

**ARCONIC**

## Instruction Manual

# 246

## Pneudraulic Installation Tool

*Patent Pending*



**Model 246**

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January 27, 2017

**HK825**

Makers of Huck®, Marson®, Recoil®  
Brand Fasteners, Tools & Accessories



**ARCONIC**

## EC Declaration of Conformity

**Manufacturer:**

Huck International, LLC, Industrial Products Group, 1 Corporate Drive, Kingston, NY, 12401, USA

**Description of Machinery:**

Models 24#, 25#, and 2047 pneudraulic installation tools and specials based on their design (e.g. PR#####).

**Relevant provisions complied with:**

Council Directive related to Machinery (2006/42/EC)

British Standard related to hand held, non-electric power tools (ISO 11148-1:2011)

**European Representative:**

Rob Pattenden, Huck International, Ltd. Unit C Stafford Park 7, Telford Shropshire TF3 3BQ, England, United Kingdom

**Authorized Signature/date:**

I, the undersigned, do hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Signature:

Full Name: Robert B. Wilcox

Position: Engineering Manager

Location: Huck International, LLC d/b/a Arconic Fastening Systems and Rings  
Kingston, New York, USA

Date: 01/11/2016 (November 1, 2016)



### Declared dual number noise emission values in accordance with ISO 4871

A weighted sound power level, LWA: **91** dB (reference 1 pW) Uncertainty, KWA: 3 dB

A weighted emission sound pressure level at the work station, LpA: **80** dB (reference 20 µPa) Uncertainty, KpA: 3 dB

C-weighted peak emission sound pressure level, LpC, peak: **115** dB (reference 20 µPa) Uncertainty, KpC: 3 dB

Values determined according to noise test code ISO 3744. The sum of a measured noise emission value and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements.

### Declared vibration emission values in accordance with EN 12096


Measured Vibrations emission value, a:	<b>.63 m/s<sup>2</sup></b>
Uncertainty, K:	<b>.72 m/s<sup>2</sup></b>
Values measured and determined according to ISO 28662-1, ISO 5349-2, and EN 1033	


Test data to support the above information is on file at:  
Arconic Fastening Systems and Rings, Kingston Operations, Kingston, NY, USA.





# Safety Instructions

## GLOSSARY OF TERMS AND SYMBOLS:

 - Product complies with requirements set forth by the relevant European directives.

 - Read manual prior to using this equipment.

 - Eye protection is required while using this equipment.

 - Hearing protection is required while using this equipment.

Notes: are reminders of required procedures.

***Bold, Italic type, and underline:*** emphasize a specific instruction.

 **WARNINGS: Must be understood to avoid severe personal injury.**

 **CAUTIONS: Show conditions that will damage equipment or structure.**

### I. GENERAL SAFETY RULES:

1. A half hour long hands-on training session with qualified personnel is recommended before using Huck equipment.
2. Huck equipment must be maintained in a safe working condition at all times. Tools and hoses should be inspected at the beginning of each shift/day for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.
3. For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the assembly power tool. Failure to do so can result in serious bodily injury.
4. Only qualified and trained operators should install, adjust or use the assembly power tool.
5. Do not modify this assembly power tool. This can reduce effectiveness of safety measures and increase operator risk.
6. Do not discard safety instructions; give them to the operator.
7. Do not use assembly power tool if it has been damaged.
8. Tools shall be inspected periodically to verify all ratings and markings required, and listed in the manual, are legibly marked on the tool. The employer/operator shall contact the manufacturer to obtain replacement marking labels when necessary. Refer to assembly drawing and parts list for replacement.
9. Tool is only to be used as stated in this manual. Any other use is prohibited.
10. Read MSDS Specifications before servicing the tool. MSDS specifications are available from the product manufacturer or your Huck representative.
11. Only genuine Huck parts shall be used for replacements or spares. Use of any other parts can result in tooling damage or personal injury.
12. Never remove any safety guards or pintail deflectors.
13. Never install a fastener in free air. Personal injury from fastener ejecting may occur.
14. Where applicable, always clear spent pintail out of nose assembly before installing the next fastener.
15. Check clearance between trigger and work piece to ensure there is no pinch point when tool is activated. Remote triggers are available for hydraulic tooling if pinch point is unavoidable.
16. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle or to bend or pry the tool. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency, eliminating downtime, and preventing an accident which may cause severe personal injury.
17. Never place hands between nose assembly and work piece. Keep hands clear from front of tool.
18. Tools with ejector rods should never be cycled with out nose assembly installed.
19. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet for correct positioning.

### II. PROJECTILE HAZARDS:

1. Risk of whipping compressed air hose if tool is pneudraulic or pneumatic.
2. Disconnect the assembly power tool from energy source when changing inserted tools or accessories.
3. Be aware that failure of the workpiece, accessories, or the inserted tool itself can generate high velocity projectiles.
4. Always wear impact resistant eye protection during tool operation. The grade of protection required should be assessed for each use.
5. The risk of others should also be assessed at this time.
6. Ensure that the workpiece is securely fixed.
7. Check that the means of protection from ejection of fastener or pintail is in place and operative.
8. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.

### III. OPERATING HAZARDS:

1. Use of tool can expose the operator's hands to hazards including: crushing, impacts, cuts, abrasions and heat. Wear suitable gloves to protect hands.
2. Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
3. Hold the tool correctly and be ready to counteract normal or sudden movements with both hands available.
4. Maintain a balanced body position and secure footing.
5. Release trigger or stop start device in case of interruption of energy supply.
6. Use only fluids and lubricants recommended by the manufacturer.
7. Avoid unsuitable postures, as it is likely for these not to allow counteracting of normal or unexpected tool movement.
8. If the assembly power tool is fixed to a suspension device, make sure that fixation is secure.
9. Beware of the risk of crushing or pinching if nose equipment is not fitted.

### IV. REPETITIVE MOTION HAZARDS:

1. When using assembly power tool, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
2. When using tool, the operator should adopt a comfortable posture while maintaining a secure footing and avoid awkward or off balanced postures.
3. The operator should change posture during extended tasks to help avoid discomfort and fatigue.
4. If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warnings should not be ignored. The operator should tell the employer and consult a qualified health professional.

### V. ACCESSORIES HAZARDS:

1. Disconnect tool from energy supply before changing inserted tool or accessory.
2. Use only sizes and types of accessories and consumables that are recommended. Do not use other types or sizes of accessories or consumables.

### VI. WORKPLACE HAZARDS:

1. Be aware of slippery surfaces caused by use of the tool and of trip hazards caused by the air line or hydraulic hose.
2. Proceed with caution while in unfamiliar surroundings; there could be hidden hazards such as electricity or other utility lines.
3. The assembly power tool is not intended for use in potentially explosive environments.
4. Tool is not insulated against contact with electrical power.
5. Ensure there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by use of the tool.

### VII. NOISE HAZARDS:

1. Exposure to high noise levels can cause permanent, disabling hearing loss and other problems such as tinnitus, therefore risk assessment and the implementation of proper controls is essential.
2. Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpiece from 'ringing'.
3. Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations.
4. Operate and maintain tool as recommended in the instruction handbook to prevent an unnecessary increase in the noise level.
5. Select, maintain and replace the consumable / inserted tool as recommended to prevent an unnecessary increase in noise.
6. If the power tool has a silencer, always ensure that it is in place and in good working order when the tool is being operated.

### VIII. VIBRATION HAZARDS:

1. Exposure to vibration can cause disabling damage to the nerves and blood supply to the hands and arms.
2. Wear warm clothing when working in cold conditions and keep hands warm and dry.
3. If numbness, tingling, pain or whitening of the skin in the fingers or hands, stop using the tool, tell your employer and consult a physician.
4. Support the weight of the tool in a stand, tensioner or balancer in order to have a lighter grip on the tool.

### IX. PNEUMATIC / PNEUDRAULIC TOOL SAFETY INSTRUCTIONS:

1. Air under pressure can cause severe injury.
2. Always shut off air supply, drain hose of air pressure and disconnect tool from air supply when not in use, before changing accessories or when making repairs.
3. Never direct air at yourself or anyone else.
4. Whipping hoses can cause severe injury, always check for damaged or loose hoses and fittings.
5. Cold air should be directed away from hands.
6. Whenever universal twist couplings (claw couplings) are used, lock pins shall be installed and whip-check safety cables shall be used to safeguard against possible hose to hose or hose to tool connection failure.
7. Do not exceed maximum air pressure stated on tool.
8. Never carry an air tool by the hose.



