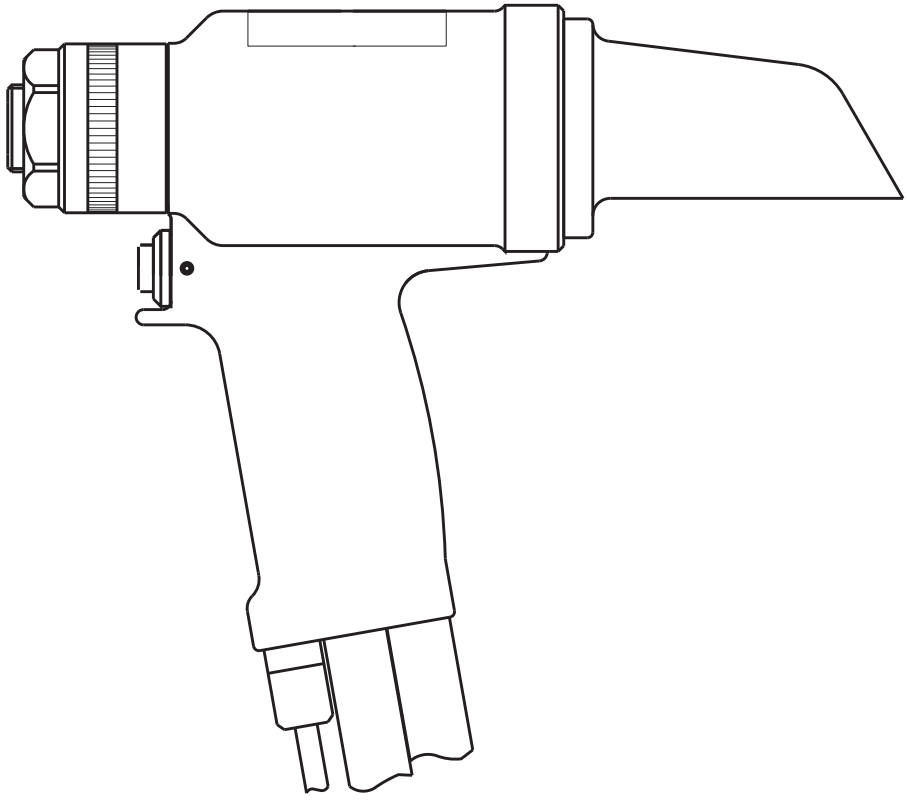
Alcoa Fastening Systems

ALCOA

Instruction Manual

Hydraulic Installation Tools

2600
2600-12
2600-16
2600-16-3
2600-16-12
2600-16-2T
2600-16-30T
2600-16-50T



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

03-26-2012
HK914

HUCK®

EC Declaration of Conformity

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

Description of Machinery:
Models 2600 and 2620 hydraulic installation tools, and specials based on their designs.(e.g. PR#####)

Relevant provisions complied with:
Council Directive related to Machinery (2006/42/EC)
British Standard related to hand held, non-electric power tools (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:

Full Name: Larry M. Krieg

Position: Engineering Manager
Installation Systems Division

Place: Kingston, New York, USA

Date: December, 2011

Declared dual number noise emission values in accordance with ISO 4871
A weighted sound power level, LWA: 89 dB (reference 1 pW) Uncertainty, KWA: 3 dB
A weighted emission sound pressure level at the work station, LpA: 78 dB (reference 20 µPa) Uncertainty, KpA: 3 dB
C-weighted peak emission sound pressure level, LpC, peak: 122 dB (reference 20 µPa) Uncertainty, KpC: 3 dB
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.

Declared vibration emission values in accordance with EN 12096	
Measured Vibrations emission value, *a*:	1.5 m/s^2
Uncertainty, K:	.51 m/s^2
Values measured and determined according to ISO 28662-1, ISO 5349-2, and EN 1033	

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

Contents

Safety Instructions

GLOSSARY OF TERMS AND SYMBOLS:

- Product complies with requirements set forth by the relevant European directives.
- **READ MANUAL** prior to using this equipment.
- **EYE PROTECTION IS REQUIRED** while using this equipment.
- **HEARING PROTECTION IS REQUIRED** while using this equipment.

WARNINGS: Must be understood to avoid severe personal injury.

CAUTIONS: show conditions that will damage equipment and or structure.

