HOWMET AEROSPACE

Instruction Manual

BTT35LS

BobTail® Hydraulic Installation Tool

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HUCK®

HUCK IS FOREVER.™

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

December 2, 2021
HK1107

HOWMET AEROSPACE

Declaration of Conformity

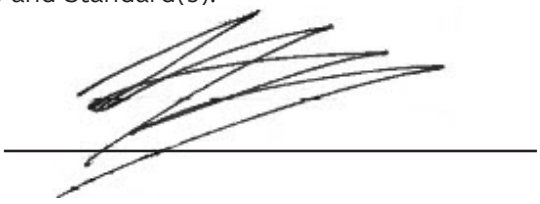
Manufacturer:
Huck International, LLC, Industrial Products Group, 1 Corporate Drive, Kingston, NY, 12401, USA

Description of Machinery:
Models BTT25, 35, 57, and BT 60 families of hydraulic installation tools and specials based on their design (e.g. PR####).

Relevant provisions complied with:
Council Directive related to Machinery (2006/42/EC)
Supply of Machinery (Safety) Regulations 2008
British Standard related to hand held, non-electric power tools (ISO 11148-2:2011)

Representatives:
UK: Paul Carson, Huck International, Ltd. Unit C Stafford Park 7, Telford Shropshire TF3 3BQ, England, United Kingdom
EU: Lutz Baumann, Hildesheim Operations, Fairchild Fasteners Europe - VSD GmbH, Steven 3, 31135, Hildesheim, Germany

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

Signature: 

UK CA CE

Full Name: Nicholas Gougoutris
Position: Engineering Manager
Location: Huck International, LLC d/b/a Howmet Fastening Systems
Kingston, New York, USA
Date: 11/22/2021 (November, 22, 2021)

HUCK®

Declared dual number noise emission values in accordance with ISO 4871
A weighted sound power level, LWA: **79** dB (reference 1 pW) Uncertainty, KWA: 3 dB
A weighted emission sound pressure level at the work station, LpA: **68** dB (reference 20 µPa) Uncertainty, KpA: 3 dB
C-weighted peak emission sound pressure level, LpC, peak: **96** 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:	**.32** m/s^2
Uncertainty, K:	**.06** m/s^2
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:
Howmet Fastening Systems, Kingston Operations, Kingston, NY, USA.

DANGER - IMPORTANT

DO NOT EXCEED HOSE MINIMUM BEND RADIUS

Failure to heed the warnings below could lead to a damaged hose, damaged tool, damaged property, personal injury, or death.

- This high pressure hose is not to be used other than assembled in a genuine HUCK tool or hose assembly or used as a replacement for the hose of a genuine HUCK tool or hose assembly.
- Improper use of this product can cause ***property damage***, ***personal injury***, and ***death***, including but not limited to ***electrocution***, ***fluid injection*** or ***loss of limb*** caused by ***high pressure leak***, ***dangerously whipping hose*** or contact with suddenly moving or falling objects.
- Do not exceed rated working pressure ***(700 bar/10150 psi)*** or minimum bend radius (see chart below). Do not use in temperatures less than ***-40°C (-40°F)*** or greater than ***+100°C (+212°F)***. Do not exceed fluid working temperature of ***+70°C (+158°F)***.
- Do not use if the hose is kinked, abraded, cut, bulged, or leaking. Do not attempt to repair the hose.
- Do not carry tool by hoses.
- Refer to a HUCK hydraulic tool manual for hose inspection and maintenance intervals.
- Store hose assemblies in a clean dry area.

Hose Type	Minimum Bend Radius	
126107 Series	2.76 Inches	70 mm
118944 and 124881 Series	2.17 Inches	55 mm
HA and HPH Series	1.97 Inches	50 mm

Safety Instructions

GLOSSARY OF TERMS AND SYMBOLS:

UK CA CE -Product complies with requirements set forth by the relevant UK and 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.

Continued on next page...

Safety Instructions (continued)

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.

X. HYDRAULIC TOOL SAFETY INSTRUCTIONS:

WARNING: Do not exceed maximum pull or return settings on tool.