## SPECIFICATIONS

**STROKE:** 0.875 in (2.22 cm)

**WEIGHT:** 11.1 lbs (5.03 kg)

**MAX AIR PRESSURE:** 110 psi (7.6 bar)

**MAX FLOW RATE:** 22.4 scfm (850 l/m)

**POWER SOURCE:** 90–100 psi (6.2–6.9 bar) maximum shop air

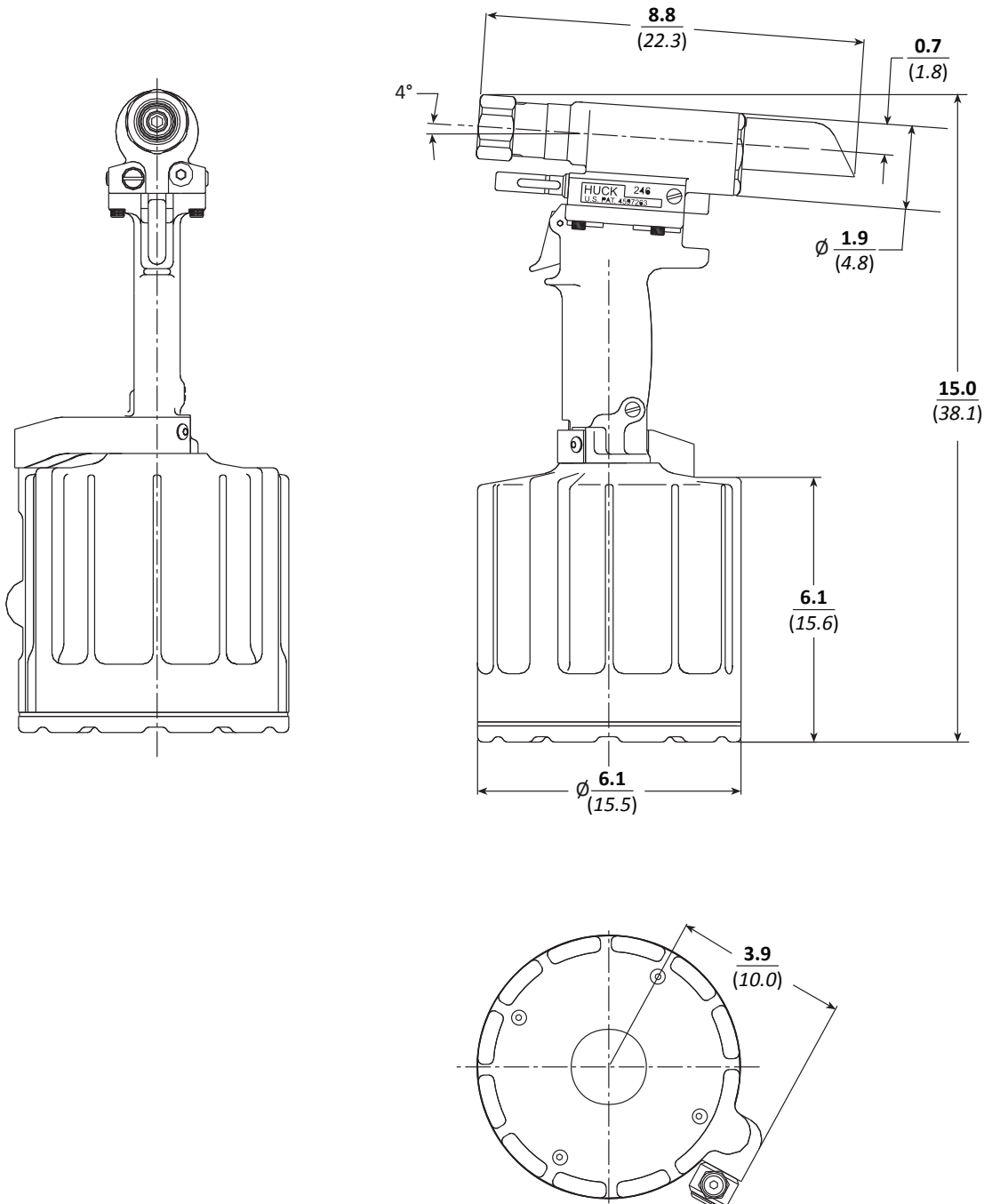
**MAX OPERATING TEMP:** 125° F (51.7° C)

**PULL CAPACITY:** 9986 lbs @ 90 psi  
(44.42 kN @ 6.2 bar)

**SPEED / CYCLES:** 30 per minute

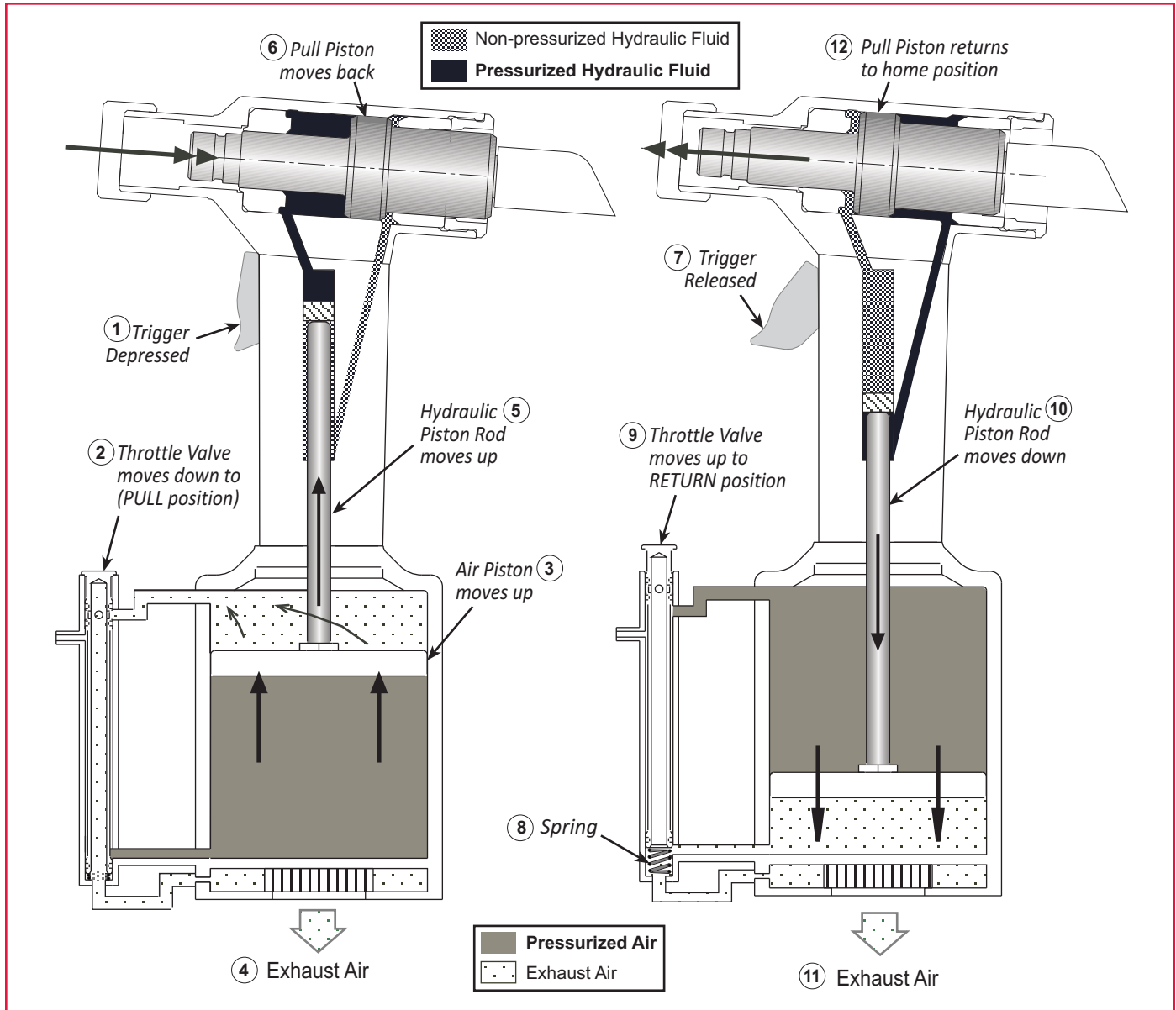
**HOSE KITS:** Use only genuine Huck Hose Kits rated @ 10,000 psi (689.5 bar) working pressure.

