Instruction Manual

HPT25RH, HPT35RH, and HPT57RH
Hydraulic Installation Tools
**EC Declaration of Conformity**

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

**Description of Machinery:**
Models HPT family of hydraulic installation tools and specials based on their design (e.g. PR###).

**Relevant provisions complied with:**
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: [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)

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

A weighted sound power level, LWA: **84** dB (reference 1 pW)  Uncertainty, KWA: 3 dB

A weighted emission sound pressure level at the work station, LpA: **73** dB (reference 20 µPa)  Uncertainty, KpA: 3 dB

C-weighted peak emission sound pressure level, LpC, peak: **119** 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.

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

Measured Vibrations emission value, a: **10.91 m/s^2**

Uncertainty, K: **2.01 m/s^2**

Values measured and determined according to ISO 28662-1, ISO 5349-2, and EN 1033

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

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 pneumatic 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...
IV. REPEITIVE 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:
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

- are configured to install fasteners in **limited-clearance applications**, and
- vary in size and **pulling capacity**.

Each fastener type requires a specific nose assembly.

HPT 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.

Tools are used with Huck Powerig® Hydraulic Unit models 913H, 918, and 940 or equivalent (sold separately). Except for nose assembly, all tools are complete with hydraulic hoses, couplings and electric control cord ready to be attached to Powerig Hydraulic Unit hoses and control cord. **NOTE:** Models 912, 917, & 917-5 Powerig Hydraulic Units must be retrofitted with the correct combination valve to function with HPT tools. These valves are designed to provide 8,000–8,400 psi (551–579 bar) PULL pressure and 6,000 psi (551 bar) RETURN pressure. Refer to Huck Product Bulletin #285.

**WARNING:** Proper PULL and RETURN pressures are important for proper function of installation tools. Severe personal injury or damage to equipment may occur without correct pressures. Huck Pressure Gauge P/N T-124333CE is available for checking these pressures using instructions furnished with the gauge and in applicable Powerig® Hydraulic Unit instruction manuals.

**CAUTION:** Only use a Huck Powerig® Hydraulic Unit 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.

HUCK models HPT25RH, HPT35RH, and HPT57RH are Hydraulic Installation Tools that install various HUCK fasteners. These three (3) HPT tools:
- are equipped with **rear handles**

Principle of Operation

An electric trigger switch controls the PULL and RETURN strokes of the tool. As the trigger is pressed, the combination valve directs hydraulic PULL pressure 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. The release opens the jaws releasing the pintail. 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 & nose assembly is now ready to install another fastener.

Sticker Locations

These stickers, which contain important safety and pressure settings information, must remain on the tool and easily read. **If a sticker becomes damaged, worn, unreadable, or missing; or when replacing Cylinder, the sticker(s) must be ordered and placed in the locations shown.**
Specifications

Figure 2

<table>
<thead>
<tr>
<th>TOOL</th>
<th>A (inches/cm)</th>
<th>Ø B (inches/cm)</th>
<th>Ø C (inches/cm)</th>
<th>D (inches/cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPT25RH</td>
<td>12.3 (31.2)</td>
<td>2.0 (5.1)</td>
<td>2.3 (5.8)</td>
<td>2.7 (6.8)</td>
</tr>
<tr>
<td>HPT35RH</td>
<td>13.4 (34.0)</td>
<td>2.4 (6.0)</td>
<td>2.6 (6.7)</td>
<td>3.1 (7.9)</td>
</tr>
<tr>
<td>HPT57RH</td>
<td>14.5 (36.8)</td>
<td>3.0 (7.6)</td>
<td>3.3 (8.3)</td>
<td>3.4 (8.7)</td>
</tr>
</tbody>
</table>

POWER SOURCE: Huck Powerig® Hydraulic Power Source

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

HYDRAULIC FLUID: 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.

