Arconic

Instruction Manual

5304
6304
6304BOM
7304
8304
9304
9304-36

Hydraulic Installation Tools
serial numbers 0401 and above
EC Declaration of Conformity

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

Description of Machinery:
Models 5304, 6304, 7304, 8304, 9304 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 11448-1:2011)

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)

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: 67 dB (reference 20 μPa) Uncertainty, KpA: 3 dB
C-weighted peak emission sound pressure level, LpC, peak: 99 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

<table>
<thead>
<tr>
<th>Measured Vibration emission value, a:</th>
<th>.46 m/s²</th>
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<tbody>
<tr>
<td>Uncertainty, K:</td>
<td>.18 m/s²</td>
</tr>
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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.
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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. 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.

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 workplace 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.

X. HYDRAULIC TOOL SAFETY INSTRUCTIONS:
1. Do not exceed maximum pressure setting stated on tool.
2. Carry out a daily check for damaged or worn hoses or hydraulic connections and replace if necessary.
3. Use only clean oil and filling equipment.
4. 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.
5. Ensure that couplings are clean and correctly engaged before operation.
6. Do not inject or clean the tool while the hydraulic power source is connected.
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 models 5304, 6304, 7304, 8304, and 9304 Hydraulic Installation Tools are used to install C50L and M50L HUCKBOLT® Fasteners. Each tool model has the same eccentric configuration to install fasteners in limited clearance applications. The five tool models vary in size and pull capacity. Each model has a built-in nose assembly designed to install a specific size fastener. These tools are designed to be powered by Huck POWERIG® Hydraulic Units 918, 918-5, 940, and 956. Powerig Hydraulic Units are preset at the factory to provide 5400-5700 psi PULL pressure and 2200-2400 psi RETURN pressure, and must be reset per specific tool instructions.

**SPECIFICATIONS**

**POWER SOURCE:**
Huck POWERIG Hydraulic Unit

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

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

**MAX PULL PRESSURE:**
- **5304 ONLY:** 5400 psi (372 bar)
- **ALL OTHER MODELS:** 8400 psi (579 bar)

**MAX RETURN PRESSURE:**
- **5304 ONLY:** 2700 psi (186 bar)
- **ALL OTHER MODELS:** 3200 psi (220 bar)

**SERVICE LIFE:**
250,000 cycles

**MAX FLOW RATE:**
2 gpm (7.5 l/m)

**HYDRAULIC FLUID:**
ATF meeting DEXRON III, DEXRON IV, MERCON, Allison C-4 or equivalent specifications.
Fire resistant hydraulic fluid may also be used, and is required to comply with OSHA regulation 1926.302 paragraph (d): "the fluid used in hydraulic power tools shall be fire resistant fluid approved under schedule 30 of the US Bureau of Mines, Department of Interior, and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed."

<table>
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<tr>
<th>TOOL</th>
<th>Fastener Size [DESIGNATION]</th>
<th>Fastener Size INCH (mm)</th>
<th>Stroke INCH (mm)</th>
<th>Capacity lbs (kN)</th>
<th>A INCH (cm)</th>
<th>B INCH (cm)</th>
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**PRINCIPLE OF OPERATION**

When tool hoses and control cord are connected to the POWERIG, PULL and RETURN strokes of the tool are controlled by a switch.

When the switch is depressed, a solenoid operated valve in the POWERIG directs pressurized hydraulic fluid through the PULL hose to the front side of the piston and allows fluid on the RETURN side to flow back to the tank.

The piston/collet moves rearward causing follower O-Rings and spring to impart a forward motion to the follower. If the tool is in position on a fastener pin and collar, this forward motion causes the jaws to clamp onto the pintail of the fastener. The installation cycle has begun.

Clamping pressure is applied to the sheets.

The anvil is forced forward, swaging the collar into locking grooves of the fastener.

When the anvil hits the sheet, continued pull causes the pintail to break off.

When the piston reaches the end of the pull stroke, it uncovers flats on the rear end of the unloading valve. These flats were designed to provide a passage for hydraulic fluid from the PULL side to the RETURN side of the piston “unloading” or “dumping” the pressurized fluid back to the tank.

