69	QJXB20A	72	QXD16A	68
PC-16-DECO	434	QJO16A	68	QJOM9A	69	QJXB22A	72	QXD24A	68
PC-19-GT7	429	QJO18A	68	QJRX18A	72	QJXB24A	72	QXD32A	68
PC-20-LAM	434	QJO20A	68	QJRX20A	72	QJXBM11A	72	QXO24A	68
PC-22-FILE-U7	429	QJO22A	68	QJRX22A	72	QJXBM12A	72	QXO26A	68
PC-22-GT7	429	QJO22ARTH60	69	QJRX24A	72	QJXBM13A	72	QXO28A	68
PC-22-INS	434	QJO24A	68	QJRX26A	72	QJXBM14A	72	QXO30A	68
PC-24-PLS	435	QJO26A	68	QJRX28A	72	QJXBM16A	72	QXO32A	68
PC-24-TIM	434	QJO28A	68	QJRX30A	72	QJXBM18A	72	QXO34A	68
PC-6-DRY	433	QJO30A	68	QJRX32A	72	QJXBM19A	72	QXO36A	68
PC-9-9/17-PS	428	QJO32A	68	QJRX34A	72	QJXD12A	70	QXO38A	68
PCH-INSPECT	95	QJO32ARTH	69	QJRXS10A	73	QJXD14A	70	QXO40A	68
PCH-PARTS-CB	95	QJO34A	68	QJRXS12A	73	QJXD16A	70	QXO42A	68
PCH-PARTS-CC	95	QJO34ARTH	69	QJRXS14A	73	QJXD18A	70	QXO44A	68
PCH-PARTS-CO	95	QJO36A	68	QJRXS16A	73	QJXD22A	70	QXO46A	68
PCH-PARTS-VY	95	QJO36ARTH	69	QJRXS18A	73	QJXD24A	70	QXO48A	68
PCHPARTSXDCB.	95	QJO38ARTH	69	QJRXS22A	73	QJXD28A	70	QXO50A	68
PCH-TOOL	95	QJO40A	68	QJRXS24A	73	QJXD30A	70	QXO52A	
PCH-TOOLRET	95	QJO40ARTH	69	QJRXS30A	73	QJXD32A		QXO54A	68
PCH-TOOLTRIG	95	QJO44A		QJRXS8A		QJXM10A		QXO56A	
PCH-TOOLXD	95	QJO44ARTH		QJRXSM10A		QJXM11A		QXO58A	
PCH-TOOLXDRE		QJO48A		QJRXSM11A		QJXM12A		QXO60A	
PCH-TOOLXDTR		QJO48ARTH		QJRXSM12A		QJXM13A		QXO64A	
PH-6604-1P		QJO50ARTH		QJRXSM13A		QJXM14A		QXOM17A	
PH-6604-25		QJO52A		QJRXSM14A		QJXM15A		QXOM18A	
PYT1500019		QJO52ARTH		QJRXSM15A		QJXM16A		QXOM19A	
PYT1500089		QJO56ARTH		QJRXSM16A		QJXM17A		QXOM20A	
PYT1500090		QJO60ARTH		QJRXSM17A		QJXM18A		QXOM21A	
PYT1500100		QJO64ARTH		QJRXSM18A		QJXM19A		QXOM22A	
PYT1500113		QJO66ARTH		QJRXSM19A		QJXM20A		QXOM23A	
PYT1500114		QJO86ARTH		QJRXSM20A		QJXM21A		QXOM24A	
		20000AIIII		2011/10/11/20/7		δοναμτ I.V	/ 1	₹ // 011127/7	

