INSTRUCTION MANUAL

MODELS

6304 & 6304BOM, 7304, 8304, 9304 & 9304-36

HYDRAULIC INSTALLATION TOOLS
SERIAL NUMBERS 0401 AND ABOVE
EC Declaration of Conformity

Manufacturer:
Alcoa Fastening Systems, Industrial Products Group, 1 Corporate Drive, Kingston, NY, 12401, USA

Description of Machinery:
Model numbers 6304, 7304, 8304, and 9304 fastener installation tools

Relevant provisions complied with:
British Standard related to hand held, non-electric power tools (EN 792-1)

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: Larry M. Krieg
Position: Engineering Manager
        Installation Systems Division
Place: Kingston, New York, USA
Date: April, 2009

Test data to support the above information is on file at Alcoa Fastening Systems, Industrial Products Group, Kingston Operations, Kingston, NY, USA.

<table>
<thead>
<tr>
<th>Model:</th>
<th>Declared dual number noise emission values in accordance with ISO 4871</th>
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<tbody>
<tr>
<td>9304</td>
<td>A weighted sound power level, LWA: 79 dB (reference 1 pW)</td>
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<tr>
<td></td>
<td>Uncertainty, KWA: 3 dB</td>
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<tr>
<td></td>
<td>A weighted emission sound pressure level at the work station, LpA: 67 dB</td>
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<td>(reference 20 µPa)</td>
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<td>Uncertainty, KpA: 3 dB</td>
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<td></td>
<td>C-weighted peak emission sound pressure level, LpC, peak: 99 dB (reference 20 µPa)</td>
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<td>Uncertainty, KpC: 3 dB</td>
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<td>Values determined according to noise test code ISO 15744, using as basic standards ISO 3744 and ISO 11203. 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.</td>
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<tr>
<th>Type:</th>
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<td>Values measured and determined according to ISO 8662-1, ISO 5349-2, and EN 1033</td>
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<table>
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<tr>
<th>Serial No:</th>
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<tr>
<td>11355</td>
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<table>
<thead>
<tr>
<th>Year of Manufacture</th>
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<table>
<thead>
<tr>
<th>Pull Capacity:</th>
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<tr>
<td>82,885 lbs (368.7 kN)</td>
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<table>
<thead>
<tr>
<th>Operating Pressure:</th>
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<tr>
<td>8,400 psi (579.2 bar)</td>
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This instruction manual must be read, with particular attention to the following safety guidelines, by any person servicing or operating this tool.

1. Glossary

- Product complies with requirements set forth by the relevant European directives.
- Read manual prior to using equipment.
- Eye protection required while using this equipment.
- Hearing protection required while using this equipment.

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

**CAUTIONS - show conditions that will damage equipment and or structure.**

Notes - are reminders of required procedures. **Bold, Italic type and underlining** - emphasizes a specific instruction.

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

3. Huck equipment must be maintained in a safe working condition at all times. Tools and hoses should be inspected on a regular basis for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.

4. Repairman and Operator must read manual prior to using equipment. Warning and Caution stickers/labels supplied with equipment must be understood before connecting equipment to any primary power supply. As applicable, each of the sections in this manual have specific safety and other information.

5. Read MSDS Specifications before servicing the tool. MSDS Specifications are available from the product manufacturer or your Huck representative.

6. When repairing or operating Huck installation equipment, always wear approved eye protection. Where applicable, refer to ANSI Z87.1 - 2003

7. Disconnect primary power source before doing maintenance on Huck equipment or changing Nose Assembly.

8. Tools and hoses should be inspected for leaks at the beginning of each shift/day. If any equipment shows signs of damage, wear, or leakage, do not connect it to the primary power supply.

9. Mounting hardware should be checked at the beginning of each shift/day.

10. Make sure proper power source is used at all times.

11. Release tool trigger if power supply is interrupted.

12. Tools are not to be used in an explosive environment unless specifically designed to do so.

13. Never remove any safety guards or pintail deflectors.

14. Ensure deflector or pintail collector is installed and operating prior to use.

15. Never install a fastener in free air. Personal injury from fastener ejecting may occur.

16. Always clear spent pintail out of nose assembly before installing the next fastener.

17. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.

18. If there is a pinch point between trigger and work piece, use remote trigger. (Remote triggers are available for all tooling).

19. Unsuitable postures may not allow counteracting of normal expected movement of tool.

20. 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 in preventing an accident which may cause severe personal injury.


22. There is a risk of crushing if tool is cycled without Nose Assembly installed.

23. Tools with ejector rods should never be cycled without nose assembly installed.

24. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet of correct positioning.

25. Tool is only to be used as stated in this manual. Any other use is prohibited.
Huck models 6304, 7304, 8304, and 9304 Hydraulic Installation Tools are used to install C50L and M50L HUCK-BOLT® Fasteners. Each tool model has the same eccentric configuration to install fasteners in limited clearance applications. The four 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, 940, and 956. Powerig Hydraulic Units are preset at the factory to provide 5400-5700 psi PULL pressure and 2200-2400 psi RETURN pressure. They must be reset per applicable instruction manual to provide 8000-8400 psi PULL pressure and 2800-3200 psi RETURN pressure.