1. Carry out a daily check for damaged or worn hoses or hydraulic connections and replace if necessary.
2. Wipe all couplers clean before connecting. Failure to do so can result in damage to the quick couplers and cause overheating.
3. Ensure that couplings are clean and correctly engaged before operation.
4. Use only clean oil and filling equipment.
5. Power units require a free flow of air for cooling purposes and should therefore be positioned in a well ventilated area free from hazardous fumes.
6. Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
7. Be sure all hose connections are tight.
8. Wipe all couplers clean before connecting. Failure to do so can result in damage to the quick couplers and cause overheating.

Description

HUCK Model BTT35LS is a Hydraulic Installation Tool that installs and removes BOBTAIL fasteners in limited clearance applications.

This tool design consists of a cylinder housing with two chambers to accommodate two tandem pull pistons. This feature increases pull capacity while maintaining optimum centerline-to-edge clearance and lightweight.

The tool is intended for use with Huck standard industrial POWERIG® Hydraulic Units (models 913H, 918, d 940, and 968) or equivalent - sold separately. Except for nose assembly, tool is complete with hydraulic hoses, couplings and electric control cord ready to be attached to POWERIG® Hydraulic Units hoses and control cord.

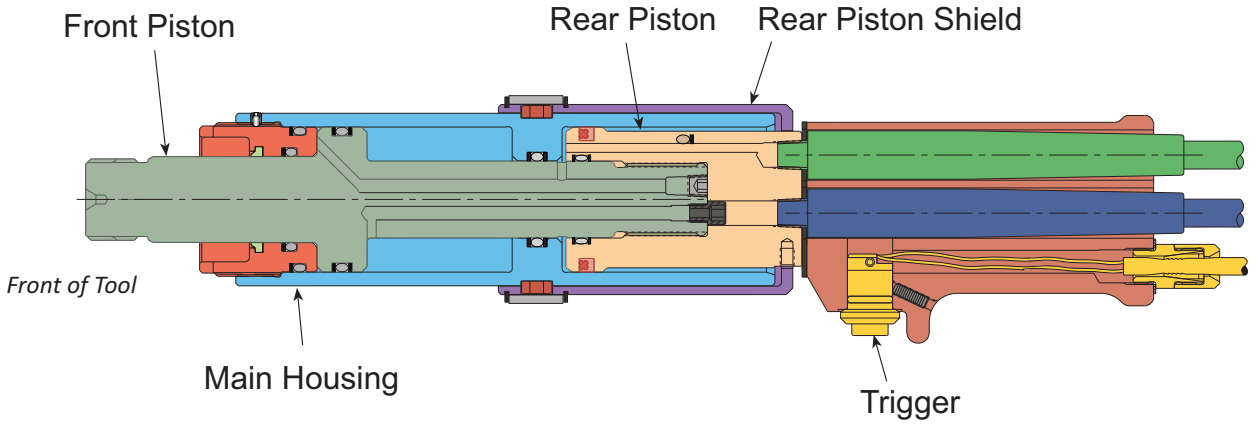
Principle of Operation

An electric trigger switch controls the PULL and RETURN strokes of the tool. As the trigger is pressed, hydraulic PULL pressure is directed to front sides of both pistons, moving them rearward. Fastener Installation begins.

When the fastener installation is complete, the trigger is released, causing the hydraulic units combination valve to redirect the hydraulic RETURN pressure to the rear side of the front piston moving it forward. The nose assembly, with the tool, is pushed off the installed fastener.

As the pistons reach the end of the RETURN stroke, hydraulic pressure increases causing the hydraulic unit idler valve to move to idle position (in Model 918) or automatically shut off (in Model 940). The tool is now ready to install another fastener.

Figure 1



Specifications

Power Source: Huck Powerig® Hydraulic Power Source

Hose Kits: Use only genuine HUCK Hose Kits rated @ 10,000 psi working pressure.

Hydraulic Fluid: Use 32AW (0°F - 70°F ambient), 46AW (30°F - 120°F ambient), or ATF (30°F - 90°F ambient). ATF Hydraulic fluid shall meet DEXRON® III, DEXRON VI, MERCON, Allison C-4 or equivalent 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.