When installation is completed, trigger is released. Hydraulic pressure is directed to RETURN side of piston. It moves forward, and the nose assembly, with tool, is pushed off the installed fastener.

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**Huck recommends that only Huck Powerig Hydraulic Units be used as a 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.**
**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.

**CAUTION:** Do not use TEFLON® tape on pipe threads. Pipe threads may cause tape to shred resulting in tool malfunction. (Parker Threadmate is available as Huck P/N 508517.)

Note: Where a part number (P/N) is given, Huck sells that part.

Rub Parker Threadmate® thread compound, or equivalent, on pipe plug threads and quick connect fitting.

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

2. First, turn hydraulic unit to OFF. Then disconnect power supply from hydraulic unit. Disconnect trigger control system from hydraulic unit.

3. Connect PULL pressure hose, with coupler nipple, into port “P” of tool. Use only with HUCK supplied hoses rated at 10,000 psi or greater. Check trigger assembly for apparent damage or wear. If required, adjust position of trigger assembly on return pressure hose. Connect trigger control system to hydraulic unit.

4. Connect hydraulic unit to power supply (air or electric). Turn hydraulic unit to ON. Depress trigger a few times to cycle tool and to circulate hydraulic fluid. Observe action of Tool and check for leaks.

5. Disconnect tool from power supply.

**WARNING:** Correct PULL and RETURN pressures are required for operator’s safety and for Installation Tool’s function. Gage part no. T-124883CE is available for checking pressures. See Tool SPECIFICATIONS and Gage Instruction Manual. Failure to verify pressures may result in severe personal injury.

**WARNING:** 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.

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* Parker Threadmate is a registered trademark of Parker Hannifin Corp.
* TEFLON is a registered trademark of DuPont Corp.
General

Operators should receive training from qualified personnel.

WARNING: 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.

Do not bend tool to free if stuck.

Tool should only be used to install fasteners. NEVER use as a jack/spreader or hammer.

HUCKBOLT® Fastener Installation:

WARNING: Do not pull on a pin without placing fastener/collar in a workpiece, and also, collar chamfer MUST be out toward tool. These conditions cause pin to eject with great velocity and force when the pintail breaks off or teeth/grooves strip. This may cause severe personal injury.

CAUTION: 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.

1. Check work and remove excessive gap. (Gap is space between sheets. Gap is excessive if not enough pintail sticks through collar for the tool jaws to grab onto.)

2. Place pin in workpiece and place collar over pin. See WARNING. (If Collar has only one tapered end, that end MUST be out toward tool; not next to sheet.)

3. Hold pin and push nose assembly onto pin protruding through collar until nose anvil touches collar. Tool must be held at right angles to work.

4. Move hands away from pin and structure. Keep hands away from front of tool during operation. Tool anvil advances forward.

5. Holding tool at right angle (90 degrees) to work, depress trigger and hold until collar is swaged and pintail breaks.

6. Release trigger. Tool will go into its return stroke. Tool/nose are ready for next installation cycle. If pintail does not break off, operate switch to recycle tool until pintail breaks and nose assembly is ejected from installed fastener.

7. After fastener installation, point nose of tool down to allow broken-off pintail to drop out.

8. Tool is ready for next installation cycle.
System Inspection

1. A clean, well-lit area should be available for servicing the tool.

2. Inspect tool daily. Check hoses, fittings and disconnects for leaks or damage.

3. Special care must be given to prevent contamination of pneumatic and hydraulic systems.

4. Proper hand tools and soft materials to protect tools must be available. Use only standard hand tools, brass drift and wood block. Vise with soft jaws should be available. Unsuitable hand tools will cause installation tool damage.

5. Apply continuous strong pressure to disassemble a component. An arbor press provides steady pressure to press a component into or out of an assembly.

6. Never continue to force a component if it “hangs-up” due to misalignment. Reverse the procedure to correct misalignment and start over.


8. All parts must be handled carefully and examined for damage and/or wear.

9. Components should be disassembled and assembled in a straight line without bending, cocking or undue force.

10. Disassembly and assembly procedures outlined in this manual should be followed. If Huck recommended procedures are not followed, the tool may be damaged.