**HYDRAULIC FLUID:** Hydraulic fluid shall meet DEXRON® III, DEXRON VI, MERCON®, Allison C-4 or equivalent Automatic Transmission Fluid (ATF) specifications. Fire-resistant fluid may be used if it is an ester-based fluid such as Quintolubric® HFD or equivalent. Water-based fluid shall NOT be used as serious damage to equipment will occur.



**DEXRON** is a registered trademark of General Motors Corp.  
**MERCON** is a registered trademark of Ford Motor Corp.  
**Quintolubric** is a registered trademark of Quaker Chemical Corp.

## PRINCIPLE OF OPERATION



### **PULL STROKE**

When the trigger is pressed, the throttle valve moves down to the PULL position, and pressurized air is directed to the bottom of the air piston, causing it to move upward (as shown above). The air above the air piston is exhausted and directed through the center of the throttle valve and out the bottom of the tool. As the hydraulic piston rod moves upward, a column of fluid is forced into head, which moves the pull piston rearward. The attached nose assembly moves with the pull piston to start fastener installation.

### **RETURN STROKE**

When fastener installation is completed, the trigger is released. Air pressure, with the assistance of a spring, sends the throttle valve to the up (RETURN) position. Pressurized air is re-directed to the top of the air piston (see above), causing it and the hydraulic piston rod to move downward. The air from below the piston is exhausted through the bottom of the tool. The piston and hydraulic rod move downward, hydraulic pressure is reversed, and the pull piston is returned forward. The Damper Valve restricts the flow of fluid at pin break, thus preventing “tool kick.” The reservoir replenishes the hydraulic system as needed.





## PREPARATION FOR USE

The **246** tool ships with a plug in the air inlet connector. The connector has 1/4"-18 female pipe threads to accept the air hose fitting. Huck recommends quick-disconnect fittings and a 1/4" inside-diameter air hose. The air supply should have a filter-regulator-lubricator unit and access to a 110 psi (7.6 bar) air supply capable of a flow rate of 22.4 scfm (850 l/m).

**NOTE: Air quick-disconnect fittings and air hoses are not available from Huck International, Inc. Huck includes an air hose (P/N 115436) to facilitate immediate tool use.**

1. Remove the shipping plug from air inlet connector and add a few drops of an approved hydraulic fluid.



**CAUTION: Do not use TEFLON® tape on pipe threads. Tape can shred and break free into fluid lines, resulting in malfunctions. Threadmate® is available in a 4oz. tube from Huck (P/N 508517).**

2. Screw the quick-disconnect fitting into the air inlet connector.
3. Set the air pressure on the regulator to 90–100 psi (6.2–6.9 bar), and connect the air hose to the air inlet connector and the tool.

4. Press and release the trigger a few times to cycle the tool.
5. Disconnect the air hose from the tool, and remove the retaining nut and stop. Select the proper nose assembly for the fastener being installed.
6. Screw the collet assembly (including the lock collar and shim if applicable) onto the spindle and tighten with a wrench.
7. Slide the anvil over the collet assembly and into the counterbore. Slide the stop and retaining nut over the anvil, and screw the nut onto the head.
8. Connect the air hose to the tool and install fasteners in a test plate of proper thickness with proper size holes. Inspect the fasteners.

If fasteners do not pass inspection, see **TROUBLESHOOTING** to investigate possible causes.

**NOTE: On older nose assemblies with lock collars, use Loctite® 243™ on collet threads, because the 246 pull piston does not have staking holes. Refer to the nose assembly drawings that shipped with nose assemblies.**

*Threadmate* is a registered trademark of Parker Intangibles, LLC.  
*Loctite* is a registered trademark of Henkel Corporation, U.S.A.  
*TEFLON* is a registered trademark of E. I. du Pont de Nemours and Company.



## MAINTENANCE

### GENERAL

The operating efficiency of your tool is directly related to the performance of the entire system. Regular inspection and the immediate correction of minor problems will keep the tool operating efficiently, and prevent downtime. A schedule of “preventive” maintenance of the tool, nose assembly, hoses, trigger and control cord, and POWERIG® will ensure your tool’s proper operation and extend its life.

**NOTE: Huck tools should be serviced only by personnel thoroughly familiar with its operation.**

- Service the tool in a clean, well-lighted area. Take special care to prevent contamination of pneumatic and hydraulic systems.
- Have available all necessary hand tools—standard and special.
- Carefully handle all parts. Before reassembly, examine them for damage and wear.



**CAUTION: Replace all seals, wipers, O-rings and Back-up rings when the tool is disassembled for any reason, and at regular intervals, depending on severity and length of use.**

- Disassemble and assemble tool components in a straight line. Do NOT bend, cock, twist, or apply undue force.
- Have the appropriate **Spare Parts Service Kit (246KIT)** available when servicing the tool; it includes important perishable parts. Other components, as experience dictates, should also be available. See **KITS & ACCESSORIES**.
- Apply Loctite® 243 Threadlocker (Huck P/N **508567**) to gland threads. Apply Loctite® 271-05 (Huck P/N **503657**) to nuts.
- Smear LUBRIPLATE® 130-AA (Huck P/N **502723**) or SUPER-O-LUBE® (Huck P/N **505476**) on O-rings, Quad-rings, Back-up rings, and mating parts to ease assembly.
- Apply Parker Threadmate®, Loctite® 567, or Slic-Tite® (per manufacturer’s instructions) to male pipe threads and quick-connect fittings.



**CAUTION: Do not use TEFLON® tape on pipe threads. Tape can shred and break free into fluid lines, resulting in malfunctions.**

For supplementary information, see **TROUBLESHOOTING**, and the **DISASSEMBLY** and **ASSEMBLY** procedures in this manual.

### DAILY

- If a Filter-Regulator-Lubricator unit is not being used, uncouple the air disconnects and add a few drops of hydraulic fluid or a light-weight oil to the air inlet of the tool.  
**NOTE: If the tool is in continuous use, add a few drops of oil in every 2–3 hours.**
- Before connecting an air hose to the tool, clear the air lines of dirt and water.
- Check all hoses and couplings for damage and air leaks; tighten or replace if necessary.
- Check the tool and nose assembly for damage and air or hydraulic leaks; tighten, repair, or replace if necessary.
- Inspect the tool, hoses, and POWERIG during operation to detect abnormal heating, leaks, or vibration.
- Clean nose assemblies in mineral spirits to clear jaws and rinse metal chips and dirt. For a more thorough cleaning, disassemble the nose assembly. Use a pointed “pick” to remove embedded particles from the pull grooves of the jaws. Clean all parts of any assembly with UNITIZED™ Jaws in mineral spirits or isopropyl alcohol only; do not let jaws come in contact with other solvents. Do not let jaws soak; dry them *immediately* after cleaning. Huck recommends drying other parts before re-assembling.

### WEEKLY

- Disassemble, clean, and re-assemble nose assembly in accordance with applicable instructions.
- Check the tool and all connecting parts for damage and fluid/air leaks; tighten or replace if necessary.

*Loctite is a registered trademark of Henkel Corporation, U.S.A.  
LUBRIPLATE is a registered trademark of Fiske Brothers Refining Co.  
Slic-tite is a registered trademark of LA-CO Industries, Inc.  
SUPER-O-LUBE is a registered trademark of Parker Hannifin Corp.  
Threadmate is a registered trademark of Parker Intangibles LLC.  
Teflon is a registered trademark of E. I. du Pont de Nemours and Company.*



## OPERATING INSTRUCTIONS

**Read all of these instructions in order to ensure the safe operation of this equipment.**

This section details installing LockBolt® and Huck Blind Fasteners. Review CAUTIONs and WARNINGs before installing these fasteners. If the tool malfunctions, consult [TROUBLESHOOTING](#) before attempting any repairs.