Tool PULL Capacity: 35,000 lbs

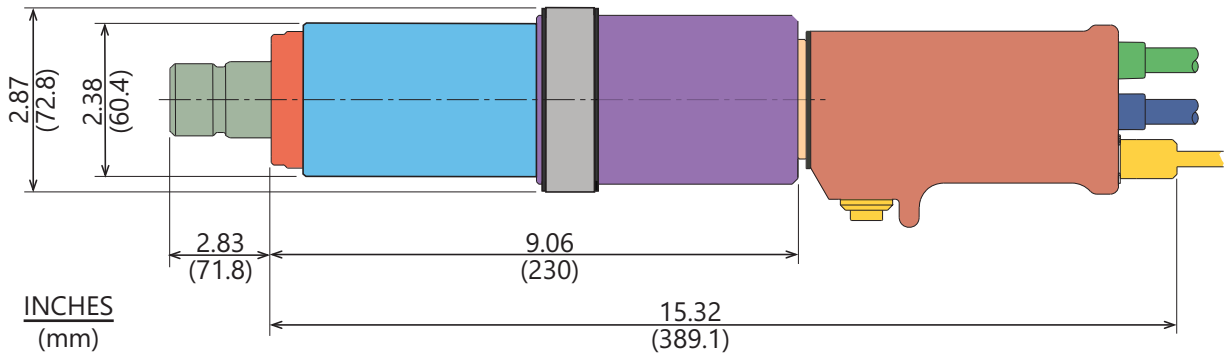
PULL Pressure: 8000 psi MAX

RETURN Pressure: 6500 psi MAX

Stroke: 2.50 inches

Weight: 13 pounds

Figure 2



Where the following trade names are used in this manual, please note:
DEXRON *is a registered trademark of General Motors Corporation.*
GLYD Ring *is a registered trademark of Trelleborg Sealing Solutions Germany GmbH*
Loctite *is a registered trademark of Henkel Corporation, U.S.A.*
LUBRIPLATE *is a registered trademark of Fiske Brothers Refining Co.*
MERCON *is a registered trademark of Ford Motor Corp.*
MOLYKOTE *is a registered trademark of Dow Corning Corporation*
Never-Seez *is a registered trademark of Bostik, Inc.*
Quintolubric *is a registered trademark of Quaker Chemical Corp.*
Slic-tite *is a registered trademark of LA-CO Industries, Inc.*
Spirolox *is a registered trademark of Smalley Steel Ring Company*
Teflon *is a registered trademark of Chemours Company FC.*
Threadmate *is a registered trademark of Parker Intangibles LLC.*
TRUARC *is a trademark of TRUARC Co. LLC.*
Vibra-Tite *is a registered trademark of ND Industries, Inc. USA.*

Preparation for Use

WARNINGS:
Read full manual before using tool.

A half-hour training session with qualified personnel is recommended before using Huck equipment.

When operating Huck installation equipment, always wear approved eye protection.

Be sure there is adequate clearance for the operator's hands before proceeding.

Correct PULL and RETURN pressures are required for operator's safety and for Installation Tool's function. Gauge Set-Up, T-124833 and T-124833CE, Is available for checking pressures. See Tool Specifications and Gauge Instruction Manual. Failure to verify pressures may result in severe personal injury.

Be sure to connect Tool's hydraulic hoses to POWERIG Hydraulic Unit before connecting Tool's switch control cord to unit. If not connected in this order, severe personal Injury may occur.

CAUTIONS:
Only use a Huck Powerig® Hydraulic Power Source as the power source for Huck installation equipment. Hydraulic power units that deliver high pressure for both PULL and RETURN, and are not equipped with relief valves, are specifically not recommended, and may be dangerous.

Do not let disconnected hoses and couplers contact a dirty floor. Keep harmful material out of hydraulic fluid. Dirt in hydraulic fluid causes valve failure In Tool and In POWERIG Hydraulic Unit.

Hose couplers must be completely screwed together to insure that ball checks in both nipple and body are completely open. Improperly assembled couplers will cause overheating and malfunctions in both tool and Powerig.

Hand tighten couplers. Do NOT use a pipe wrench.

Do not use TEFLON® tape on pipe threads. Pipe threads may cause tape to shred resulting in tool malfunction. (Slic-Tite is available in stick form as Huck P/N 503237.)

POWER SOURCE CONNECTIONS

Coat hose fitting threads with a non-hardening Teflon® thread compound such as Slic-tite™.
(Slic-tite is available from Huck as P/N 503237.)

Use only a HUCK Powerig® that is recommended or equivalent that has been prepared for operation per applicable instruction manual. Check both PULL and RETURN pressures and adjust as necessary to match installation tool. Gage part number T-124833CE, for checking Powerig pressures is available from Huck.

Turn POWERIG to "OFF" and couple tool hoses to POWERIG hoses.