Durad 110 1	Service of the	Dunda 10		December 100 in		Donald I C 1		Product C. I	
Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #	Product Code	Page #
QXOM25A	69	QXY	73	QYOM34A	69	QYX48A	70	QZO42ADP	6
QXOM26A	69	QYBOER20A	71	QYOM36A	69	QYX50A	70	QZO44A	6
QXOM27A	69	QYBOER22A	71	QYRX18A	72	QYX52A	70	QZO44ADP	68
QXOM29A	69	QYBOER24A	71	QYRX20A	72	QYXB20A	72	QZO46A	68
QXOM30A	69	QYBOERM18A	71	QYRX22A	72	QYXB24A	72	QZO46ADP	68
QXOM32A	69	QYBOERM24A	71	QYRX24A	72	QYXB28A	72	QZO48A	68
QXOM34A	69	QYD12A-80	68	QYRX26A	72	QYXB30A	72	QZO48ADP	68
QXOM36A	69	QYD16A	68	QYRX28A	72	QYXB32A	72	QZO50A	68
QXOM41A	69	QYO18A	68	QYRX30A	72	QYXB36A	72	QZO50ADP	68
QXSD16A	68	QYO20A	68	QYRX32A	72	QYXBM18A	72	QZO52A	68
QXSD24A	68	QYO22A	68	QYRX34A	72	QYXBM24A	72	QZO52ADP	68
QXSD32A	68	QYO24A	68	QYRX36A	72	QYXBM28A	72	QZO54A	68
QXX20A	70	QYO26A	68	QYRX38A	72	QYXD20A	70	QZO54ADP	68
QXX22A	70	QYO28A	68	QYRX40A	72	QYXD22A	70	QZO56A	68
QXX24A	70	QYO30A	68	QYRX44A	72	QYXD24A	70	QZO56ADP	68
QXX26A	70	QYO32A	68	QYRX48A	72	QYXD28A	70	QZO58ADP	68
QXX28A	70	QYO34A	68	QYRX52A	72	QYXD30A	70	QZO60A	68
QXX30A	70	QYO36A	68	QYRXS18A	73	QYXM13A	71	QZO60ADP	68
QXX32A	70	QYO38A	68	QYRXS20A	73	QYXM14A	71	QZO64A	68
QXX34A	70	QYO40A	68	QYRXS22A	73	QYXM15A	71	QZO64ADP	68
QXX36A	70	QYO42A	68	QYRXS24A	73	QYXM16A	71	QZO66A	68
QXX38A	70	QYO44A	68	QYRXS26A	73	QYXM17A	71	QZO66ADP	68
QXX40A	70	QYO46A	68	QYRXS28A	73	QYXM18A	71	QZO68A	68
QXX42A	70	QYO48A	68	QYRXS30A	73	QYXM19A	71	QZO68ADP	68
QXX44A	70	QYO50A	68	QYRXS32A	73	QYXM20A	71	QZO72A	68
QXX46A	70	QYO52A	68	QYRXS36A	73	QYXM21A	71	QZO72ADP	68
QXX48A	70	QYO52ARTH	69	QYRXSM15A		QYXM22A	71	QZO76ADP	68
QXX50A		QYO56A	68	QYRXSM16A		QYXM23A	71	QZO80A	68
QXX52A		QYO56ARTH		QYRXSM17A		QYXM24A		QZO80ADP	68
OXX54A		QYO60A	68	OYRXSM18A		QYXM25A	71	QZO88A	68
QXX56A	70	OYO60ARTH		QYRXSM19A	73	QYXM26A		QZO96A	
OXX58A		QYO64ARTH	69	QYRXSM20A		QYXM27A		QZOM24A	
QXX60A	70	QYO68ARTH		QYRXSM21A		QYXM29A		QZOM24ADP	
OXX64A		QYO72		QYSBXM18A		QYXM30A		QZOM27A	
QXXB44A		QYO72ARTH		QYSBXM24A		QYXM32A		QZOM27ADP	
QXXB48A		QYO80		QYSD12A		QYXM34A		QZOM30A	
QXXM16A		QYOM14A		QYSD16A		QYXM36A		QZOM30ADP	
QXXM17A		OYOM15A		QY-X		QZD24B		QZOM32A	
QXXM18A		QYOM16A		QYX16A		QZD24BDP		QZOM32ADP	
QXXM19A		QYOM17A		QYX18A		QZD32A-1		QZOM34ADP	
QXXM20A		OYOM18A		QYX20A		QZD32B		QZOM36A	
QXXM21A		QYOM19A		QYX22A		QZD32BDP		QZOM36ADP	
QXXM22A		QYOM20A		QYX24A		QZD32BDP QZO32A		QZOM38ADP	
-				-		QZO32A QZO32ADP		QZOM38ADP	
QXXM23A		QYOM21A		QYX26A				-	
QXXM24A		QYOM22A		QYX28A		QZO34A		QZOM46ADP	
QXXM25A		QYOM23A		QYX30A		QZO34ADP		QZOM50A	
QXXM26A		QYOM24A		QYX32A		QZO36A		QZOM50ADP	
QXXM27A		QYOM25A		QYX34A		QZO36ADP		QZOM55A	
QXXM29A		QYOM26A		QYX36A		QZO38A		QZOM55ADP	
QXXM30A		QYOM27A		QYX38A		QZO38ADP		QZOM60ADP	
QXXM32A		QYOM29A		QYX40A		QZO40A		QZOM65ADP	
QXXM34A		QYOM30A		QYX42A		QZO40ADP		QZOM70ADP	
QXXM36A	71	QYOM32A	60	QYX46A	70	QZO42A	60	QZSD24A	60