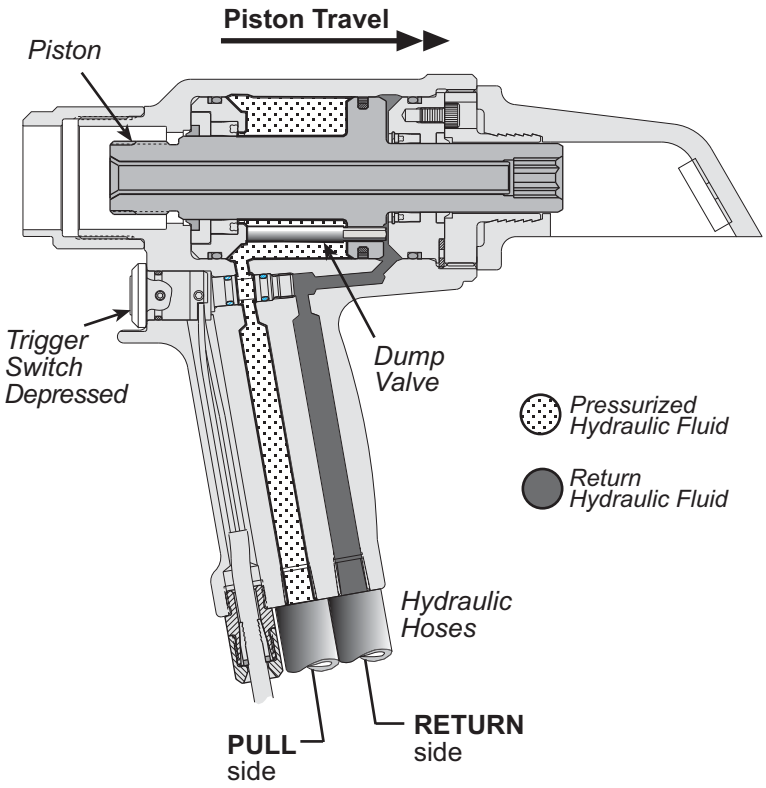
Notes: are reminders of required procedures.
***Bold, Italic type and underlining*:** emphasizes a specific instruction.

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. 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.
4. Read MSDS Specifications before servicing the tool. MSDS Specifications are available from the product manufacturer or your Huck representative.
5. When repairing or operating Huck installation equipment, always wear approved eye protection. Where applicable, refer to ANSI Z87.1 - 2003
6. Only genuine Huck parts shall be used for replacements or spares. Use of any other parts can result in tooling damage or personal injury.
7. If a part affixed with warning labels is replaced, or labels are missing or damaged, the end user is responsible for replacement. Refer to assembly drawing and parts list for replacement part number and proper placement.
8. Disconnect primary power source before performing maintenance on Huck equipment or changing Nose Assembly.
9. 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.
10. Mounting hardware should be checked at the beginning of each shift/day.
11. Make sure proper power source is used at all times.
12. Release tool trigger if power supply is interrupted.
13. Tools are not to be used in an explosive environment unless specifically designed to do so.
14. Never remove any safety guards or pintail deflectors.
15. Where applicable, ensure deflector or pintail collector is installed and operating prior to use.
16. Never install a fastener in free air. Personal injury from fastener ejecting may occur.
17. Where applicable, always clear spent pintail out of nose assembly before installing the next fastener.
18. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.
19. 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.
20. Unsuitable postures may not allow counteracting of normal expected movement of tool.
21. 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. Never place hands between nose assembly and work piece. Keep hands clear from front of tool.
23. There is a risk of crushing if tool is cycled without Nose Assembly installed.
24. Tools with ejector rods should never be cycled with out nose assembly installed.
25. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet for correct positioning.
26. Tool is only to be used as stated in this manual. Any other use is prohibited.
27. There is a risk of whipping compressed air hose if tool is pneudraulic or pneumatic.
28. Release the trigger in case of failure of air supply or hydraulic supply.
29. Use only fluids or lubricants recommended.
30. Disposal instruction: Disassemble and recycle steel, aluminum and plastic parts, and drain and dispose of hydraulic fluid in accordance with local lawful and safe practices.
31. If tool is fixed to a suspension device, ensure that the device is secure prior to operating the tool.