Turn Powerig to "ON" and depress and release trigger a few times to circulate hydraulic fluid. Observe action of tool. Check for fluid leaks.

Attach the proper Nose Assembly to the tool.

Assembly of NPTF Threaded Components

AIR FITTINGS

1) Apply TEFLON® stick to male threads which do not have pre-applied sealant per manufacturer's recommendations. (Proceed to All Fittings step 2)

HYDRAULIC FITTINGS

1) Apply Threadmate™ to male and female threads which do not have pre-applied sealant per manufacturer's recommendations. (Proceed to All Fittings step 2)

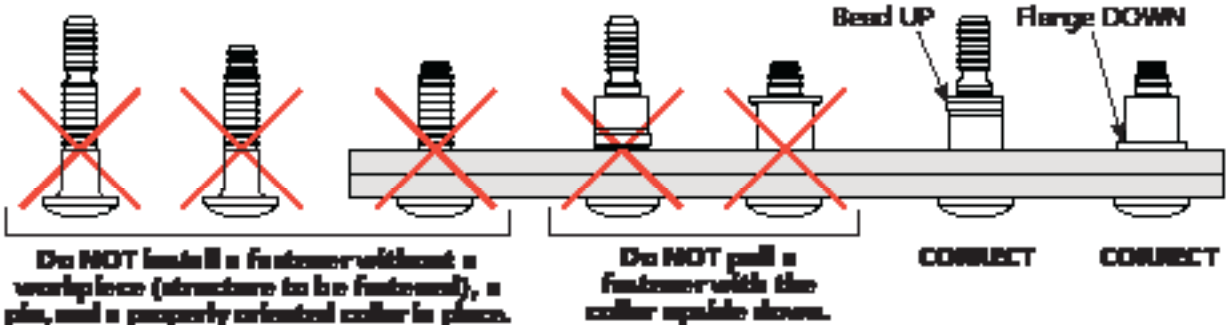
ALL FITTINGS:

2) Tighten to finger-tight condition.
3) Wrench tighten to 2-3 turns past finger-tight condition.
4) Final thread engagement can be checked (optional) by measuring the dimension from the flange of male fitting to the end of the thread before assembly and subtracting the distance under the flange after assembly.

Thread Size	Final thread engagement at full make-up
1/8-27 NPTF	.235 inch *(.59 cm)*
1/4-18 NPTF	.339 inch *(.86 cm)*
3/8-18 NPTF	.351 inch *(.89 cm)*

Operating Instructions

FOR SAFE OPERATION, THIS SECTION MUST BE READ AND UNDERSTOOD.



WARNINGS:

To avoid severe personal injury, wear approved eye and ear protection.

Be sure of adequate clearance for operator's hands before proceeding with fastener installation.

If the tool comes with a pintail deflector or bottle, make sure it is attached to the tool and directed away from all personnel.

Do NOT attempt to install a pin without placing the fastener and collar in the work piece (structure to be fastened).

Do NOT attempt to install a pin without a properly oriented collar in place.

The collar flange must be against work piece.

If these safety measures are not followed, the fastener could eject with great velocity and cause severe personal injury.

This condition can cause pin to eject with great velocity and force if the pintail breaks off or teeth/grooves strip. This may cause severe personal injury.

To avoid pinch point, never place hand between nose assembly and work piece.

Only use compatible equipment with this tool.

CAUTIONS: Remove excess gap from between the sheets. This permits enough pintail to emerge from collar for ALL jaw teeth to engage with pintail. If ALL teeth do not engage properly, jaws will be damaged.

Note: In certain situations, it may be permissible to use a BobTail tool and fastener without a collar to remove sheet gap prior to full installation with a collar. Consult qualified Huck engineering personnel before attempting this operation.

1. Push the tool's nose over the end of the fastener until it bottoms out.
2. Press the trigger and hold until the collar is swaged and the tool's Anvil is ejected off the collar and the tool is released from the fastener.