### WARNINGS:

Inspect tools for damage and wear before using. Do not use if damaged or worn; serious personal injury may occur.

Pulling a pin without a collar, or with collar chamfer against workpiece, may result in the pin becoming a high-speed projectile when the pin grooves are stripped or the pintail breaks off. Serious personal injury may occur to anyone in the pin's "flight path." This includes pins that ricochet.

Broken pintails eject from the deflector with speed and force. To reduce the risk of serious personal injury, be sure the pintail deflector is properly attached and directed away from all personnel. Replace damaged pintail deflectors.

**NOTE:** Reasonable care of tools by operators is an important factor in maintaining efficiency and reducing downtime.



**CAUTION:** Make sure the tool is properly re-assembled before use.

### TO INSTALL A LOCKBOLT FASTENER:



**CAUTION:** Remove excess gap from between the sheets to permit proper fastener installation and prevent jaw damage. ALL jaw teeth must engage the pintail to avoid damaging the teeth.

- Place a pin in the workpiece and place the collar over the pin.  
**NOTE: If collar has one tapered end, that end must be out toward tool; not next to the sheet.**
- Hold the pin in the hole and push the nose assembly onto the pin protruding through the collar until the nose anvil touches the collar.
- Press and hold the trigger until the collar is swaged and the pintail breaks.
- Release the trigger; the tool will perform its RETURN stroke.

The pressure is re-directed; the piston moves forward; and the tool is pushed off the fastener and ready for the next installation cycle.



### WARNINGS:

- Wear approved eye and hearing protection.
- Ensure adequate clearance for operator's hands before installing fasteners.
- Be sure that the pintail deflector is properly attached to the tool and directed away from all personnel.
- Do not pull on a pin without placing a fastener in a workpiece. Make sure that the collar chamfer is out, towards the tool. Pins eject with great velocity when pintails break off or teeth/grooves strip, which could cause serious injury.

### TO INSTALL A HUCK BLIND FASTENER:



### CAUTION:

- To avoid structural and tool damage, be sure there is sufficient clearance for the nose assembly at full stroke.
- Remove excess gap from between the sheets to permit proper fastener installation and prevent jaw damage. ALL jaw teeth must engage the pintail to avoid damaging the teeth.

- Place a fastener in the workpiece or in the end of the nose assembly.  
**NOTE: The tool or nose assembly must be held against, and at a right angle (90°) to, the workpiece.**
- Press and hold the trigger until the fastener is installed and the pintail breaks.
- Release the trigger; the tool will perform its RETURN stroke.

The pressure is re-directed; the piston moves forward; and the tool is pushed off the fastener and ready for the next installation cycle.





## DISASSEMBLY

This procedure is for complete disassembly of the tool. Disassemble only those components necessary to replace damaged O-rings, Quad-rings, Back-up rings, and worn or damaged components. For component identification, see Figures 1–4, 9, and 10.

1. Disconnect the tool from the air source, and remove the air hose from the cylinder.



**WARNING:** Disconnect the air hose from the tool before performing any maintenance. Serious personal injury could result if the air hose is connected.

2. Remove nose assembly. Follow instructions on *Nose Assembly Data Sheet*.
3. Remove screws and guard. (Figure 9)
4. Insert Fill Tool (P/N **112465**) through the reservoir housing and screw it into the reservoir plunger; (Figure 1) lock it in the out position.
5. Unscrew 4 cap screws with a 5/32" hex key; carefully separate head from handle. Remove pull and return glands and seals.
6. Unscrew relief valve plug from the front of the head. Remove spring, guide, ball, and sleeve. A small magnet is helpful.
7. Unscrew bleed plug. Drain the fluid into a container.

Discard fluid.

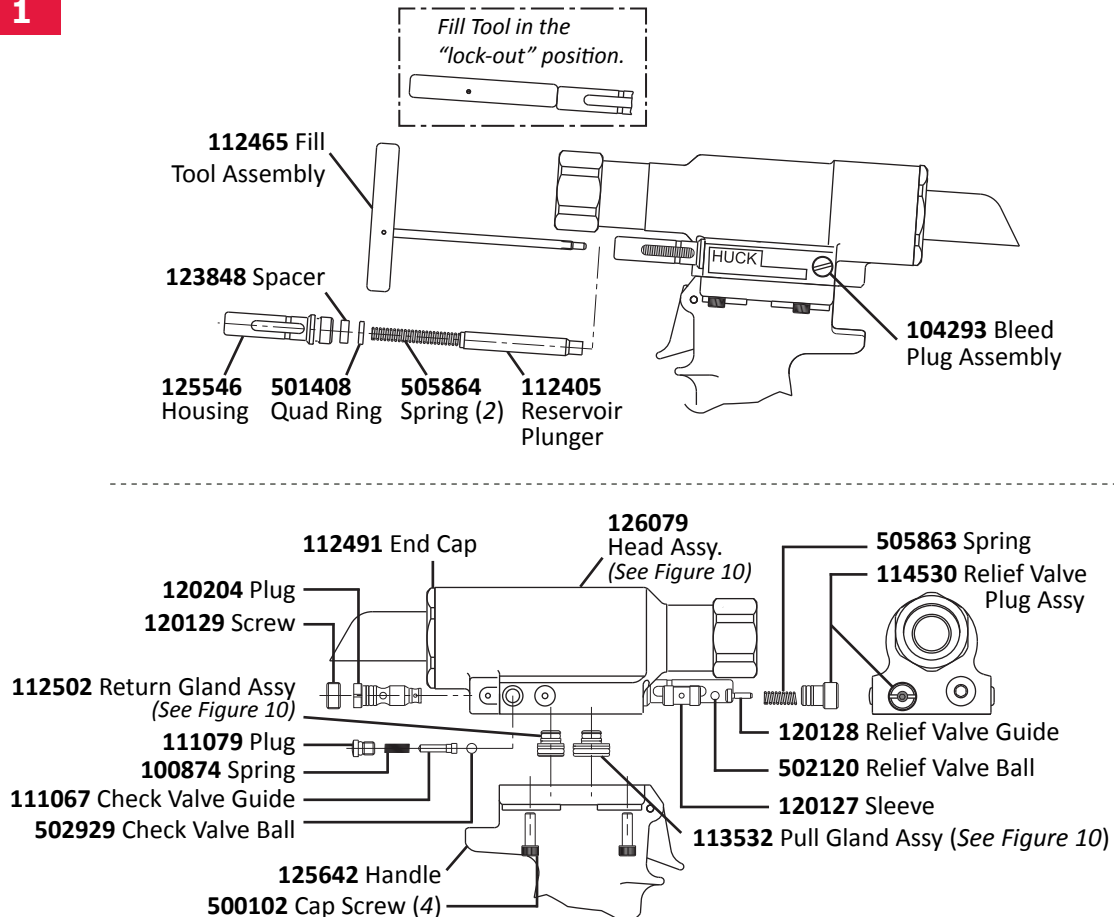
8. Unscrew reservoir housing. Remove two springs, and slide reservoir plunger out of the head. Remove spacer and use a "pick" to remove the Quad-ring.
9. Unscrew plug from the side of the head. Then remove spring, plunger, and ball. (Figure 1) **If check valve seat is damaged, contact your Huck representative. If seat is damaged, it can be removed by using the following procedure. NOTE: If seat is removed, it cannot be reused; it must be replaced.**  
**Seat removal:** Remove all parts in the reservoir check valve before removing plug. Unscrew plug, insert a #10 screw in the thread of plug, and pull to remove. Use a small drift and hammer and, from the rear side of the head, drive seat out towards the front of the head.
10. Pull the pintail deflector off the deflector tube at rear of piston. Use a 1-9/16" open-end wrench to unscrew the end cap from head.



**CAUTION:** Take care to not scratch the piston rod or cylinder when removing.

continued...