pplifast

		DE LA SELECTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DE LA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACTION DELLA CONTRACT
1/4" Drive193-212	C	Extensions, Impact
3/8" Drive213-259	C-Clamps	3/8" Drive
1/2" Drive260-301	C-Clamp, Copper Screw 365	1/2" Drive
3/4" Drive301-315	C-Clamp, Heavy Service366	3/4" Drive
1" Drive316-324	C-Clamp, Standard Screw 365	1" Drive
1-1/2" Drive324-326	C-Clamp, Tools@Height125	1-1/2" Drive
Α	Cabinets (See Tool Storage)	Eyebolts
	Carts, Service50	Plain Pattern
Adapters, Hand 1/4" Drive205	Chain Pipe Wrench369	Shoulder Patter
.,	Chisels	F
3/8" Drive234	Cape Chisels 382	Г
1/2" Drive274	Chisel Holder381	Feeler Gauge Sets
3/4" Drive305	Chisel & Punch Sets 378-381. 462	Feeler Gauge Sets, T
Adapters, Impact	Cold Chisels 381	Files
3/8" Drive	Diamond Point Chisels 382	Chain Saw
1/2" Drive	Extra Long Cold Chisels 382	Engineering File
3/4" Drive309	Mason's 462	Farmer's Double
1" Drive319	Rivet Buster 382	File Cleaner
1-1/2' Drive324	Round Nose Chisels382	Filemaster
Adjustable Wrenches	Slitting 462	Flat
Alligator175	Tools@Height130-133	Flat Chisel Bit
Combination / Pipe176	Wood 483	Half Round
Construction178	Chisels, Tools@Height130-132	Hand
Ergonomic Handle176-177	Clamps	Handles
Heavy Duty, Side Nut	C-Clamps365-366	Homeowner's
Standard, Black Finish	L-Clamps485	Lathe
	Quick-Clamps 484	Mill File
Tools@Height Tethered104 Valve Persuader Handle175	Spring Clamps484	Mill Saws
Anchor Straps 91	Clinch Nut Tools	Needle
Anchor Straps 91	Combination Wrenches 98-99, 142-161	Needle File Sets
В	Creepers and Seats	Plastic Cut
Belts96, 488	Adjustable Swivel Seat Creeper 493	Round
Bolt Cutters485	Heavy-Duty Drop Shoulder 493	Round Chain Sav
Bolt Thru Sockets	Mechanic's Seat Creeper 493	Saw
Bolt Thru Socket Set 230, 241	Cutters	Set
Bolt Thru Sockets241	Bolt Cutters485	Slim Taper
Bow Saws and Blades436-437	Cable Cutters 358	Square
Breaker Bars	Hose Cutters 370	Taper Saw
1/4" Drive204-205	_	Three Square
3/8" Drive234-235	D	Tools@Height
1/2" Drive273-275	Drag Link Sockets 1/2" Drive 289	Warding
3/4" Drive234	Drive Tools, Sockets,	Files, Tools@Height.
1" Drive318	and Sets, Tools@Height109-119	Flange Jacks
Brush, Wire481	Е	Flashlight
Buckets, Tools@Height97	Electronic Torque Wrenches 60-61	Flextensions
Budd Wheel Sockets	Extensions, Hand	3/8" Drive
3/4" Drive309	1/4" Drive205-206	1/2" Drive
1" Drive320	3/8" Drive234-235	
Bulk Storage Cage50	1/2" Drive274-275	
Burrs, Rotary481	2/4" Dive	

1" Drive318

WILLIAMS
Extensions, Impact
3/8" Drive253
1/2" Drive293
3/4" Drive309
1" Drive319
1-1/2" Drive324
Eyebolts
Plain Pattern494
Shoulder Pattern494
F
Feeler Gauge Sets496
Feeler Gauge Sets, Tools@Height135
Files
Chain Saw 476-478
Engineering File Set358
Farmer's Double Duty472
File Cleaner476
Filemaster475
Flat
Flat Chisel Bit471
Half Round49
Hand465
Handles 477-480
Homeowner's472
Lathe465 Mill File465-467
Mill Saws471 Needle470-471
Needle File Sets464
Plastic Cut467
Round
Round Chain Saw476
Saw472, 474
Set
Slim Taper473
Square468
Taper Saw472
Three Square
Tools@Height134
Warding466
Files, Tools@Height134
Flange Jacks368
Flashlight500
Flextensions
3/8" Drive252
1/2" Drive290-292



Gasket Scrapers482	
Gloves504	
Grease Gun136	
Н	
Hacksaws	
Hacksaw Frames438-439)
Hand Hacksaw Blades440)
Mini Hacksaws439)
Rodsaw Hacksaw Blades 440)
Tools@Height133	1
Tungsten Carbide Hacksaw Blade 440)
Hacksaws, Tools@Height133	
Hammer Wrenches 6-Point184	ŀ
Hammers	
Brass127, 376	ò
Ball Pein127, 374-375	,
Claw127, 375	,
Cross Pein375	,
Dead Blow374	ŀ
Drilling127, 375	,
Sledge377	,
Soft Face376-377	,
Soft Face Hammer Kit376	ò
Soft Face Hammer Tips376-377	,
Tools@Height127-128	}
Hammers, Tools@Height127-128	}
Handsaws	
Backsaw 431	
Bowsaws & Blades 447-478	į
Compass Saw433	
Coping Saw 435	;
Dovetail 431	
Drywall Saw433	3
Folding Saw 428	j
General Purpose Saws 428-430)
Japanese Style Pull Saws 428	
Laminator 434	
Laplander Folding Saw 428	
Plaster 435	
Polystyrene 434	
Stradiusrius Musical Sau 425	:

Timber......434 Toolbox Saw...... 428, 430 Tools@Height......132 Veneer Saw...... 432 Handsaws, Tools@Height132 Holesaw Accessories450-451