Pressure Settings

Notes:

1. **All pressures from this chart are starting points. Pressures may need to be adjusted up or down due to application and tooling setup.**
2. **Use pressures from this chart for both installation and removal.**
3. **When the 918 or 918-5 Powerig® hydraulic power source is used, and pull pressure from chart is equal to or below 2500 psi, the 128904 Relief Valve is required.**
4. **If the 128441 BobTail Controller is to be used, please refer to the controller manual for details.**

Inch/ Metric	Size	Nose Assembly	Collar Material	Pull psi (bar)	Return psi (bar)
Metric	12mm BT	99-7820	Grade 10.9	2800 (190)	2100 (140)
Metric	12mm BT	99-7820	Grade 8.8	2200 (150)	1500 (100)
Metric	14mm BT	99-7824	Grade 10.9	3500 (240)	2600 (180)
Metric	14mm BT	99-7824	Grade 8.8	3000 (210)	2200 (150)
Inch	-16 BT (1/2")	99-7825	Grade 5	2300 (160)	1700 (120)
Inch	-16 BT (1/2")	99-7825	Grade 8	3100 (210)	2300 (160)
Metric	16mm BT	99-7821	Grade 10.9	4600 (320)	3400 (230)
Metric	16mm BT	99-7821	Grade 8.8	3700 (260)	2600 (180)
Inch	-20 BT (5/8")	99-7821	Grade 5	3700 (260)	2200 (150)
Inch	-20 BT (5/8")	99-7821	Grade 8	4600 (320)	3400 (230)
Metric	20mm BT	99-7822	Grade 10.9	7200 (500)	5300 (370)
Inch	-24 BT (3/4")	99-7826	Grade 5	5200 (360)	3700 (260)
Inch	-24 BT (3/4")	99-7826	Grade 8	7000 (480)	5100 (350)

Maintenance

WARNING: Inspect tool for damage or wear before each use. Do not operate if damaged or worn, as severe personal injury may occur.

CAUTIONS:
Consult hydraulic fluid safety data sheet before servicing the tool.

Keep dirt and other material out of hydraulic system.

Separated parts most be kept away from dirty work surfaces. Dirt/debris in hydraulic fluid causes failure in POWERIG® Hydraulic Unit's valves.

Always replace seals, wipers, and back-up rings when tool is disassembled for any reason.

Do not use TEFLON® tape on pipe threads. Pipe threads may cause tape to shred resulting in tool malfunction. (Slic-Tite® is available in stick form as Huck P/N 503237.)

- The efficiency and life of your tool depends on proper maintenance. Please read this section completely before proceeding with maintenance and repair. Use proper hand tools in a clean and well-lighted area. Only standard hand tools are required in most cases. Where a special tool is required, the description and part number are given.
- When clamping tool or parts in a vise, and when parts require force, use suitable soft materials to cushion impact. For example, using a brass drift, wood block and vise with soft jaws greatly reduces possibility of damaging tool. Remove components in a straight line without bending, cocking or undue force. Reassemble tool with the same care.

Sealants, Lubricants, Service Kits

- See **Specifications** for fluid type. Dispose of fluid in accordance with local environmental regulations. Recycle steel, aluminum, and plastic parts in accordance with local lawful and safe practices.
- Rub Slic-Tite® with PTFE thread compound, or equivalent, on pipe plug threads and quick connect fitting.
- Smear LUBRIPLATE® 13OAA, or equivalent lubricant, on O-Rings and mating surfaces to aid assembly and to prevent damage to O-Rings. (LUBRIPLATE 13O-AA is available in a tube as Huck P/N 502723.)
- Each Service Kit contains perishable parts for your specific tool. As foreseeable use may indicate, keep extra kits (O-rings, Back-up Rings, other standard items) and tool parts in stock. When stock is depleted, you can get kit items from any regular retailer of these items.

PREVENTIVE MAINTENANCE

System Inspection

Operating efficiency of the tool is directly related to the performance of the complete system, including the tool with nose assembly, hydraulic hoses, trigger and control cord, and POWERIG. Therefore, an effective preventive maintenance program includes scheduled inspections of the system to detect and correct minor troubles. At the beginning of each shift/day:

- Inspect tool and nose assembly for external damage.
- Verify that hydraulic hose fittings, couplings, and electrical connections are secure.
- Inspect hydraulic hoses for damage and deterioration. Do not use hoses to carry tool. Replace hoses if damaged.
- Observe tool, hoses, and hydraulic unit during operation to detect abnormal heating, leaks, or vibration.
- Max hydraulic fluid contamination level: NAS 1638 class 9, or ISO CODE 18/15, or SAE level 6.

Powerig® Hydraulic Power Source Maintenance

Maintenance instructions and repair procedures are in the appropriate POWERIG Instruction Manual.