MAX OPERATING TEMP: 125°F (51.7°C)
MAX FLOW RATE: 2 gpm (7.5 l/m)

PULL FORCE: HPT25RH: = 25,000 lbf (111.2 kN)
             HPT35RH = 35,000 lbf (155.7 kN)
             HPT57RH = 57,000 lbf (253.5 kN)

STROKE: HPT25RH = 1.25 inches (3.18 cm)
        HPT35RH = 1.50 inches (3.81 cm)
        HPT57RH = 1.75 inches (4.44 cm)

WEIGHT: HPT25RH = 8.3 lbs (3.8 kg)
        HPT35RH = 12.2 lbs (5.6 kg)
        HPT57RH = 15.9 lbs (7.2 kg)

MAX PULL PRESSURE: 8,000–8,400 psi (551–579 bar)
MAX PULL PRESSURE: 6,000–6,500 psi (413–448 bar)

Operating Instructions

1. Use Huck Powerig Hydraulic Unit, or equivalent, that has been prepared for operation per applicable instruction manual. Check both PULL and RETURN pressures, and if required, adjust to pressures given in specifications of this manual.

2. Turn hydraulic unit to OFF, and then, disconnect power supply from unit. Connect tool’s hoses to unit.

3. Connect tool’s control switch electrical cord to hydraulic unit.

4. Connect hydraulic unit to power supply. Turn unit to ON. Press and hold tool trigger 30 seconds; then press trigger a few times to cycle tool and to circulate hydraulic fluid. Observe action of tool and check for leaks. Turn unit to OFF.

5. Select nose assembly for fastener to be installed. Disconnect tool’s control switch electrical cord from hydraulic unit; disconnect unit from power supply. Attach nose assembly to tool.

6. Reconnect hydraulic unit to power supply; reconnect tool’s switch control cord to unit. Check operation of nose assembly. Install fasteners in test plate of correct thickness with proper size holes. Inspect installed fasteners. If fasteners do not pass inspection, see Troubleshooting to locate and correct tool malfunction.
Maintenance

CAUTIONS:
Keep dirt and other harmful material out of hydraulic system.

Keep separated parts away from dirty work surfaces.

Dirt/debris in hydraulic fluid causes valve failure hydraulic unit.

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

Always replace all seals, wipers, and rings when the tool is disassembled for any reason.

GOOD SERVICE PRACTICES
Carefully handle all individual parts and examine them for damage and wear. Replace parts where required. Always replace O-rings and Back-up Rings when the tool is disassembled. See applicable Service Kit.

• The efficiency and life of your tool depends on proper maintenance. Using the manual will help give a clear understanding of the tool and basic maintenance procedures; read this page 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.

• While clamping tool or parts in a vise, and when parts require force, use suitable soft materials to cushion impact. For example, using a half-inch 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.

• Consult Troubleshooting if a malfunction occurs, and then see the appropriate section of Disassembly, Assembly, and the Assembly Drawings.

SEALANTS, LUBRICANTS, FLUID AND SERVICE KITS
• To prevent leaks and for ease of assembly, apply Parker Threadmate®, Loctite® 567, or Slic-tite® (per manufacturer’s instructions) to pipe plug threads, hose fitting threads, and quick connect fittings.
• Smear LUBRIPLATE® 130-AA (P/N 502723) or equivalent on O-rings and mating surfaces to aid assembly and prevent damage to O-rings.
• 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.

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:

• 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.

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

TOOL MAINTENANCE
Whenever disassembled and 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 jaws.

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 Bastik, 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.
Disassembly

See Figures 3–8.
For part identification see Figure 5 of Typical HPT Tool and other illustrations. The following procedures are for complete disassembly of tool. Remove ONLY those parts necessary. Check components for wear and damage and replace as needed. Replace O-rings, Polyseal, wiper, and Back-up Rings.

1. Turn power source OFF at end of PULL stroke so that Piston Assembly is at rear of cylinder (opposite of position that is shown).
2. First, disconnect tool’s electric trigger control cord from hydraulic unit, and then, uncouple hoses.
   NOTE: Disassemble electric control switch only when necessary to rewire or replace.
3. Carefully cut cable ties from hoses. Remove both couplers (nipple and body) from hoses. Drain hoses into container by pushing rearward on piston. Discard fluid.
4. Remove rear handle and cushion using hex key. If required, remove switch; use hex key after loosening strain relief.
5. Remove hoses from tool, then Guard.
   NOTE: If applicable, remove rear piston shields by removing retaining rings and sleeve that holds locator buttons in place. Remove locator buttons and slide off shield.
6. Hold tool vertically, and in vise with soft jaws, clamp vise jaws on flats of Rear Piston.
7. Install a collet (a component of a nose assembly) onto pull piston; thread all the way down until it bottoms out.
8. Invert tool, clamping collet in vise. Remove locking sleeve from rear of piston rod (access to sleeve is through return pressure port) use hex key.
9. Unscrew Rear Piston from piston rod; remove tool from vise. Drain remaining fluid into container.
10. Clamp tool in vise with rear of cylinder facing down the remove collet.
11. Unscrew Lockscrew that locks Front Gland in tool. (See GENERAL NOTES, item 6.) Then remove front gland with face spanner wrench.
12. Slide Front Piston Assembly out of Cylinder.
13. Remove all O-rings and Back-up Rings. Clean out O-ring grooves; clean all components in mineral spirits or isopropyl alcohol. Dry parts before reassembly as solvent is detrimental to O-rings.