Holesaws
Accessories450-451
Bi-Metal Holesaws446
Carbide-Tipped Holesaws448-449
Holesaw Sets445-448
Superior Holesaws444-445
Holsters, Tools@Height94
Hydraulics
Aluminum Cylinders396
Bottle Jacks416-417
Couplers410-417
•
Double-Acting Cylinders 394
Fittings420-422 Flat Body Cylinders and Kits 397-398
Flow Control Valves422
Gauges420
Hollow Hole Cylinders399
Hoses420
Lock Nut Cylinders395
Low Profile Cylinders402
Manifolds422
Maintenance Kits419
Mini Bottle Jacks416
Presses415
Pull Cylinders400
Pumps, Air406-407
Pumps, Electric408-409
Pumps, Gas413
Pumps, Hand403-404
Single Acting Cylinders390-393
Spreaders418
Threaded Hole Cylinders401
Toe Jacks417
1
Impact Driver, 3/8" Drive, Hand253
Impact Socket and Sets
(See Sockets and Sets, Impact)
Inspection Mirror
Telescoping503
Tools@Height136 Insulated Tools
1/2" Drive Ratchet and Extensions518
1/2" Drive Natchet and Extensions516
Adjustable Wrenches517 Bolt Cutters516
Cable Cutters 516
Knives515
Open End Wrenches517
Pliers510-513
Quick Adjust Water Pump Pliers514
Ratcheting Screwdriver Sets 508

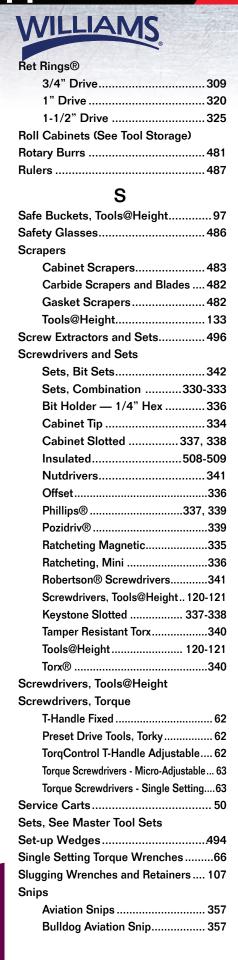
Scissors515
Screwdrivers and Sets508-509
Tweezers515
Voltage Tester517
Interchangeable Torque Heads
Adaptors71
Box End70-72
Fixed Square Drive68
Flare Nut72-73
Open End68-69
Ratcheting Square Drive68
Ratcheting Flare Nut72
Ratchet Wrench71
J
Job Site Boxes51
1/
K
Knives, Safety498, 501
Knives, Utility499-500
L
L-Clamps366
-
Lanyards & Tethers91-93 Levels
Tools@Height136
Torpedo487
Light, Work501-502
Long Tape Measure487
М
Magnetic Pick Up Tools502
Master Sets
Advanced Maintenance Service Set 27
Electrical Maintenance Service Set33
General Maintenance Set31
Heavy Duty Maintenance Service Set 32
Intermediate Technician Tool Set26
Maintenance Tool Sets (General) 34
Mammoth Tool Set16-17
Master Maintenance Tool Set24-25
Maxxum Tool Set20-21
Mega Tool Set18-19
Mechanical Maintenance Set30
Monster Tool Set22-23
Petroleum Oilfield Service Set28
Oilfield Tool Set29
Tools@Height Master Sets8-15, 80-89
Trade Sets426-427
Master Sets, Metric
Mammoth Tool Set, Metric 16-17
Maxxum Tool Set, Metric 20-21
Mega Tool Set, Metric 18-19

Master Sets, Tools@Height
Tools@Height Master
Maintenance Tool Set8, 80
Tools@Height Intermediate
Maintenance Service Set9, 81
Tools@Height General
Maintenance Service Set10, 82
Tools@Height Basic
Maintenance Service Set11, 83
Tools@Height Basic Starter Plus Set 12, 84
Tools@Height Basic Starter Set12, 84
Tools@Height Ironworker's Toolkit 13, 85
Tools@Height Boilermaker's Toolkit 13, 86
Tools@Height High Rigging Toolkit 13, 87
Tools@Height Pipefitter's
Foreman's Toolkit14, 88
Tools@Height Individual
Pipefitter's Toolkit14, 88
Tools@Height Pipefitter's
Gang Box Kit14, 88
Tools@Height Electrician's Toolkit15, 89
Tools@Height Electrician's Crew Kit15, 89
Mechanical Torque Testers
Comparator59
Micrometer Adjustable Torque Wrenches
Comfort Grip64
Interchangeable Head66
Metal Handle Dual Scale65
Mirrors, Inspection503
Modular Industrial Storage38-45
Multipliers, Torque
Torque Multipliers - Plate Reaction75
Torque Multipliers with Handles 74
MULTITORQ, Torque Acquistion Meter. 58
N
• •
Nail Puller504
Nut Drivers341
Р
Pick-Up Tool, Tools@Height35
Pinch Bars & Sets385-386
Pipe Tools
Chain Pipe Tongs369
Flange Jacks368
Nipple Remover & Installer Kit370
Pipe Chain Wrenches369
Pipe Wrenches, Aluminum 366-367
Pipe Wrenches, Cast Iron 366-367
Strap Wrench368
Tools@Height126
Tube Bender369