Tool Maintenance

Whenever disassembled and also at regular intervals (depending on severity and length of use), replace all seals, wipers, and back-up rings in tool. Service Kits, hoses, and extra parts should be kept in stock. Inspect cylinder bore, pistons, and piston rods for scored surfaces and excessive wear or damage. Replace as necessary.

Nose Assembly Maintenance

Clean nose assembly often. Dip in mineral spirits or similar solvent to clean puller and wash away metal chips and debris. At regular intervals, as experience shows, disassemble nose and use a sharp "pick" to remove imbedded particles from grooves of puller.

Hydraulic Couplings

Components Parts List *(Figures 5)*

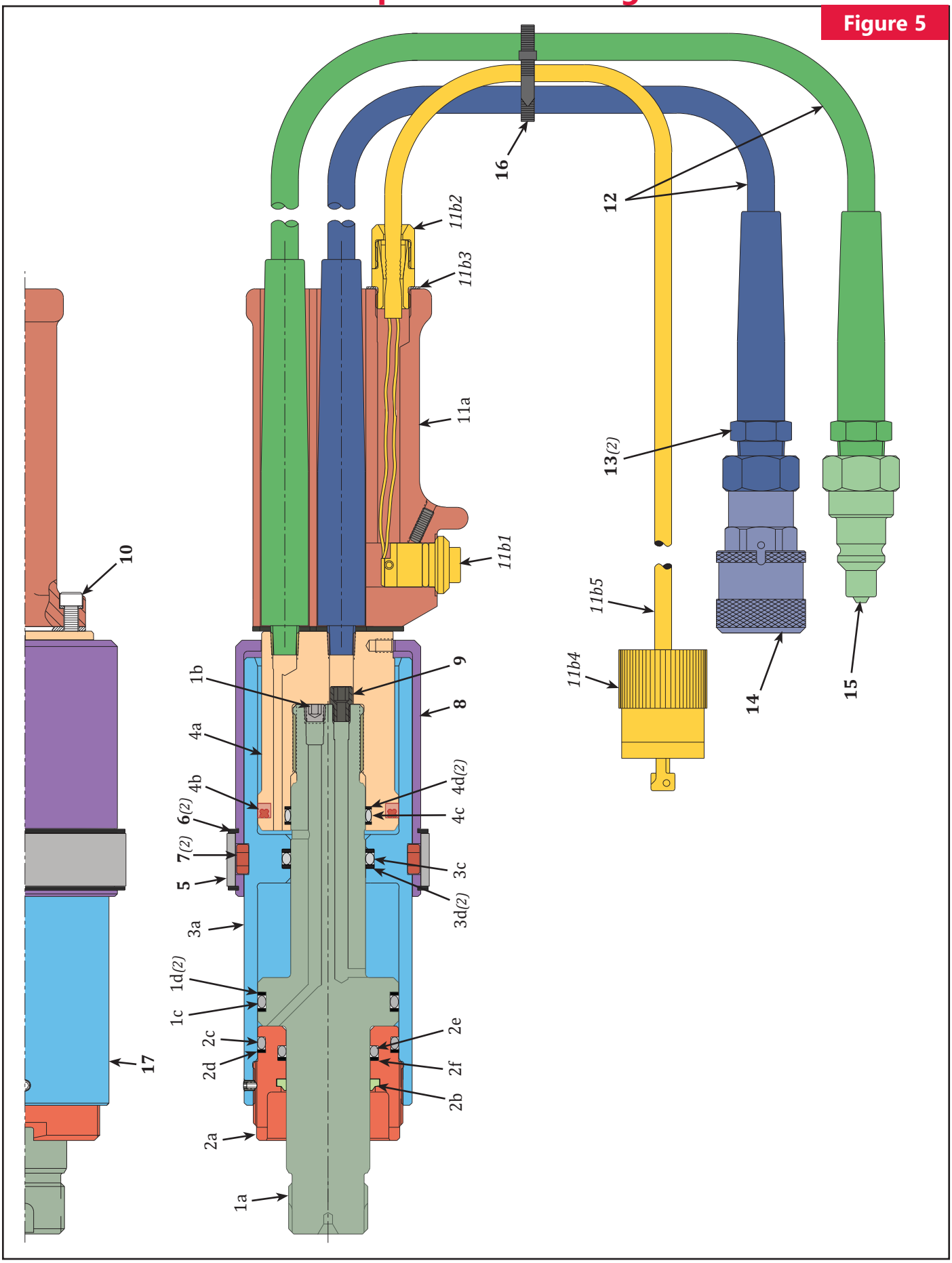
ITEM	DESCRIPTION	BTT35LS	QTY.	
1*	**Piston Assembly**	**128955**	**1**	
1a	Piston Rod	n/a	1	
1b	Pipe Plug	503703	1	
1c	O-Ring	506089	1	✓
1d	Back-up Ring	501151	2	✓
2*	**Forward Gland Assembly**	**121890**	**1**	
2a	Forward Gland	n/a	1	
2b	Wiper	506065	1	✓
2c	O-Ring	506089	1	✓
2d	Back-up Ring	501151	1	✓
2e	O-Ring	506079	1	✓
2f	Back-up Ring	501144	1	✓
3*	**Main Housing Assembly**	**128953**	**1**	
3a	Main Housing	n/a	1	
3b	Lockscrew	121343-35	2	
3c	O-Ring	506078	1	✓
3d	Back-up Ring	501142	2	✓
4*	**RearPiston Assembly**	**128957**	**1**	
4a	Rear Piston	n/a	1	
4b	Polyseal	505918	1	✓
4c	O-Ring	500818	1	✓
4d	Back-up Ring	501112	2	✓
5	**Sleeve**	**125904**	**1**	
6	**Retaining Ring**	**507474**	**2**	
7	**Locator Button**	**125902**	**2**	
8	**Shield**	**128959**	**1**	
9	**Locking Screw**	**119016**	**1**	
10	**Screw**	**501269**	**4**	
11	**Handle Assembly**	**122628**	**1**	
11a	Handle	122278	1	
11b*	Trigger Cord Assembly	119812-2	1	
11b1	*Trigger Switch Assembly*	*120361*	*1*	
11b2	*Strain Relief*	*505344*	*1*	
11b3	*Washer*	*506185*	*1*	
11b4	*Male Connector*	*110686*	*1*	
11b5	*Cord*	*n/a*	*1*	
12	**High Pressure Hose**	**118944-2**	**2**	
13	**Reducer**	**503431**	**2**	
14	**Coupler Body**	**110439**	**1**	
15	**Coupler Nipple**	**110438**	**1**	
16	**Cable Tie**	**505839**	**1**	
17	**CAUTION Sticker**	**590259**	**1**	