WARNING: Be sure to disconnect the tool’s electrical control trigger system from Powerig Hydraulic Unit before disconnecting tool’s hydraulic hoses from unit. If not disconnected in this order, severe personal injury may occur.

Figure 3
Assembly

See Figures 3–8.

Review **Maintenance** for good service practices. Use correct assembly procedures and materials. Clean O-ring grooves and reinstall perishable parts (O-rings, etc.) of Service Kit.

1. Slide Piston Assembly into threaded end of cylinder. Push piston to the rear of the cylinder.
2. Thread a collet onto the piston rod until it bottoms out on the piston threads. Thread rear piston assembly onto main piston. Back rear piston off just enough to allow installation of the Locking Sleeve in rear piston rod through return port in rear piston, tighten with hex key.

   **NOTE:** If applicable, shield, locator button, and flat-head socket screw are installed; use hex key.

3. Invert tool in vise clamping jaws on flats of rear piston.
4. Thread Front Gland into cylinder using a face-spanner wrench, bottom out threads. (See **General Notes**, Item 6.) Back gland out (1/4 turn or less) and install Lock Screw in cylinder. The screw must seat in groove of gland. Slide Guard over back end of tool.
5. Install one hydraulic hose in rear piston port marked “P” and one in port marked “R”.
6. Assemble switch to Rear Handle. Slide rear handle over hoses, attach handle assembly including cushion, to Rear Piston with four lockwashers and cap screws. Torque to 12–14 ft-lbs.
7. Install Coupler Nipple **110438** (PULL pressure hose) and Coupler Body **110439** (RETURN pressure hose). (Figures 7 & 8)

**CAUTION:** Do NOT use Teflon® tape on pipe threads. Tape can shred and break free into fluid lines, resulting in malfunctions.
Components HPT35RH

Figure 5

121970 Piston Assembly includes:
- 126017 Piston Rod
- 500689 O-ring
- 500151 Back-up Ring (2)

125904 Sleeve

125902 Locator Button (2)

125903 Shield

125904-1 Rear Piston Assembly

122628 Handle Assembly

119016 Locking Screw

121981-1 Main Housing Assembly includes:
- 119018 Main Housing
- 121343-35 Lockscrew
- 500678 O-ring
- 501142 Back-up Ring (2)

501280 Screw (4) REF

50918 POLYSEAL

500818 O-RING

501112 BACK-UP RING (2)

501144 BACK-UP RING

501151 BACK-UP RING

506089 O-RING

506079 O-RING

506085 WIPER

506078 O-RING (2)

121890 FORWARD GLAND ASSEMBLY

121884-1 REAR PISTON ASSEMBLY

The diagram shows the components and their configurations within the HPT35RH tool assembly.
Components HPT57RH

Figure 6
Hose Assembly Components

HPT25RH & HPT35RH

Figure 7

- 110686 Male Connector
- 121050 Trimmed Cord
- 110439 Female Coupler
- 110438 Male Coupler
- 503431 Reducing Bushing (2)
- 118944-2 High Pressure Hose (2)
- 505839 Cable Tie

HPT57RH

Figure 8

- 110686 Male Connector
- 121050 Trimmed Cord
- 503541 Cable Tie
- 110439 Female Coupler
- 110438 Male Coupler
- 123749-5 High Pressure Hose (2)
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. A qualified electrician should examine the electrical system. Use this section as an aid in locating trouble and correcting it. Use this Troubleshooting information to aid in locating and correcting trouble.

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 manual.
   b. Unit running in reverse (918, 918-5 only); see 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 per Nose Assembly Data Sheet.