Tubing Cutters and Wheels37	0
Tubing Flaring Tools36	9
Pliers & Pipe Wrench34	
Pipe Wrenches	
Aluminum366-36	7
Cast Iron366-36	
Tools@Height12	
Pliers	
Cable Tie Cutters35	8
Chain Nose35	
Combination Slip-Joint 34	
Diagonal Cutting351-35	
Duck Bill35	
Electrical	
End Cutting Nippers	
Heavy Duty Snap Ring & Tips 36	
Insulated510-51	
Lineman's Pliers	
Lock Ring	
Locking Pliers	
Locking Pliers, Comfort Grip 35	
Long Nose	
Needle Nose352-35	
Nose Pliers	
Nut Gripping Pliers	
Sets346-34	
Side Cutters349-35	
Side Cutting Combination Pliers 34	
Slip Joint Pliers34	
Snap (Retaining) Ring Pliers 361-36	
Tools@Height122-12	
Universal Pliers Wrench34	
Utility Superjoint34	
Water Pump 34	8
Wire Strippers35	5
Wire Twister35	9
Pliers, Tools@Height122-12	4
Portable Bandsaw Blades44	1
Pouches, Tools@Height9	5
Power Flextensions	
3/8" Drive25	2
1/2" Drive290-29	2
Pre-Set Interchangeable	
Head Torque Wrenches6	6
Pre-Set Torque Screwdrivers6	3
Prybars	
Comfort Grip Handle385-38	6
Lightweight Prybars38	
Ladyfoot	
Pinch Bars38	
Roll Bars385-38	
Tools@Height 12	

WILLIAMS
Punches
Brass384
Center
Chisel Sets
Long Taper
Pilot
Pin
Prick
Punch and Chisel Holder 381
Punch and Chisels Sets 378, 462
Punch Sets 380, 462
Solid
Tools@Height130-132
Punches, Tools@Height130-132
Putty Knife486
rutty Mille400
R
Rasps474-475
Ratcheting Adjustable Wrenches178
Ratchets
1/4" Drive Black Narrow Head 204
1/4" Drive Chrome Flex Head 204
1/4" Drive Chrome Narrow Head 204-205
3/8" Drive Black Narrow Head 233
3/8" Drive Black Round Head 233
3/8" Drive Chrome Flex Head 233
3/8" Drive Chrome Narrow Head 233
3/8" Drive Chrome Round Head 233
3/8" Drive Spinner Disk 234
1/2" Drive Black Construction 273
1/2" Drive Black Narrow Head 272
1/2" Drive Black Round Head 272
1/2" Drive Chrome Flex Head 272
1/2" Drive Chrome Narrow Head 272
1/2" Drive Chrome Round Head 272
1/2" Drive Chrome Round Head Lineman's 272
1/2" Drive Scaffolding Ratchet 273
1/2" Drive Spinner Disk 274
3/4" Drive Black Reversible 304
3/4" Drive Chrome Reversible 304
1" Drive Chrome318
Reciprocating Sawblades
Carbide Tipped Saw Blades460
Carbody Saw Blades459
Demolition457
Diamond Grit Blades461
Fire & Rescue457
Metal Cutting Blades 454-455
Pallet Cutting Blades457
Special Cutting Blades459
Wood & Metal Cutting Blades 456

Wood & Plastic Cutting Blades ...458



ріпаst

L	ong Nose Aviation Snip	357
N	/lulti-Purpose Snip	358
C	Offset Aviation Snip	357
	Straight Pattern Tin Snips	
Squar	re4	187
Socke	ets and Sets, Hand	
	/4" Drive Combination Socket	
	nd 1/4" DriveTool Sets 193,	
	/4" Drive Ball Hex Bit	
	/4" Drive Deep207-	
	/4" Drive Hex Bit210-	
	/4" Drive Long Hex Bit	
	/4" Drive Stubby Hex Bit	
	/4" Drive Phillips®	
	/4" Drive Slotted	
	/4" Drive Shallow 206-2	
	/4" Drive Tools@Height 110-	
	/4" Drive Torx® Bit	212
	8/8" Drive Combination Socket	
	nd Drive Tool Sets 213-230,	
	8/8" Drive Ball Hex Bit 249,	
	/8" Drive Bolt Thru Socket Set 230,	
	8/8" Drive Bolt Thru Sockets	241
	8/8" Drive Flare Nut	
	Crowfoot Wrenches	
	3/8" Drive Deep 242-243, 2	
	3/8" Drive Hex Bit	
	3/8" Hex Driver2	
	8/8" Drive Long Hex Bit2	251
	3/8" Drive Magnetic Hex	225
	Bit Holder	235
	3/8" Drive Open End	240
	Crowfoot Wrenches	
	8/8" Drive Pentasocket	
	3/8" Drive Phillips® Bit 3/8" Drive Shallow236-238, 2	
	3/8" Drive Slotted Bit	
	3/8" Drive Spark Plug 3/8" Drive Tamper-Resistant	243
	orx® Bit	251
	3/8" Drive Tools@Height 111-	
	8/8" Drive Torx® Bit	
	3/8" Drive Turbosockets	
	3/8" Drive Universal238-2	
	/2" Drive Combination Socket	239
	and Drive Tool Sets260-	271
	/2" Drive Flare Nut	_/!
	Crowfoot Wrenches	270
	/2" Drive Open End	_, 9
	Crowfoot Wrenches	272
	/2" Drive Deep 280, 284-	
	. = = 5 5 p 200, 20 T-/	