✓ ***These parts are also included in the tool Service Kit BTT35KIT.***

* ***When replacing these parts, the assembly must be ordered. One or more individual sub-components are not sold separately.***

Components Drawing

Figure 5



Troubleshooting

Always check the simplest possible cause of a malfunction first. For example, a loose or disconnected trigger line. Then proceed logically and eliminate each possible cause until the defect is found. Where possible, substitute known good parts for suspected defective parts. Use chart as an aid in troubleshooting.

1. Tool fails to operate when trigger is pressed.
   a. Inoperative POWERIG® Hydraulic Unit. See applicable instruction manual.
   b. Loose electrical connections.
   c. Damaged trigger assembly.
   d. Loose or faulty hose coupling.

2. Tool operates in reverse.
   a. Reversed hose connections between hydraulic unit and tool.

3. Tool leaks hydraulic fluid.
   a. Defective tool o-rings or loose connections at tool.

4. Hydraulic couplers leak fluid.
   a. Damaged or worn O-rings in coupler body coupler P/N 110440.

5. Hydraulic fluid overheats.
   a. Unit not operating properly. See units manual.
   b. Unit running in reverse (918; 918-5 only). See unit's manual.

6. Tool operates erratically and fails to install fastener properly.
   a. Low or erratic hydraulic pressure: Air in system.
   b. Damaged or worn piston o-ring in tool.
   c. Excessive wear on sliding surfaces of tool parts.

7. Pull grooves on fastener pintail stripped during PULL stroke.
   a. Operator not sliding anvil completely onto fastener pintail.
   b. Incorrect fastener grip.
   c. Worn or damaged jaw segments.
   d. Metal particles in jaw grooves.
   e. Excessive sheet gap.

8. Collar of fastener not completely swaged.
   a. Improper tool operation. See No. 6.
   b. Scored anvil.

9. Tool "hangs up" on swaged collar of fastener.
   a. Improper tool operation. See No. 6.
   b. RETURN pressure too low.
   c. Not enough collar lubricant.
   d. Nose assembly not installed correctly.