**DESCRIPTION**

**SPECIFICATIONS**

**Power Source:** Huck POWERIG Hydraulic Unit

**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."

- **Max Operating Temp:** 125°F (51.7°C)
- **Max Flow Rate:** 2 gpm (7.6 l/m)
- **Max Inlet Pressure:** 8400 psi, (579.2 bar)

<table>
<thead>
<tr>
<th>TOOL</th>
<th>Fastener Size</th>
<th>Stroke</th>
<th>Capacity @ 8400 psi</th>
<th>A (INCH)</th>
<th>B (INCH)</th>
<th>C (INCH)</th>
<th>D (INCH)</th>
<th>E (INCH)</th>
<th>Weight lbs (kg)</th>
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<tbody>
<tr>
<td>6304</td>
<td>5/8 (16)</td>
<td>1.28 (32.5)</td>
<td>33,534 lbs</td>
<td>7.22 (183)</td>
<td>3.63 (92.2)</td>
<td>2.00 (50.8)</td>
<td>.663 (16.8)</td>
<td>.468 (11.9)</td>
<td>16.0 (7.3)</td>
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<tr>
<td>6304BOM</td>
<td>5/8 (16)</td>
<td>1.28 (32.5)</td>
<td>33,534 lbs</td>
<td>7.09 (180)</td>
<td>3.63 (92.2)</td>
<td>2.00 (50.8)</td>
<td>.663 (16.8)</td>
<td>.468 (11.9)</td>
<td>16.0 (7.3)</td>
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<tr>
<td>7304</td>
<td>3/4</td>
<td></td>
<td>42,497 lbs</td>
<td>7.58 (193)</td>
<td>4.07 (103)</td>
<td>2.25 (57.2)</td>
<td>.908 (23.1)</td>
<td>.530 (13.5)</td>
<td>17.0 (7.7)</td>
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<tr>
<td>8304</td>
<td>7/8 (22)</td>
<td>1.53 (38.9)</td>
<td>61,043 lbs</td>
<td>8.09 (205)</td>
<td>4.82 (122)</td>
<td>2.75 (69.9)</td>
<td>1.00 (25.4)</td>
<td>.530 (13.5)</td>
<td>26.3 (11.9)</td>
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<tr>
<td>9304</td>
<td>1</td>
<td></td>
<td>82,885 lbs</td>
<td>8.37 (212)</td>
<td>5.47 (139)</td>
<td>3.25 (82.6)</td>
<td>.998 (25.3)</td>
<td>.656 (16.7)</td>
<td>34.0 (15.4)</td>
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<td>9304-36</td>
<td>1-1/8</td>
<td>1.53 (38.9)</td>
<td>82,885 lbs</td>
<td>8.58 (218)</td>
<td>3.38 (85.7)</td>
<td>1.21 (30.7)</td>
<td></td>
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</table>
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.

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 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.

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

Rub Slic-Tite®* with PTFE thread compound, or equivalent, on pipe plug threads and quick connect fitting.

**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:** Correct PULL and RETURN pressures are required for operator’s safety and for Installation Tool’s function. Gauge Set-Up, T-124883 and T-124883CE, is available for checking pressures. See Tool SPECIFICATIONS and Gauge 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.

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.

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* Slic-Tite is a registered trademark of LA-CO Industries, Inc.

* 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 re-cycle 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 taken 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
Rub Slic-Tite® with PTFE thread compound, or equivalent, on pipe plug threads and quick connect fitting.

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.)

Smear LUBRIPLATE® 130AA*, or equivalent lubricant, on O-Rings and mating surfaces to aid assembly and to prevent damage to O-Rings. (LUBRIPLATE 130-AA is available in a tube as Huck P/N 502723.)

* Loctite is a registered trademark of Henkel Corporation, U.S.A.
* Slic-Tite is a registered trademark of LA-CO Industries, Inc.
* TEFLON is a registered trademark of DuPont Corp.
* LUBRIPLATE is a registered trademark of Fiske Brothers Refining Co.

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.

CAUTIONS:
- Consult MSDS before servicing tool.
- 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.
NOTES:
1. RELEASE & EJECTOR KIT P/N 122317 CONSISTS OF:
   RELEASE P/N 124751
   EJECTOR P/N 123455
2. SERVICE KIT P/N 6304 KIT IS
   AVAILABLE FOR THIS TOOL
3. CAPACITY: 22034 LBS. AT 8400 P.S.I
   STROKE: 1.280 NOMINAL
4. RELEASE AND EJECTOR ASSEMBLY TOOL 124751
   Optionally available
NOTES:
1. RELEASE & EJECTOR KIT P/N 121242 CONSISTS OF: RELEASE P/N 124767, EJECTOR P/N 109311
2. SERVICE KIT P/N 8304 KT IS AVAILABLE FOR THIS TOOL
3. CAPACITY 6043 LBS AT 8400 PSI STROKE 15.50 NORMAL
4. RELEASE AND EJECTOR ASSEMBLY TOOL 124751 OPTIONALLY AVAILABLE.
9304 COMPONENTS DRAWING
DISASSEMBLY

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.

WARNING: Be sure to disconnect Tool’s electrical 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.

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.
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.

**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 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.**
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.

   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.

   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.

Kits and Accessories

Service Parts Kits
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 Tool (see next page)
124751 (6304, 7304, 8304 series)
124751-1 (9304 series)

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

Handle Carrier Assembly (see page 20)
112584-4 (6304 series)
112584-3 (7304)
112584-5 (8304)
112584-2 (9304 series)
An assembly tool is available for disassembling and assembling -20 (5/8) and -24 (3/4) release and ejector assemblies in the 99-5000 series. The tool is also used with 582/682, 6304 through 8304, and 714218142 tools. The assembly tool's locking taper locks into the release's taper. This prevents the release from turning while the ejector is unscrewed - - use an open end wrench.

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.
Optional Handle Carrier Assembly

- 112584-4 (6304 series)
- 112584-3 (7304)
- 112584-5 (8304)
- 112584-2 (9304 series)

Hydraulic Installation Tool
6304, 7304, 8304, 9304 series
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

Canada
6150 Kennedy Road Unit 10, Mississauga, Ontario, L5T2J4, Canada.
Telephone (905) 564-4825 FAX (905) 564-1963

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.