Principle of Operation

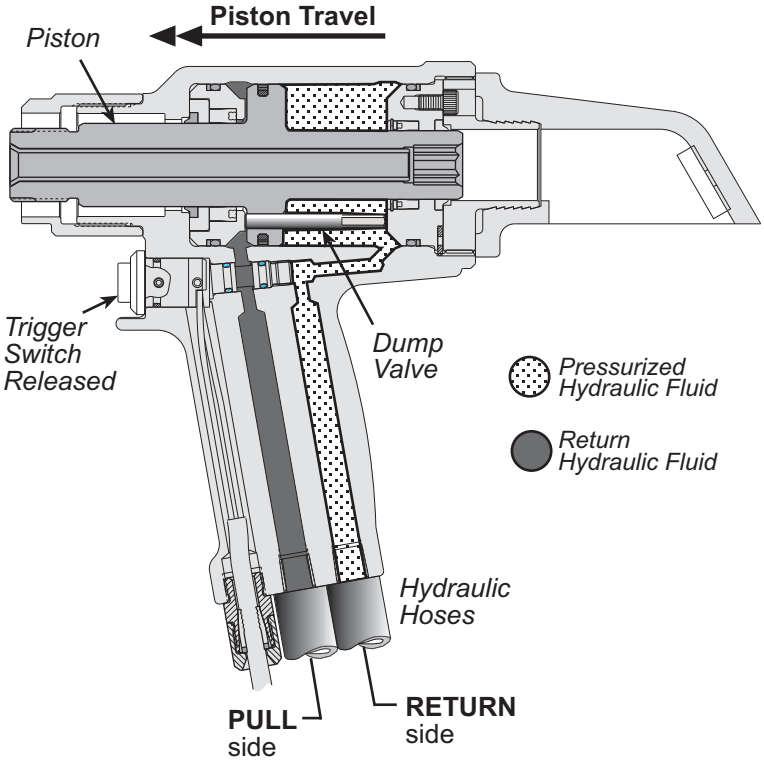
Pull Pressure (Pull Cycle)

When the Trigger Switch is depressed, pressurized hydraulic fluid moves through the PULL hose to the front side of the Piston. The piston and nose assembly collet move rearward, installing the fastener. When the Piston reaches the end of the PULL stroke, it uncovers flats on the back of the Dump Valve. These flats are 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 Powerig tank.



Return Pressure (Return Cycle)

When the trigger is released, pressurized hydraulic fluid is directed to the rear side of the Piston, causing the Piston and collet to move forward, allowing fluid on the PULL side to flow back through the PULL side hose to the Powerig tank, and pushing the nose assembly and tool off of the swaged (installed) fastener. When the Piston reaches the end of the RETURN stroke, pressure is built up, causing the Powerig to shut off, completing the cycle.



Specifications

POWER SOURCE:
Huck POWERIG Hydraulic Unit

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

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)

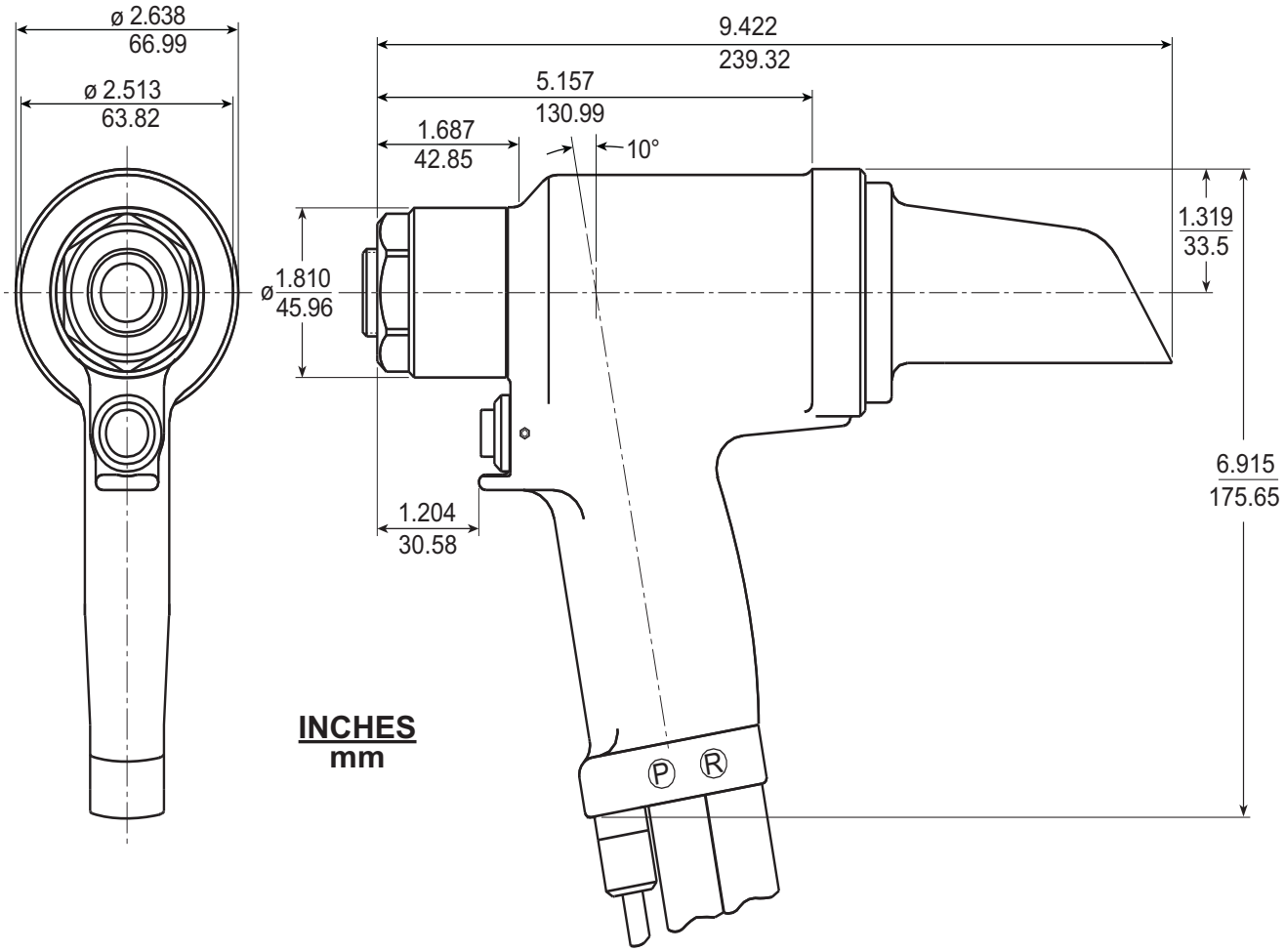
MAX FLOW RATE:
2 gpm (7.5 l/m)