10. Pintail of fastener fails to break.
    a. Improper tool operation. See No. 6.
    b. Pull grooves on fastener stripped. See No. 7.
    c. PULL pressure too low.

11. Nose will not release broken pintail.
    a. Nose assembly not installed correctly.

Optional Equipment

Service Kit - **BTT35KIT** *(contains O-Rings, back-up Rings, Wiper, POLYSEAL, and various size HEX keys for tool service)*

Teflon Stick - **503237**

Loctite* 242 - **505016**
**Loctite is a trademark of Henkel Corporation, U.S.A.*

Anti-seize Lubricant -508183

High Pressure Right Angle Connector Kit - 122002

Control Cord Kit (Joy Connectors) - 121248

Notes

Limited Warranties

Limited Lifetime Warranty on BobTail® Tools:

Huck International, Inc. warrants to the original purchaser that its BobTail® installation tools manufactured after 12/1/2016 shall be free from defects in materials and workmanship for its ***useful lifetime***. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Two Year Limited Warranty on Installation Tools:

Huck International, Inc. warrants that its installation tools and Powerig® hydraulic power sources manufactured after December 1, 2016 shall be free from defects in materials and workmanship for a period of two years from date of purchase by the end user. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

90 Day Limited Warranty on Nose Assemblies and Accessories:

Huck International, Inc. warrants that its nose assemblies and accessories shall be free from defects in materials and workmanship for a period of 90 days from date of purchase by the end user. This warranty does not cover special clearance noses, or special order / non-standard product, or part failure due to normal wear, abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Useful lifetime is defined as the period over which the product is expected to last physically, up to the point when replacement is required due to either normal in-service wear, or as part of a complete overhaul. Determination is made on a case-by case basis upon return of parts to Huck International, Inc. for evaluation.

Tooling, Part(s) and Other Items not manufactured by Huck:

HUCK makes no warranty with respect to the tooling, part(s), or other items manufactured by third parties. HUCK expressly disclaims any warranty expressed or implied, as to the condition, design, operation, merchantability, or fitness for use of any tool, part(s), or other items thereof not manufactured by HUCK. HUCK shall not be liable for any loss or damage, directly or indirectly, arising from the use of such tooling, part(s), or other items or breach of warranty or for any claim for incidental or consequential damages.

Huck shall not be liable for any loss or damage resulting from delays or non-fulfillment of orders owing to strikes, fires, accidents, transportation companies or for any reason or reasons beyond the control of the Huck or its suppliers.

Huck Installation Equipment:

Huck International, Inc. reserves the right to make changes in specifications and design and to discontinue models without notice.

Huck Installation Equipment should be serviced by trained service technicians only.

Always give the serial number of the equipment when corresponding or ordering service parts.

Complete repair facilities are maintained by Huck International, Inc. Please contact one of the offices listed below.

Eastern
One Corporate Drive Kingston, New York 12401-0250
Telephone (845) 331-7300 FAX (845) 334-7333

Outside USA and Canada
Contact your nearest Huck International location (see reverse).

In addition to the above repair facilities, there are Authorized Tool Service Centers (ATSC's) located throughout the United States. These service centers offer repair services, spare parts, Service Parts Kits, Service Tool Kits and Nose Assemblies. Please contact your Huck Representative or the nearest Huck International location (see reverse) for the ATSC in your area.

HOWMET AEROSPACE

Howmet Inc. (NYSE: HWM) creates breakthrough products that shape industries. Working in close partnership with our customers, we solve complex engineering challenges to transform the way we fly, drive, build and power.

Through the ingenuity of our people and cutting-edge advanced manufacturing, we deliver these products at a quality and efficiency that ensures customer success and shareholder value.

ISO 9001-2015
CERTIFIED MANAGEMENT SYSTEM
ISO 14001-2015

Howmet Fastening Systems
Kingston Operations

HUCK®

Huck provides technical assistance regarding the use and application of Huck fasteners and tooling. **NOTICE:** The information contained in this publication is only for general guidance with regard to properties of the products shown and/or the means for selecting such products, and is not intended to create any warranty, express, implied, or statutory; all warranties are contained only in Huck's written quotations, acknowledgments, and/or purchase orders. It is recommended that the user secure specific, up-to-date data and information regarding each application and/or use of such products.

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