1/2" Drive Drag Link
1/2" Hex Drivers 289
1/2" Drive Hex Bit286-287
1/2" Drive Long Hex Bit 287
1/2" Drive Pentasocket 289
1/2" Drive Phillips® Bit288
1/2" Drive Shallow 276-280, 282-283
1/2" Drive Slotted Bit288
1/2" Drive Tools@Height 114-117
1/2" Drive Torx® Bit288
1/2" Drive Turbosockets286
3/4" Drive Combination Socket
and Drive Tool Sets301-303
3/4" Drive Deep307
3/4" Drive Shallow306-308
3/4" Drive Tools@Height 118-119
1" Drive Combination Socket
and Drive Tool Sets 316-317
1" Drive Shallow319
1" Drive Tools@Height119
Multi Drive Socket
and Drive Tool Sets 192, 197-200
Sockets and Sets, Impact
3/8" Drive Deep255-256, 258-259
3/8" Drive Hex Bit257
3/8" Drive Shallow254-257
3/8" Drive TURBOSOCKET® 248
3/8" Drive Universal Flex254
1/2" Drive Deep296, 299
1/2" Drive Hex Bit301
1/2" Drive Shallow297, 295-301
1/2" Drive TURBOSOCKET®286
1/2" Drive Universal Flex295-296
3/4" Drive Budd
Wheel Deep Length 6-pt309
3/4" Drive Deep312
3/4" Drive Hex Drivers 314-315
3/4" Drive Shallow310-311
1" Drive Budd Wheel320
1" Drive Deep323
1" Drive Shallow324
1-1/2" Drive Shallow325-326
Sockets, Drive Tools,
and Sets, Tools@Height109-119
Speeders
1/4" Drive Chrome204-205
3/8" Drive Chrome235
1/2" Drive Chrome273
Spinner Handle
1/4" Drive204-205
3/8" Drive235

		WILLIAMS
Striking Wrenches	3/8" Drive Sockets	Wire Tools124-125
and Retainers107, 182-184	and Drive Tools 111-113	Tools@Height Tethers, Lanyards,
Stud Remover274	Adjustable Wrenches104	and Attachment Points
Т	Box End Wrenches101-102	Adjustable Wristbands92
T-Handles	Bull Pin With Position	Anchor Straps91
1/4" Drive Chrome	Adjustable Shackle121	Belt Loops96
3/8" Drive Chrome	C-Clamps125	Coil Tethers92
1/2" Drive Chrome273	Click Type Torque Wrench 107	Comfort Tool Belts96
3/4" Drive Black 304	Combination Wrenches98-99	D-Rings137
3/4" Drive Chrome	Construction Adjustable Wrench 104	D-Ring Cord
1" Drive Chrome318	Construction, Single Head Wrenches . 104	Extra Deep Safe Buckets97
1-1/2" Drive Black	Double Open End Angle	Hard Body Safe Bucket Insert 97
Tape Measure486	Head Wrenches101	Hard Hat Tethers93
Tape Measure, Tools@Height136	Feeler Gauges135	Heat Shrink Wrap138
Tethers & Lanyards91-93	Files	Holsters94
Tool Belts and Pouches96	Flare Nut Wrenches 102-103	Inspection Pouch95
Tool Control Systems	Flashlight	Lanyards91
Bulk Storage Cage50	Hacksaw Frames133	Micro D-Ring
Keyless Tool Control Roll Cabinet 50	Hammers127-128	Pullaway Wristbands93
Tool Holsters94	Hex Drivers, T-Handle 105	Quick Rings138 Quick Spins137
Tool Sets, Master (See Master Sets)	Hex Key Sets, Folding108	Quick Wrap Tape138
Tool Sets, Tools@Height 8-17, 80-89	Inspection Mirror136	Retractable Tethers92
Tool Storage Solutions	Level136	Safe Buckets97
Bulk Storage Cage50	Nutdrivers121	Small Parts Pouch95
Hand Carry, Canvas489-491	Offset Pattern Box End	Tool Cinch Attachments 137
Hand Carry, Metal52-53	Striking Wrenches106	Tool Holsters94
Heavy-Duty Service Cart50	Open-End Wrenches101	Tool Pouches95
Job Site Boxes51	Pick-up Tool135	Utility Belts96
Modular Industrial Storage38-45	Pipe Wrenches126	Utility Pouch95
Plastic Tool Boxes489	Pliers122-125	Wristbands93
Pouches 54	Pry Bars129	Tools@Height, Master Sets
Professional Series Tool Storage 46-49	Punches & Chisels130-132	Tools@Height Master
Roll Cabinets46-49	Ratcheting Box Wrenches 102	Maintenance Tool Set8, 80
Roll Cabinet with Bulk Storage 47	Ratcheting Combination Wrenches 100	Tools@Height Intermediate
Service Carts50	Saws132-133	Maintenance Service Set9, 81
Socket Rails & Clips 84	Scaffolding Ratchet114	Tools@Height General
Socket Set Toolboxes	Scraper133	Maintenance Service Set10, 82
Top Chests	Screwdrivers120-121	Tools@Height Basic
Tool Organizers	Service Wrenches103	Maintenance Service Set11, 83
Tool Storage Combinations 46-49	Sledge Hammers128	Tools@Height Basic Starter Plus Set. 12, 84
Tote Bags	Slugging Wrench Retainers 107	Tools@Height Basic Starter Set12, 84
Tools@Height Hand Tools	Snips, Aviation135	Tools@Height Ironworker's Toolkit13, 85
1" Drive Sockets and Drive Tools119	Spanner Wrenches, Adjustable Face105	Tools@Height Boilermaker's Toolkit 13, 86
1/2" Drive Sockets	Spanner Wrenches, Adjustable Hook 105	Tools@Height High Rigging Toolkit 13, 87
and Drive Tools114-116	Spanner Wrenches, Adjustable Pin105	Tools@Height Pipefitter's
1/4" Drive Sockets	Structural Wrenches, Single Head 104	Foreman's Toolkit14, 88
and Drive Tools109-110	Tape Measure136	Tools@Height Individual
3/4" Drive Sockets	Torque Wrenches108	Pipefitter's Toolkit14, 88
and Drive Tools118-119	Wedge With Postion	Tools@Height Pipefitter's
and 5.175 10010110-119	Adjustable Shackle121	Gang Box Kit14, 88