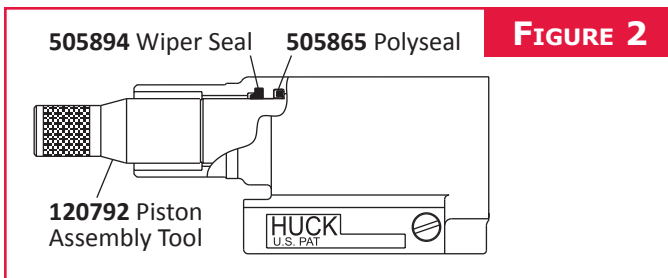
**FIGURE 1**



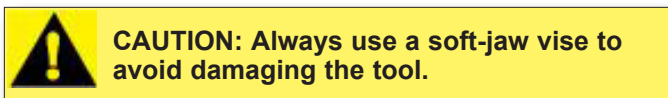


## DISASSEMBLY (CONTINUED)

11. Thread the Assembly Bullet (P/N **120792**) onto piston. (Figure 2) Push the piston out the back of the head. Remove wiper and Polyseal.  
**NOTE: This will push out rear gland assembly.**



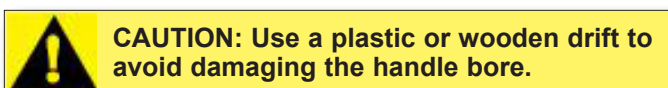
12. Remove screw from throttle arm, and then remove the throttle arm. Remove the throttle valve and spring from the cylinder. (Figure 9)
13. Use a small punch and hammer to drive out roll pin. Remove the trigger pin, and remove the trigger and cable from the handle. (Figure 9)
14. Remove the bleed plug from the handle.



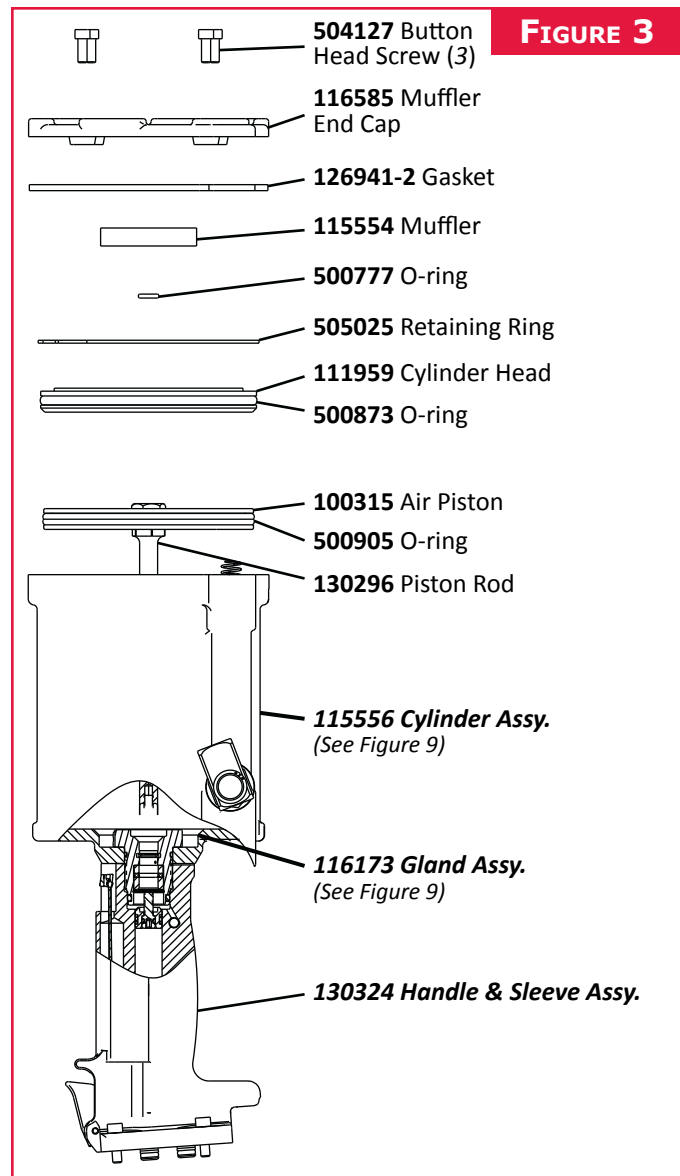
15. Secure the tool upside-down in a soft-jaw vise, and remove three button-head screws from the muffler end cap with a 1/8" hex key. (Figure 3)
16. Remove the muffler end cap, bottom exhaust gasket, muffler, and O-ring. (Figure 3)
17. Remove the retaining ring from the cylinder.
18. Screw button-head screws into cylinder head, and carefully pry on them to remove the cylinder head. (Figure 3)
19. Push air piston all the way down in the cylinder, remove tool from vise, and lay on its side. Hold self-locking nut with a 9/16" socket and extension, and use a 7/64" hex key to remove the piston screw. (Figures 4 & 9)
20. Secure the cylinder assembly and handle assembly upside-down in a vise again.



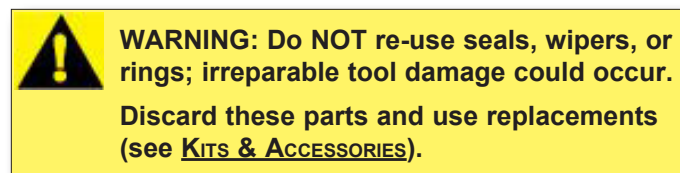
21. Use pliers to grip the self-locking nut and pull out the air piston and rod assembly from the handle and cylinder assemblies.
22. Use a 1-3/8" socket and extension to remove the gland assembly. The handle and cylinder assemblies will now separate.



23. Push the hydraulic piston out of the handle.
24. Remove and replace seals from the gland assembly, if necessary. (Figure 10)



The tool has been properly disassembled. Store all *re-usable* parts (screws and disassembled components) in a clean, dry area.

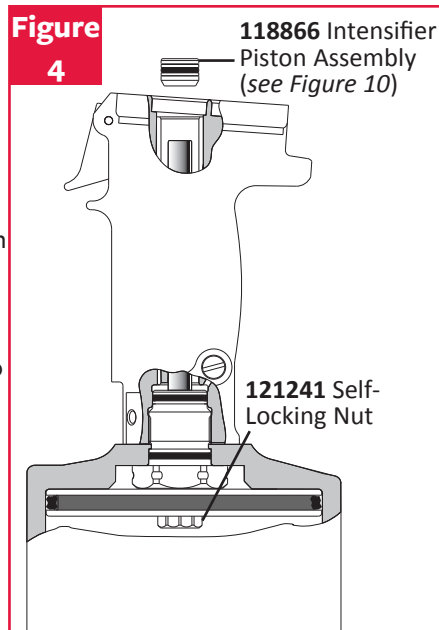


## ASSEMBLY

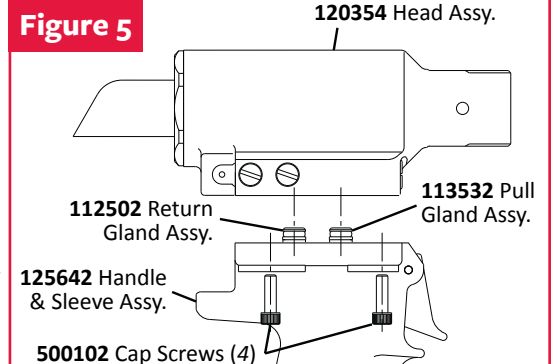
### BEFORE RE-ASSEMBLING THE TOOL:

Clean components with mineral spirits or a similar solvent. Inspect for wear/damage; replace as necessary. Replace all seals of disassembled components. Use the O-rings, Quad-rings, and Back-up Rings from Spare Parts Kit (P/N 246KIT). When assembling the tool, take care not to damage rings. Smear LUBRIPLATE® 130-AA (Huck P/N 502723) or SUPER-O-LUBE® (Huck P/N 505476) on rings and mating parts to ease assembly.