11. See Specifications for fluid type. Dispose of fluid in accordance with local environmental regulations.

12. Recycle steel, aluminum, and plastic parts in accordance with local lawful and safe practices.

Standard Sealants, Lubricants

- Keep dirt and other material out of hydraulic system.
- Separated parts must be kept away from dirty work surfaces.
- Dirt/debris in hydraulic fluid causes Dump Valve failure in Tool and in POWERIG® Hydraulic Unit’s valves.
- Always check tool assembly drawing for the proper direction of the flats on the Dump Valve.
- Always replace seals, wipers, and back-up rings when tool is disassembled for any reason.

Preventive Maintenance

Operating efficiency of the Tool is directly related to performance of complete system, including tool/nose assembly, hydraulic hoses, control trigger assembly and the POWERIG® Hydraulic Unit. Therefore, an effective preventive maintenance program includes scheduled inspections of the system to detect and correct minor troubles.

- Inspect tool daily for damage or wear.
- Verify that hoses, fittings, and trigger connections are secure.
- Inspect hydraulic hoses for signs of leaks or damage. Replace if required.
- Inspect tool, hoses, and POWERIG Hydraulic Unit during operation to detect abnormal heating, leaks, or vibration.
- Tool should be checked for leaks before each use.

POWERIG Hydraulic Unit Maintenance

Maintenance and repair instructions are in applicable POWERIG Hydraulic Unit Instruction Manual.

Tool/Nose Maintenance and Precautions

Whenever disassembled, and also at regular intervals (depending on severity and length of use), replace all O-rings and back-up rings. Spare Parts Kits should be kept on hand. Inspect cylinder bore, piston and rod/extension, and unloading valve for scored surfaces, excessive wear or damage. Replace parts as necessary. Clean all parts in mineral spirits or isopropyl alcohol only. Do not let jaws come in contact with other solvents under any circumstances. Also, do not let jaws soak. Dry the jaws immediately after cleaning. Dry other parts before assembling. Use a sharp pointed “pick” to remove imbedded particles from the pull grooves of the jaws.

CAUTION: 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.)
502847 Lockwasher
110479 Chuck Jaws
505134 Reducing Bushing
118944-2 Hose
118940-3 Trigger & Cord Assembly
503431 Reducing Bushing
110439 Female Connector
110438 Male Connector

Notes:

1. Release and Ejector are not sold separately. They must be purchased as Release and Ejector Kit 120836.

2. Piston Collet is not sold separately. If it must be replaced, it must be purchased as Piston Collet Assembly 110785, which also contains O-Ring and Back-Up Ring.

3. Cylinder Head is not sold separately. If it must be replaced, it must be purchased as Cylinder Head Assembly 110786, which also contains internal O-Rings and Back-Up Rings.

Tool Capacity: 24,650 lbs @5,400 psi
504 6304 7304 8304 9304 Hydraulic Tooling (HK457)

6304 BOM COMPONENTS DRAWING

503021 Back-up Ring
2 504670 O-Ring
590501-8400 & 590515 Stickers
504630 O-Ring
501151 Back-up Ring
122315 Follower
106612 Cylinder

124825 Anvil

Ejector
Release
109011 Retainer
119583 Chuck Jaws

501267 Screw
106608 Pressure Tube

501084 Back-up Ring

504551 O-Ring

504637 O-Ring
3 501158 Back-up Ring

500845 O-Ring (16)
504627 O-Ring
501148 Back-up Ring

500790 O-Ring
104891 Locking Ring
122318 Retainer

Cylinder Head

110164 Key
110811 Shield
501224 Screw

123749-4 Hose

69 110439 Female Connector
110438 Male Connector

123380 Trigger/Hose Clamp Assembly

123881 Trigger & Cord Assembly

Notes:

1 Release and Ejector are not sold separately. They must be purchased as Release and Ejector Kit 124827.

2 Piston is not sold separately. If it must be replaced, it must be purchased as Piston Assy 110609-1, which contains Piston, Release, Ejector, O-Ring, and Back-Up Ring.

3 Cylinder Head is not sold separately. If it must be replaced, it must be purchased as Cylinder Head Assembly 110901, which also contains internal O-Rings and Back-Up Rings.