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 per Nose Assembly Data Sheet.

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**Kits & Accessories**

**OPTIONAL CONTROL CORD KIT P/N 121248**

NOTE: These connectors do not hang up on obstructions as easily as standard connectors.

1. Male cord and connector assembly, 505019, replaces your present tool cord and connector.
2. Female cord and connectors assembly, 506018, replaces the cord and connectors on your present hose/cord kit.

If required, cut new cord to match the length of cord being replaced. Attach male connector, 110686, to new cord. Install cable ties.
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.
Arconic Inc. (NYSE: ARNC) 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.

Arconic Fastening Systems Tooling Support Locations

**INDUSTRIAL NORTH AMERICA**

<table>
<thead>
<tr>
<th>Location</th>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
<th>Email</th>
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</thead>
<tbody>
<tr>
<td>Kingston Operations</td>
<td>1 Corporate Drive, Kingston, NY 12401</td>
<td>+1-800-278-4825</td>
<td>+1-845-334-7333</td>
<td><a href="mailto:afs.sales.kingston@arconic.com">afs.sales.kingston@arconic.com</a></td>
</tr>
<tr>
<td>Tracy Operations( IDG)</td>
<td>1925 North MacArthur Drive, Tracy, CA 95376</td>
<td>+1-800-826-2884</td>
<td>+1-800-573-2645</td>
<td><a href="mailto:afs.sales.idg@arconic.com">afs.sales.idg@arconic.com</a></td>
</tr>
<tr>
<td>Waco Operations</td>
<td>PO Box 8117, Waco, TX 76714-8117</td>
<td>+1-800-388-4825</td>
<td>+1-800-798-4825</td>
<td><a href="mailto:afs.sales.waco@arconic.com">afs.sales.waco@arconic.com</a></td>
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<tr>
<td>Kolkata Operations</td>
<td>Unit No. 28, 2nd Floor, 55/1, Chowringhee Road, Kolkata 700071, West Bengal, India</td>
<td>+91-33-40699170</td>
<td>+91-33-40699180</td>
<td><a href="mailto:afs.sales@arconic.com">afs.sales@arconic.com</a></td>
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<tr>
<td>Suzhou Operations</td>
<td>58 Yinsheng Road, SIP Suzhou, Jiangsu 215126 China</td>
<td>+86-512-62863800-8888</td>
<td>+91-33-40699170</td>
<td>+91-33-40699180</td>
</tr>
<tr>
<td>Melbourne Operations</td>
<td>1508 Centre Road, Clayton, Victoria, Australia 3168</td>
<td>+61-3-8545-3333</td>
<td>+61-3-8545-3390</td>
<td><a href="mailto:afs.sales@arconic.com">afs.sales@arconic.com</a></td>
</tr>
<tr>
<td>Telford Operations</td>
<td>Unit C, Stafford Park 7, Telford, Shropshire, England TF3 3BQ</td>
<td>+44-(0)-1952-290011</td>
<td>+44-(0)-1952-207701</td>
<td><a href="mailto:thisales@arconic.com">thisales@arconic.com</a></td>
</tr>
<tr>
<td>São Paulo Operations</td>
<td>Rodovia Anhanguera, s/n, KM 17, Parque São Domingos - Complexo Anhanguera - Galpão 1 Seção III (Módulo III) Box 11, CEP 05112-000 São Paulo – SP Brazil</td>
<td>+55-11-3583-7061</td>
<td>+81-3-3539-6594</td>
<td>+81-3-3539-6585</td>
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<tr>
<td>Aichach Operations</td>
<td>Robert-Bosch Str. 4, Aichach 86551 Germany</td>
<td>+49-8251-8757-0</td>
<td><a href="mailto:aicafswelcomedl@arconic.com">aicafswelcomedl@arconic.com</a></td>
<td></td>
</tr>
<tr>
<td>Cergy Operations</td>
<td>15 Rue du Petit Albi, F-95611 Cergy Pontoise, France</td>
<td>+33-1-34-33-98-00</td>
<td>+33-1-34-33-97-77</td>
<td></td>
</tr>
<tr>
<td>Hong Kong Operations</td>
<td>27th Floor, 88 Hing Fat Street, Causeway Bay Hong Kong, China</td>
<td>+852-2864-2012</td>
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