1. Secure handle upside-down in a soft-jaw vise. (Figure 3) Place inverted cylinder on the base of the handle (the timing pin maintains orientation). Assemble gland assembly with new seals. Screw the assembly into the head and use a 1-3/8" socket wrench to torque it to 100–120 ft.-lbs.
2. Clean piston rod threads; treat with Loctite® 243™. Carefully press assembled air piston and piston rod (with Quad-ring in place) fully into cylinder.
3. Turn tool upright. Install Piston Assembly, with rings in place, in handle. Press from top of handle without damaging seals. (Figure 4)
4. Push screw with O-ring in place through piston and screw into top of piston rod. Hold self-locking nut with a 9/16" socket and extension, and use a 7/64" hex key to torque the screw to 55–60 ft.-lbs.
5. Secure the head upside-down in a vise. Push the cylinder head squarely into the cylinder, taking care not to damage O-ring. Install the retaining ring; align the screw holes with the muffler end cap. (Figure 3)
6. Position O-ring and muffler in center of the cylinder head. Position gasket on cylinder assembly, taking care to note the direction of the lip in Figure 3.
7. Carefully position muffler end cap on the cylinder, making sure it is properly positioned in the recess of the bottom plate. Secure muffler end cap with the three button head screws using a 1/8" hex key.
8. Place tool upright on a level surface. Drop spring into throttle valve hole in cylinder, and push throttle valve (with O-rings in place) into cylinder. (Figure 9)



9. Assemble trigger, cable, and trigger pin, and slide cable into handle. Align hole in trigger with hole in handle and install roll pin with a hammer and punch.
10. Slide the throttle arm onto the ball end of the throttle cable. Swing the arm until the other end fits over the throttle valve. Push the screw through the throttle arm and tighten with 5/32" hex key.
11. Re-attach air hose assembly if it was removed. NOTE: If replacing the check valve seat: Push plug, with O-ring & Back-up Ring in place, into the head; insert and tighten screw.
12. Install O-ring and Back-up Ring onto seat. Drive in the seat assembly using a soft drift, taking care not to damage the ball seat surface.
13. Assemble the pull piston with new seals that have been lubricated with LUBRIPLATE® 130-AA or SUPER-O-LUBE®.
14. Install wiper and Polyseal in head. (Figure 2) Thread the Assembly Bullet onto the pull piston and push entire assembly into the head.
15. Install O-rings and Back-up rings on rear gland, and push entire assembly into head; screw in and tighten end cap. (Figure 9)
16. Install O-ring and Back-up ring on plug. Install the ball, guide, sleeve, spring, and plug into head. (Figures 1 & 9)
17. Install O-ring on plug. Install ball, guide, spring, and plug into head.
18. Push pintail deflector onto deflector tube. (Figure 9)
19. Place O-ring on plug, and screw assembly into handle.
20. Install O-rings and Back-up rings on Pull and Return glands. Push gland assemblies into handle. Push the head down onto glands. (Figure 5)



21. Place tool upside-down in a vise and install 4 screws; torque to 170 in-lbs.

The tool is now assembled and must be filled with hydraulic fluid prior to use. See the FILL AND BLEED section.



## FILL AND BLEED

This section documents the “bleed-&fill” procedure. For component identification, see Figures 6, 7–8.

### REQUIRED EQUIPMENT

- DEXRON® III or equivalent ATF (See **SPECIFICATIONS** for more information.)



**WARNING:** Avoid contact with hydraulic fluid. Hydraulic fluid must be disposed of in accordance with local regulations. See MSDS for hydraulic fluid shipped with tool.

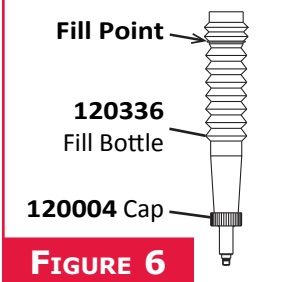
- Shop air-line with 90–100 psi (6.2–6.9 bar) max.
- Air regulator
- Fill Bottle Assembly (P/N **120337**, included with tool)
- Fill Tool (P/N **112465**, included with tool)
- Large flat-blade screwdriver
- Nose assembly or optional stall nut (P/N **120824**)
- Fasteners (optional)

### PREPARATION

- Install air regulator in the air-line and set the pressure to 20–40 psi (1.4–2.8 bar).
- Add an approved hydraulic fluid to the fill point of the fill bottle.

**NOTE:** Refill the tool only when the fluid level drops below the red line on the reservoir housing; or when the tool is rebuilt.

**120337 Fill Bottle Assy**



**FIGURE 6**

full thread engagement. Unscrew the retaining nut until it engages the stall nut. Verify that the piston is full-forward and locked with the retaining nut (and, optionally, with the stall nut).

**NOTE:** If the stall nut is not used, the piston must be in the full-forward position before installing the valves.

4. Connect the tool to the air source to seat the air piston at the bottom of the air cylinder; then disconnect. Lay the tool on its side with the check valve hole facing up.
5. Insert the fill bottle in the check valve hole. (Figures 7 & 8).



**WARNING:** Air pressure must be set at 20–40 psi (1.4–2.8 bar) to prevent possible injury from high-pressure spray. If the plug is removed, the fill bottle must be in place before cycling the tool.

6. Connect the tool to the air supply and cycle it 20–30 times; watch for air bubbles escaping into the bottle. (Rock the tool to free trapped air.)

**NOTE:** Do not allow air to re-enter the tool. When cycling the tool, always hold the fill bottle as shown in Figure 8 to prevent drawing in air.

7. When air bubbles stop accumulating in the fill bottle, stop cycling the tool. Remove the bottle and install the check valve ball, guide, and spring. Replace the check valve plug.

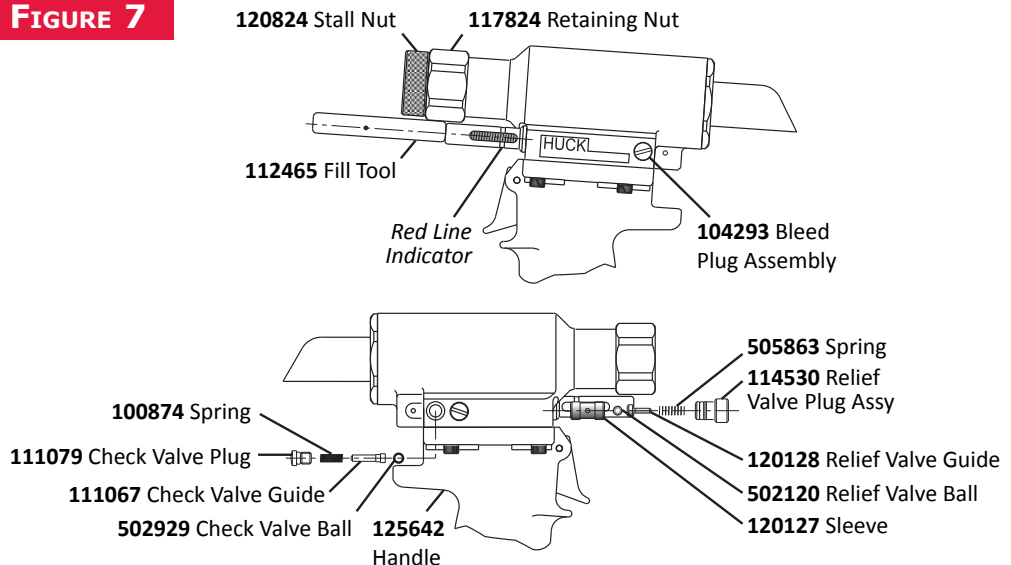
### TO BLEED AND FILL THE TOOL:



**CAUTION:** All fluid must be purged from the tool before refilling. The tool stroke will be diminished if the fluid is aerated.

1. Screw the Fill Tool into the reservoir plunger. Pull the plunger into the reservoir housing and lock the Fill Tool in the full-forward position by tilting the handle (long side touching tool) and locking it in place. (Figure 7)
2. Remove the relief valve plug and check valve plug (Figure 7), as well as all guides, springs, and balls, from the ports in the head. Re-insert the relief valve plug.
3. Screw the retaining nut onto head assembly, and screw the (optional) stall nut onto the hydraulic piston. Tighten to ensure

**FIGURE 7**



continued...