Tool Capacity: 33,534 lbs @ 8,400 psi
Notes:
1. Release and Ejector are not sold separately. They must be purchased as Release and Ejector Kit 122297.
2. Piston is not sold separately. If it must be replaced, it must be purchased as Piston Assy 110612, which contains Piston, Release, Ejector, O-Ring, and Back-Up Ring.
3. Cylinder Head is not sold separately. If it must be replaced, it must be purchased as Cylinder Head Assembly 110902, which also contains internal O-Rings and Back-Up Rings.

Tool Capacity: 42,497 lbs @8,400 psi
Release and Ejector are not sold separately. They must be purchased as Release and Ejector Kit 121242.

Piston is not sold separately. If it must be replaced, it must be purchased as Piston Assy 110614, which contains Piston, Release, Ejector, O-Ring, and Back-Up Ring.

Cylinder Head is not sold separately. If it must be replaced, it must be purchased as Cylinder Head Assembly 110903, which also contains internal O-Rings and Back-Up Rings.

Tool Capacity: 61,043 lbs @ 8,400 psi
Notes:

1. Release and Ejector are not sold separately. They must be purchased as Release and Ejector Kit 122322.

2. Piston is not sold separately. If it must be replaced, it must be purchased as Piston Assy 110616, which contains Piston, Release, Ejector, O-Ring, and Back-Up Ring.

3. Cylinder Head is not sold separately. If it must be replaced, it must be purchased as Cylinder Head Assembly 110904, which also contains internal O-Rings and Back-Up Rings.

Tool Capacity:
82,885 lbs @ 8,400 psi
Notes:

1. Release and Ejector are not sold separately. They must be purchased as Release and Ejector Kit 122684.

2. Piston is not sold separately. If it must be replaced, it must be purchased as Piston Assy 122698, which contains Piston, Release, Ejector, O-Ring, and Back-Up Ring.

3. Cylinder Head is not sold separately. If it must be replaced, it must be purchased as Cylinder Head Assembly 110904, which also contains internal O-Rings and Back-Up Rings.

Tool Capacity:
82,885 lbs @8,400 psi
The following procedure is for disassembly of Tool. Remove only those parts necessary. Check and replace damaged/worn components. **Always replace O-rings, wipers, and back-up rings of disassembled subassemblies.**

**NOTES:**
(a) Always work on a clean surface.
(b) Use relatively soft materials, such as brass, aluminum, or wood to protect tool when applying pressure.
(c) Apply a continuous, strong pressure rather than sharp blows to disassemble or assemble a component. An arbor press provides steady pressure to press a component in or out.
(d) Never continue to force a component if it “hangs-up” due to misalignment. Instead, reverse the procedure to correct misalignment and start over.
(e) Assemble release and ejector with Loctite adhesive/sealant, HUCK part no. 503657. Loctite is included in release and ejector kits.
(f) Lubricate O-Rings and coat hose fitting threads per instructions in **MAINTENANCE** section of this manual.
(g) Standard hand tools such as wrenches, drifts, hex keys, etc., are required. Some standard tools are available from HUCK. Please contact your HUCK representative.

For component identification, please refer to individual **COMPONENTS DRAWINGS** in this manual.

1. Disconnect Tool’s electric trigger control cord, then uncouple Hydraulic Hoses.
2. Remove Socket Head Cap Screw that attaches Anvil Retainer to Cylinder. Unscrew Anvil.
3. Unscrew Coupler Nipple and Coupler Body, and drain hoses into a clean container.
4. Push rearward on Piston Assembly until hydraulic fluid is drained into container.
5. Remove Screws, Washers, and Nuts from Clamp. Separate Clamp from Switch and Control Cord Assembly and Hydraulic Hoses.
6. Remove both hoses from head assembly.
7. Remove Socket Head Cap Screws and Shield. Turn tool until Key falls out of locking slots. Remove Locking Ring with a spanner wrench.
8. Push rearward on Piston Assembly until head assembly and piston assembly slides out of Cylinder.
9. Remove Pressure ube Assembly from Piston or Head.
10. Remove Retainer and O-Ring Assembly from piston with a spanner wrench.
11. Slide Follower Assembly, O-Rings, and Jaws from piston/collet.
12. If necessary, disassemble Release and Ejector by unscrewing by hand or with pliers.
13. If necessary, loosen two Screws on Cord Grip. Loosen Cup Point Setscrew. Pull Switch from Housing, and remove Strain Relief. Disassemble Electrical Connector to replace Connector or to re-wire.