MAX INLET PRESSURE:
7400 psi (510 bar)

PULL CAPACITY:
20,020 lbs (89.05 kN) @ 7400 psi

STROKE:
1.25 inches (3.18 cm)

WEIGHT:
7.3 lbs (3.31 kg)



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 and ear 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.

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.)

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.

POWER SOURCE CONNECTIONS
Coat hose fitting threads with a non-hardening Teflon™ thread compound such as Slic-tite.™

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**.

2. First, turn hydraulic unit to OFF, and then, disconnect power supply from unit. Connect tool's hoses to Powerig unit.

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

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 orderand disconnected in the reverse order, severe personal Injury may occur.

4. Connect hydraulic unit to power supply. Turn unit to ON. Hold tool trigger depressed for 30 seconds; depress 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.

WARNING: Correct PULL and RETURN pressures are required for operator's safety and for Installation Tool's function. Pressure Gauge T-124883CE is available for checking pressures. See Tool Specifications and Gauge Instruction Manual. Failure to verify pressures may result in severe personal injury.

GOOD SERVICE PRACTICES

Sealants, Lubricants, Hydraulic Fluid & Service Kits

- Rub Slic-Tite TEFLON thread compound, or equivalent, on pipe threads to prevent leaks and for ease of assembly.

- Smear LUBRIPLATE®* No. 130-AA, or equivalent, on O-rings and mating surfaces to prevent damaging O-rings on rough or sharp surfaces. Also, increases ease of assembly. (LUBRIPLATE in a tube, 502723).

* *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 LUBRIPLATE Lubricants Co.*

Operating Instructions

WARNING: Reasonable care of installation tools by operators is an important factor in maintaining tool effeciency and in reducing repair downtime. Do not abuse the tool by dropping it, using it as a hammer, or otherwise, causing unnecessary wear and tear. Be sure there is adequate clearance for the tool and operator's hands before proceeding. Do not connect tool's hoses to each other or use hoses as a handle for carrying.

WARNING: Do not pull on a fastener without a collar. If a fastener is pulled without a collar, the fastener will eject forcibly when the pintail breaks off.

TO INSTALL A HUCKBOLT® FASTENER

1. Check work and remove excessive gap in the space between sheets. Gap is excessive if not enough pintail sticks through the collar for the nose assembly jaws to grab onto.
2. Put fastener into hole.
3. Slide collar over fastener. (The beveled end of the collar must be towards the nose assembly and tool.)
4. Push nose assembly onto the fastener until the nose assembly anvil stops against the collar. Tool and nose assembly must be held at right angles (90°) to the work.
5. Depress tool switch to start installation cycle.
6. When forward motion of nose assembly anvil stops and pintail breaks off, release switch. Tool will go into its return stroke, push off the installed fastener and eject the pintail.
7. The tool and nose assembly is ready for the next installation cycle.