## FILL AND BLEED (CONTINUED)

8. Turn the tool so the front of the head faces you. Use a 3/32" allen wrench to back out (approximately 1/2 turn counterclockwise) the setscrew that is inside the relief valve plug; this ensures that the piston remains in the full-forward position. (Figure 7A) Remove the relief valve plug; insert the ball, guide, sleeve, and spring, and then re-insert the plug and re-tighten the setscrew.
9. Unlock the Fill Tool and check the fluid level (Red Line Indicator, Figure 7) in the reservoir housing. Cycle the tool with the optional stall nut attached and the retaining nut locked in the full-forward position ("dead stall").

**NOTE: Dead Stalling is not necessary if the stall nut was not used; just cycle tool.**

If the fluid level in the reservoir housing drops below the red line, repeat the following "fill" procedure *until the fluid level is sufficient*.

**NOTE: This usually requires 3 or 4 repetitions.**

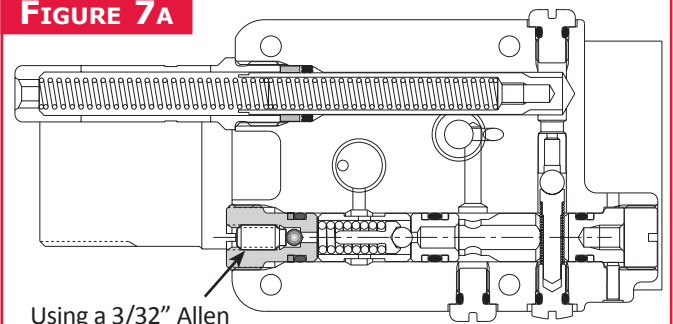


**WARNING: Make sure the Fill Tool is locked in place; otherwise, pressurized fluid could be ejected from the tool when filling the reservoir. This could cause serious personal injury.**

- a. Lock the Fill Tool into the reservoir plunger. Lay the tool on its side and remove check valve plug.
- b. Insert the fill bottle and add a few drops of fluid to the reservoir; wait for air bubbles to escape, then remove the fill bottle. (Push a pin or a scribe into the check valve hole to check for trapped air bubbles.)
- c. Replace the check valve plug.
- d. Unlock the Fill Tool, cycle the tool as in step 9, and check the fluid level in the reservoir housing. The reservoir fluid level may drop slightly. If so, repeat these steps until, when the Fill Tool handle is touched, it has no pressure against it and it drops out of the lock position, and the fluid level in the reservoir housing does not drop when the tool is cycled.

When the fluid level is sufficient, remove the Fill Tool and stall nut. Install a nose assembly and pull several fasteners to test function.

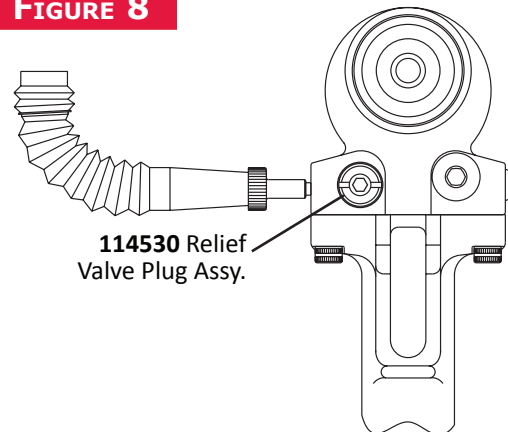
**FIGURE 7A**



Using a 3/32" Allen wrench, loosen setscrew inside Plug by approx. 1/2 turn.

**SECTION A-A**  
(from Figure 9)

**FIGURE 8**



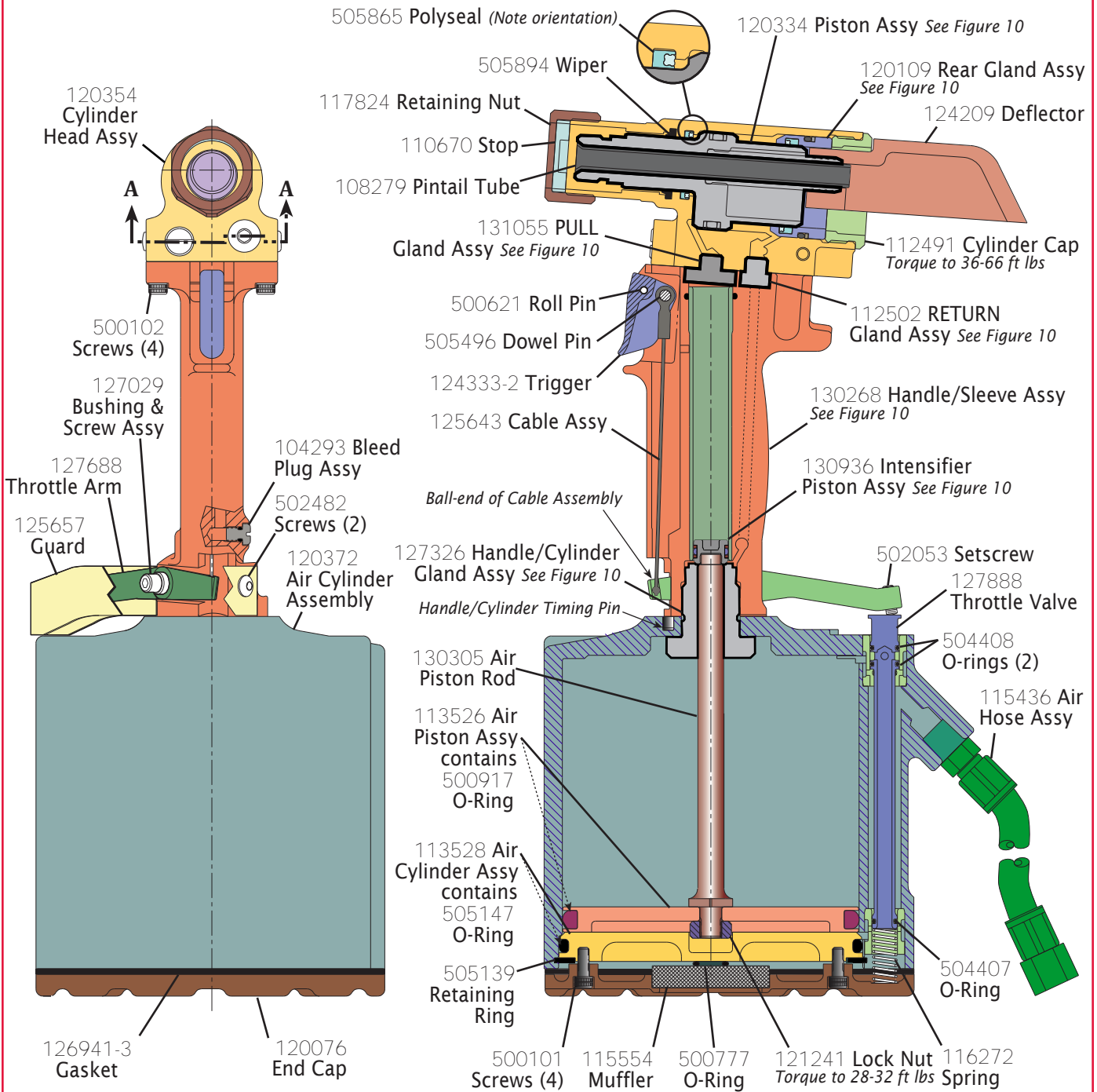
**114530 Relief Valve Plug Assy.**





# TOOL COMPONENTS

**FIGURE 9**



*This view is shown without Throttle Guard for clarity*



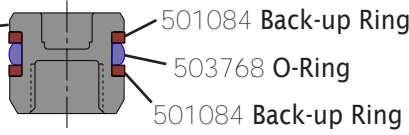
# TOOL HEAD AND ASSEMBLIES

**FIGURE 10**

## 130936 Intensifier Piston Assembly

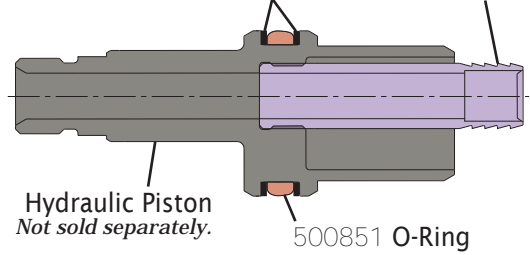
Intensifier Piston  
*Not sold separately.*

Apply Loctite® 243™  
to screw threads, and  
torque to 175-195 in-lbs.