**WARNING:** Be sure to disconnect Tool’s control trigger system from POWERIG® Hydraulic Unit before disconnecting Tool’s hydraulic hoses from unit. If not disconnected in this order before any maintenance or cleaning is done, severe personal injury may occur.
Clean all tool components with mineral spirits, or equivalent, and inspect for wear or damage. Replace as required. **Always replace all seals on/in disassembled components.** Use O-rings and back-up rings supplied in SERVICE PARTS KIT. Smear LUBRIPLATE 130AA, or equivalent, on O-rings, back-up rings and mating components for ease of assembly. Assemble Tool taking care not to damage either O-rings or back-up rings.

**WARNING:** Do not omit any seals during servicing, leaks will result and personal injury may occur.

**CAUTION:** 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.)

**WARNING:** Tool must be fully assembled with all components included.

1. Apply Vibratite to Jaw Release and assemble to Piston and collar Ejector.

2. Hold piston with large opening facing up, and place three jaw segments into piston, one at a time, so that the taper of jaws match the cone angle of the piston.


4. Push Retainer Assembly over Follower, and screw it into Piston. Tighten Retainer with a spanner wrench until Retainer shoulder is tight against piston extension.

5. Align eccentric front extension of Piston with eccentric hole in front of Cylinder, and push Piston into Cylinder.

6. Slide Pressure Tube Assembly through hole in Piston.

7. Place Locking Ring over rear of Head Assembly. Hold head and ring together. The tube pocket in the head must be aligned with the tube in the piston while pushing the head into the Cylinder. When Locking Ring stops head, alternately push in head and turn in locking ring.

8. Tighten Locking Ring, then back it out 1/8 turn or less until slot in head and slot in ring are aligned. Hold tool pointing down, and place Key into slots. Place Shield on head and tighten both Socket Head Cap Screws.

9. Screw Anvil into Cylinder.

10. Assemble Anvil Retainer and screw into Cylinder.

11. Screw Coupler Nipple and Coupler Body (male and female connectors) onto hydraulic hoses. Screw hose with nipple into port “P” of head. Screw other hose into head.


13. Replace and tighten Cord Grip in Housing.


15. Slide switch with cord attached into housing. Tighten screw against switch. Tighten two screws in cord grip to hold in housing.

16. Place two halves of clamp over “R” hose. Align clamp holes and loosely attach screw, washer, and nut. Push assembled switch and housing into clamp, hold it centered, and tighten screws.


Use a fine India stone to remove any nicks or burrs from diameter A and leading edge, to prevent damage to O-ring.
KITS AND ACCESSORIES

Service Parts Kits
5304KIT, 6304KIT, 7304KIT, 8304KIT, & 9304KIT
Include all perishable seals, O-rings and Back-up rings. A spare Service Parts Kit should be kept on hand at all times.

Release and Ejector Kit
120836 (5304)
122317 (6304)
124827 (6304BOM)
122297 (7304)
121242 (8304)
122322 (9304)
122684 (9304-36)

Release and Ejector Tool (see below)
124751 (5304, 6304, 7304, 8304)
124751-1 (9304 series)

Handle Carrier Assembly (see below)
112584-4 (6304 series)
112584-3 (7304)
112584-5 (8304)
112584-2 (9304 series)

This assembly tool is for disassembling and assembling -20 (5/8) and -24 (3/4) release and ejector assemblies in for 99-5000 series nose assemblies. The locking taper locks into the taper of the release, preventing the release from turning while the ejector is unscrewed, using an open end wrench.

To Use:
1. Lock assembly tool in vise as shown.
2. Place collet assembly over taper Using a soft mallet (or hammer), tap assembly firmly onto taper to ensure that tapers are locked together.
3. Using an open end wrench on ejector flats, unscrew ejector from release.
4. Lift collet off release. With soft mallet tap release from assembly tool.
5. Assemble in reverse order.
**Troubleshooting**

Always check the simplest possible cause of a malfunction first. For example, a loose or disconnected trigger line. Then proceed logically, eliminating each possible cause until the defective part is located. Where possible, substitute known good parts for suspected defective parts. Use Trouble Shooting Chart as an aid for locating and correcting trouble.