WILLIAMS
Tools@Height Electrician's Toolkit 15, 89 Tools@Height Electrician's Crew Kit 15, 89
Scaffold Building Kit90
Torque Acquistion Meter, MULTITORQ58
Torque Multipliers
Replacement Square Drives 75
Torque Multipliers - Plate Reaction 75
Torque Multipliers with Handles 74
Torque Screwdrivers
T-Handle Fixed62
Preset Drive Tools, Torky
TorqControl T-Handle Adjustable 62
Torque Screwdrivers - Micro-Adjustable 63
Torque Screwdrivers - Single Setting63
Torque Testers, Mechanical Comparator59
Torque Wrenches, Electronic 60-61
Adjustable Torque Wrenches, Micrometer
Comfort Grip64
Interchangeable Head66
Metal Handle Dual Scale65
Tools@Height Tethered108
Torque Wrenches, Single Setting
(Pre-Set) Interchangeable Head 66
Torque, Interchangeable Heads
Adaptors71
Box End70-72
Fixed Square Drive68
Flare Nut72-73
Open End 68-69
Ratcheting Square Drive 68
Ratcheting Flare Nut71
Ratchet Wrench71
U
Universal Joints, Hand
1/4" Drive Chrome205-206
3/8" Drive Chrome234-235
1/2" Drive Chrome274-275
3/4" Drive Chrome305
Universal Joints, Impact
3/8" Drive253
1/2" Drive293
3/4" Drive309
1" Drive
1-1/2" Drive325
Utility Knives and Blades499-500
Utility Tool Sets
Mini Pick and Hook Set 493
Scraper and Pick Set 493

Applifast.

W
Wedges
Set-up494
Wire Brush481
Wire Strippers356-357
Wood Chisels483
Work Gloves504
Worklight502
Wrenches and Sets
30° Service Wrench168
Adjustable —
see Adjustable Wrenches 175-177
Basin Wrench368
Box End, Double Head 169-171
Chain Pipe Wrench369
Combination, Black
Industrial Finish146-147
Combination, Flex-Head,
12-pt153
Combination, High Polish
Finish142-143, 148-149
Combination, HI-VIS Red, 12-pt 150
Combination, HI-VIS Yellow, 12-pt151
Combination, Miniature 152
Combination, Offset, 12-pt 145-146
Combination, Ratcheting,
12-pt154-160
Combination, Ratcheting,
Flex-Head, 12-pt161
Combination, Ratcheting,
Stubby, 12-pt,155, 160
Combination, Short
Combination, Stubby, 12-pt 153
Combination, Supercombo®,
Black Finish, 12-pt,146-147
Combination, Supercombo®,
Chrome Finish, 6-pt144
Combination, Supercombo®,
Chrome Finish, 12-pt
Construction, Adjustable
Construction, Single Head 178-179
Flare Nut, Double Head, Chrome 174-175
Flare Nut, Ratcheting
Flex Head, Double Box
Hammer Wrenches 6-Point 184
Hex Keys186-187
Hex Key Sets T Handle 197
Hex Key Sets, T-Handle
Hex Key Sets, Folding187 Insulated517
Open End, Double Angle Head,

Chrome 166
Open End, Double Head,
Chrome 162
Open End, Double Head,
Miniature164-165
Open End, Double Head,
Short 163
Pipe, Aluminum366
Pipe, Cast Iron367
Ratcheting Box End,
Double Head, Offset173
Ratcheting Box End,
Double Head, Straight172-173
Ratcheting Box End,
Single Head, Straight171-172
Ratcheting Flare Nut,
Single Head174
Service, 30° Angle Head168
Spanner, Adjustable Face185
Spanner, Adjustable Hook185
Spanner, Adjustable Pin185
Strap368
Striking Face, Offset183
Striking Face, Straight182
Striking Wrench Retainers184
Structural, Single Head179
Structural, Single Head Offset179
T-Handle Hex Wrenches186
Tools@Height Wrenches 98-107
Tubular Handle, Offset Box18
Tubular Handle, Open End180
Tubular Handle, Straight Box 18
Tubular Handles180
Wrenches, Micrometer Adjustable Torque
Comfort Grip64
Interchangeable Head66
Metal Handle Dual Scale65
Tools@Height Tethered108
Wrecking Bars497
Wristbands, Tools@Height 93
-

WARRANTIES

Safety

Hand tools are generally designed to perform one function — do not use them improperly. Screwdrivers are not chisels, adjustable wrenches are not hammers and pliers are not intended to replace wrenches. Each of our product groups contains specific safety tips for proper tool usage. Additionally, wear appropriate clothing for the job, and always wear safety glasses. A special note on safety... use of hand sockets (chrome finish) with power drive (impact) equipment is a misuse of the tool and can result in serious injury.