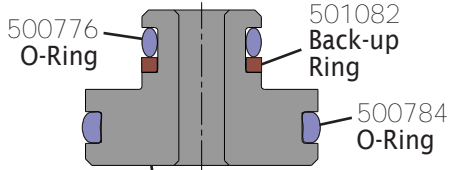


## 120334 Hydraulic Piston Assembly

113251 Back-up Rings 120325 Tube



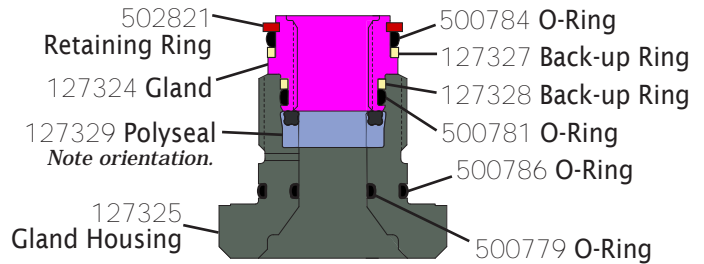
## 131055 PULL Gland Assembly



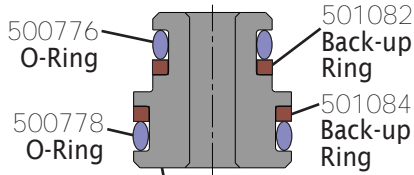
Gland Housing *Not sold separately.*

## 127326 Handle/Cylinder Gland Assembly

Apply Anti-seize compound to screw threads, and torque to 36-66 ft-lbs.

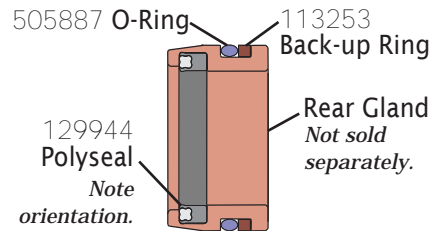


## 112502 RETURN Gland Assembly



Gland Housing *Not sold separately.*

## 120109 Rear Gland Assembly



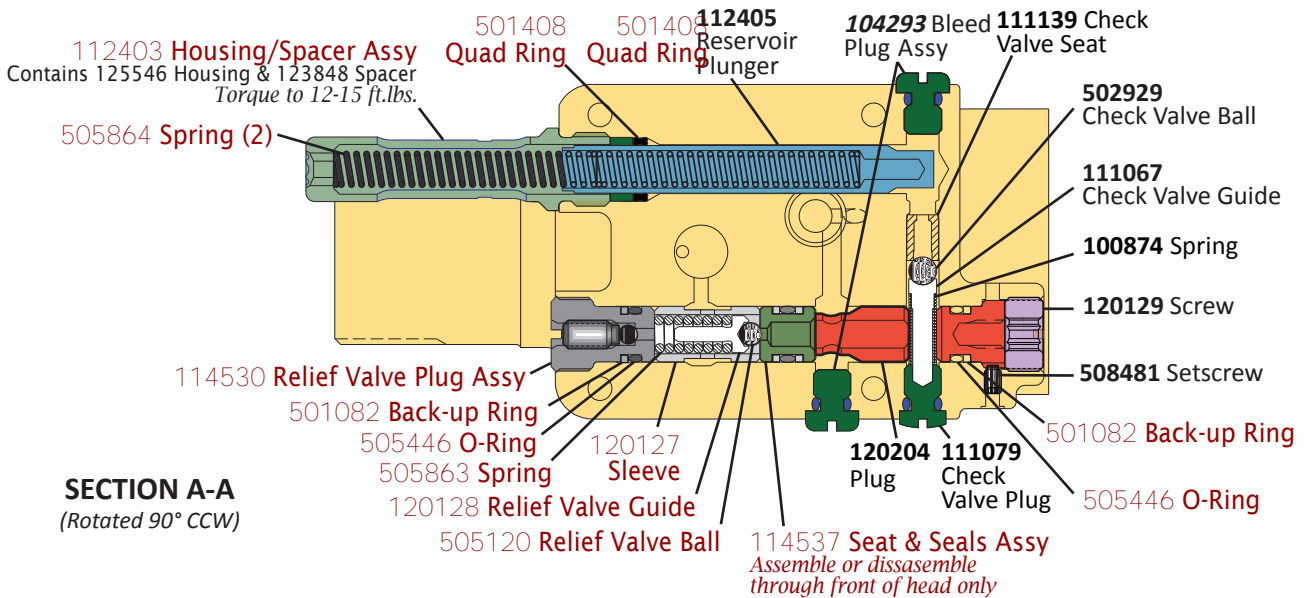
Note orientation.

## 104293 Bleed Plug Assembly



*Not sold separately.*

*Not sold separately.*



**SECTION A-A**  
(Rotated 90° CCW)

Assemble or disassemble  
through front of head only



## KITS & ACCESSORIES

Huck has created product-specific **Spare Parts Service Kits** that contain various perishable parts. The types and quantities of spare parts that should be available vary with the application and tools in use. Have the appropriate kit accessible when using this tool and when performing maintenance on it.

Huck also recommends having the following **Accessories** available when preparing, using, and performing maintenance on this tool.

### KITS

#### SERVICE KIT

- 246KIT

### ACCESSORIES

Polyseal Assembly Tool	- 120792
Pintail Bag	- 125655
Fill Bottle Assembly	- 120337
Stall Nut	- 120824

## TROUBLESHOOTING

Always check the simplest possible cause (such as a loose or disconnected trigger line) of a malfunction first. Then proceed logically, eliminating other possible causes until the cause is discovered. Where possible, substitute known good parts for suspected defective parts. Use this Troubleshooting information to aid in locating and correcting trouble.

**NOTE: “Piston drift” is when the air piston is in the down position, but the hydraulic pull piston is not in the full-forward position. This causes an out-of-sequence condition.**

1. **Tool fails to operate when trigger is pressed.**
  - a. Air-line not connected.
  - b. Worn or damaged throttle valve O-rings.
  - c. Broken throttle valve cable.
2. **Tool does not complete fastener installation and break pintail.**
  - a. Air pressure too low.
  - b. Worn or damaged air piston Quad-ring.
  - c. Tool is low on hydraulic fluid. See the FILL AND BLEED section.
  - d. Air in hydraulic system. See the FILL AND BLEED section.
  - e. Worn or damaged reservoir springs.
  - f. Check for piston drift.
3. **Pintail stripped and/or swaged collar not ejected.**
  - a. Check for broken or worn jaws in nose assembly. See *Nose Assembly Data Sheet*.
  - b. Check for loose retaining nut.
  - c. Check for piston drift.
4. **Hydraulic fluid exhausts with air or leaks at base of handle.**
  - a. Worn or damaged gland assembly. Inspect Polyseal and rings. Replace if necessary.
5. **Tool has piston drift.**
  - a. Loose collet crashing into the front of the anvil causing the relief valve to open. Tighten the collet. See the FILL AND BLEED section.
  - b. Worn or damaged return pressure relief valve. Inspect seat, rings, ball, and valve spring. Replace if necessary.
  - c. Worn or damaged Piston Assembly. Inspect all rings. Replace if necessary.
6. **Hydraulic fluid leaks at rear of pull piston.**
  - a. Worn or damaged rear gland. Inspect O-rings and Back-up rings. Replace if necessary.
7. **Hydraulic fluid leaks at front of pull piston.**
  - a. Worn or damaged front gland. Inspect Polyseal. Replace if necessary.
8. **Pull piston will not return.**
  - a. Throttle valve stuck; lubricate O-rings.
  - b. Throttle arm, cable, or trigger binding.
9. **Air leaks at air cylinder head.**
  - a. Worn or damaged O-ring. Replace if necessary.



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Huck warrants that tooling and other items (excluding fasteners, and hereinafter referred as “other items”) manufactured by Huck shall be free from defects in workmanship and materials for a period of ninety (90) days from the date of original purchase.

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