1. **Tool fails to operate when trigger is depressed.**
   a. Inoperative POWERIG® Hydraulic Unit. See applicable instruction manual.
   b. Loose air or electric connections.
   c. Damaged trigger assembly.
   d. Loose or faulty hydraulic hose couplings.
   e. Pressure Tube not installed in Tool.

2. **Tool leaks hydraulic fluid.**
   a. Defective Tool O-rings or loose hose connections at Tool.

3. **Hydraulic couplers leak fluid.**
   a. Damaged or worn O-rings in coupler body. See Coupler 110440.

4. **Hydraulic fluid overheats.**
   a. Hydraulic unit not operating properly.
   b. Pressure Tube installed incorrectly.
   c. POWERIG Hydraulic Unit not operating properly; see unit’s manual.
   d. Restriction in hydraulic line.

5. **Tool operates erratically and fails to install fastener properly.**
   a. Low or erratic hydraulic pressure; air in system
   b. Damaged or worn piston/anvil O-ring in Tool.
   c. Pressure Tube installed incorrectly.
   d. Excessive wear on sliding surfaces of Tool parts.
   e. Excessive wear of unloading valve in Tool.

6. **Collar of HUCKBOLT® fastener not completely swaged.**
   b. Scored anvil.

7. **Tool “hangs-up” on swaged collar of HUCKBOLT Fastener.**
   b. RETURN pressure too low.

8. **Pintail of fastener fails to break.**
   b. Pull grooves on fastener stripped. See Trouble 7.
   c. PULL pressure too low.
   d. Worn Pressure Tube.

9. **Jaw segments do not maintain proper position in piston.**
   a. Incorrect amount of follower O-rings. Clean before reassembling.

10. **Pull grooves on fastener pintail stripped during PULL stroke.**
    a. Broken pintail not removed from tool.
    b. Anvil was not slid completely onto fastener pintail.
    c. Incorrect fastener length.
    d. Worn or damaged jaw segments.
    e. Metal particles accumulated in pull grooves of jaw segments.
    f. Jaw release binding.
    g. Excessive sheet gap.

11. **Tool operates in reverse.**
    a. Reversed hydraulic hose connections between POWERIG and Tool.

12. **Anvil will not slide completely over fastener pintail.**
    a. Broken pintail not removed from tool.
    b. Incorrect fastener length.
Limited Warranties

Tooling Warranty:
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.

Warranty on “non standard or custom manufactured products”:
With regard to non-standard products or custom manufactured products to customer’s specifications, Huck warrants for a period of ninety (90) days from the date of purchase that such products shall meet Buyer’s specifications, be free of defects in workmanship and materials. Such warranty shall not be effective with respect to non-standard or custom products manufactured using buyer-supplied molds, material, tooling and fixtures that are not in good condition or repair and suitable for their intended purpose.

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Huck’s sole liability and Buyer’s exclusive remedy for any breach of warranty shall be limited, at Huck’s option, to replacement or repair, at FOB Huck’s plant, of Huck manufactured tooling, other items, nonstandard or custom products found to be defective in specifications, workmanship and materials not otherwise the direct or indirect cause of Buyer supplied molds, material, tooling or fixtures. Buyer shall give Huck written notice of claims for defects within the ninety (90) day warranty period for tooling, other items, nonstandard or custom products described above and Huck shall inspect products for which such claim is made.

Tooling, Part(s) and Other Items not manufactured by Huck:
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The only warranties made with respect to such tool, part(s) or other items thereof are those made by the manufacturer thereof and Huck agrees to cooperate with Buyer in enforcing such warranties when such action is necessary.

Huck shall not be liable for any loss or damage resulting from delays or nonfulfillment 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 Office, see back cover.

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 Tools Kits and Nose Assemblies. Please contact your Huck Representative or the nearest Huck office listed on the back cover 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.

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Huck provides technical assistance regarding the use and application of Huck fasteners and tooling.

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