Trademarks

The following are trademarks of Snap-on Incorporated in the United States, and some are registered in other countries. All other Snap-on trademarks, service marks, domain names, logos, and company names referred to in this catalog are either trademarks, registered trademarks, service marks, domain names, logos, company names of or are otherwise the property of Snap-on Incorporated or its affiliates. In countries where any of the Snap-on trademarks, service marks, domain names, logos and company names are not registered. Snap-on Incorporated claims other rights associated with unregistered trademarks, service marks, domain names, logos, and company names. Other product or company names referred to in this catalog may be trademarks of their respective owners.

Williams®
Wms.TM
Bahco®
ERGO™
ENDUROGRIP™
SUPERECTOR™
SUPERBLACK™
SUPERCOMBO®
SUPERSOCKET™
SUPERRENCH®

SUPERTORQUE™ PHILLIPS® TORX® POZIDRIV® ROBERTSON®

Limited Warranty:

Williams warrants that its products shall be free from defects in workmanship and materials (i) the duration described in each product's warranty statement; or (ii) as specifically provided in this Warranties Statement. In the case of any conflict between an individual product's warranty statement and this Warranties Statement, the individual product's warranty provided with the product shall apply. This warranty is limited to products purchased from authorized Williams distributors. The warranty duration depends upon the nature of the product. If the product information for purchased product does not include a warranty statement with the applicable duration or prior to a product purchase, a customer can obtain the product warranty statement and warranty duration from a selling Williams distributor or by writing Williams at the address provided at the end of this warranty statement. Williams, at its sole option, will repair, replace or grant a credit for product that does not comply with this warranty. The product must be returned to the Williams distributor from whom the product was purchased for warranty service. If the distributor is unavailable, the product should be returned to Williams, 6969 Jamesson Rd, Midland, GA 31820, freight prepaid. Include a contact name, phone number and a return address; please do not supply a post office box. If you choose not to (1) use a carrier that offers tracking or (2) insure or declare the full value of the product, you will be responsible for any loss or damage to the product during shipping. Williams does not provide any warranty for: 1) consumable products, 2) products subjected to abnormal use, or 3) normal wear and tear of products. Consumable products are goods reasonably expected to be used up or damaged during use. Abnormal use includes misuse, modification, accident, neglect or lack of maintenance. If the warranty claims is found to be invalid, the original product will be returned to the customer. By repairing or replacing a product, or providing a refund, Williams does not waive a claim that a Product nevertheless has been subject to abnormal use. Any products or parts replaced or for which Williams has provided a refund are the property of Williams and will not be returned.

Torque Products Warranty:

Williams warrants to the original purchaser of Williams Torque Products that the company's torque products are free from defects in workmanship and materials for the duration provided below. Williams will repair or replace Williams Torque Products which fail to give satisfactory service due to defective workmanship or materials (excluding calibration) for 12 months from the date of original purchase. Williams warrants "initial, out of box calibration" of each new, unused Williams Torque Product. Repair, replacement or recalibration, as applicable, shall be at the election and expense of Williams, and is your exclusive remedy in place of all other rights and remedies. Products must be returned with proof of purchase, freight prepaid, to a Williams Torque Products repair center for warranty service. Williams will repair or replace Williams Torque Multipliers which fail to give satisfactory service due to defective workmanship or material for 90 days from the date of original purchase. Williams does not provide any warranty for products subjected to abnormal use. Abnormal use includes misuse, accident, modification, unreasonable use, neglect, lack of maintenance, or use after the tool is significantly worn.

Toolbox Warranties:

All toolboxes sold under the Williams brand will be warranted for a period of one (1) year from the date of purchase against defects in materials and workmanship. Any part(s) which are determined by Williams to be defective in material or workmanship, will be, at Williams discretion, repaired, replaced, or granted a credit. Any toolboxes that are to be returned, must be done through Williams current Return Goods Policy, be sent back freight prepaid, and accompanied with a dated copy of the purchase order. Williams does NOT provide any warranty for products subjected to "abnormal use". Products that are not labeled Williams or Bahco are subject to the warranty provided by the manufacturers of those products and Williams will pass along any such warranties. "Abnormal use" includes misuse, accident, modification, unreasonable use, abuse, neglect, lack of maintenance, use in product-related service, or use after the product is significantly worn. Abnormal use of tool storage units also includes, without limitation, situations when a unit is pulled using a mechanical vehicle, rolled over large drops, used in a highly corrosive environment, used as a step stool, modified with non-Snap-on parts, overloaded or modified in any way.

TO THE EXTENT ALLOWED BY APPLICABLE LAW, THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WILLIAMS AND ITS AFFILIATED COMPANIES SHALL NOT BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL COSTS OR DAMAGES INCURRED BY THE PURCHASER OR OTHERS.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or country.

Williams Warranty Information Center 6969 Jamesson Road Midland, GA 31820



Snap-on Industrial is a division of IDSC Holdings, LLC