Servicing the Tool

CAUTIONS:
- **Consult MSDS before servicing tool.**
- **Keep dirt and other material out of hydraulic system.**
- **Separated parts most be kept away from dirty work surfaces.**
- **Dirt/debris in hydraulic fluid causes 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.**

See Specifications for fluid type. Dispose of fluid in accordance with local environmental regulations. Recycle steel, aluminum, and plastic parts in accordance with local lawful and safe practices.

PREVENTIVE MAINTENANCE

NOTE: For supplementary information refer to Troubleshooting, Parts Lists, and Disassembly and Assembly procedures in this manual.

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.)

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

SYSTEM INSPECTION

Operating efficiency of the installation tool is directly related to 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.

1. Inspect tool and nose for external damage.
2. Verify that hydraulic hose fittings and couplings and electrical connections are secure.
3. Inspect hydraulic hose for signs of damage or aging. Replace hoses if damaged.
4. Inspect tool, hose, and POWERIG 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

At regular intervals, depending on use, replace all O-rings and back-up rings in the tool. Spare Parts Kit **2600KIT**should be kept on hand. Inspect cylinder bore, piston and piston rod and unloading valve for scored surfaces, excessive wear or damage, and replace as necessary.

NOSE ASSEMBLY MAINTENANCE

Daily cleaning of the nose assembly is recommended. This can usually he accomplished by dipping nose assembly in mineral spirits, or other suitable solvent, to clean jaws and wash away metal chips and dirt. If more thorough cleaning or maintenance is necessary, disassemble the nose assembly. Use a sharp pointed "pick" to remove imbedded particles from the pull grooves of the jaws.

Disassembly

For component identification, see Figure 6 and Parts List.
NOTE: *The following procedure is for complete disassembly of tool. Disassemble only components necessary to replace damaged O-rings, Quad-Rings, Back-up Rings, and worn or damaged components. Always use soft jaw vice to avoid damage to tool.*

WARNING: Be sure to disconnect tool's electric control trigger system from Hydraulic Unit before disconnecting tool's hoses from unit. Before any maintenance is done, DISCONNECT IN THIS ORDER (RECONNECT IN THE OPPOSITE ORDER) to avoid possible severe personal injury.

1. Disconnect electrical or air connector from Powerig. Uncouple tool hydraulic hoses.

2. Remove nose assembly.

3. Unscrew coupling nipple and coupling body. Drain hydraulic hoses into container. Discard fluid.

4. Push rearward on Piston (1) until remaining hydraulic fluid is drained into container. Discard fluid. ***NOTE:*** *Do not remove hydraulic hoses from tool unless replacing hoses. If necessary to remove hoses, uncover hose fittings by sliding plastic shrouds back.*

5. ***NOTE:*** *Use this step* ***only*** *if the Switch, Wire or Connector needs repair.*
Remove Retaining Nut and Locking Ferrule from Strain Relief (28). Loosen Set Screw (29) and remove Switch (30). Loosen and remove the two wires from the switch. Remove cord from tool. Disassemble electrical connector (26).

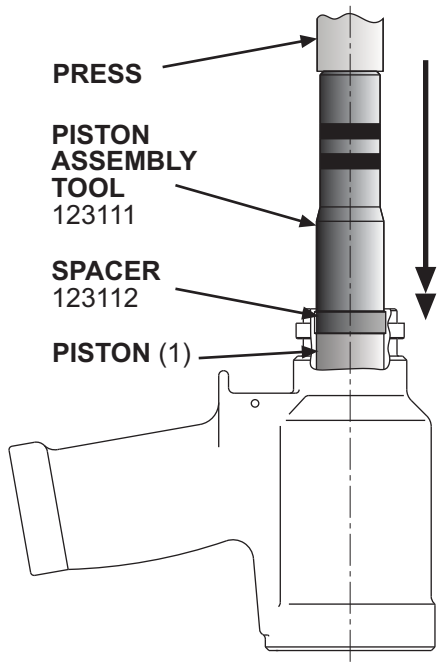
6. Remove Pintail Deflector Assembly (14) by twisting and pulling in the same motion.

7. Remove Socket Head Screw (12) and Barbed Retainer (13) from Rear Gland (11).

8. Insert two 5/16 pins in opposite holes in rear of Barbed Retainer and unscrew retainer.

9. Slide Spacer 123112 over threaded end of Piston (1). Screw Piston Assembly Tool onto Piston. Press or drive Piston, Front Gland (8) and Rear Gland out of Cylinder. *(Fig. 1)* Place hose ends in container to catch oil that is forced out by piston.

Figure 1



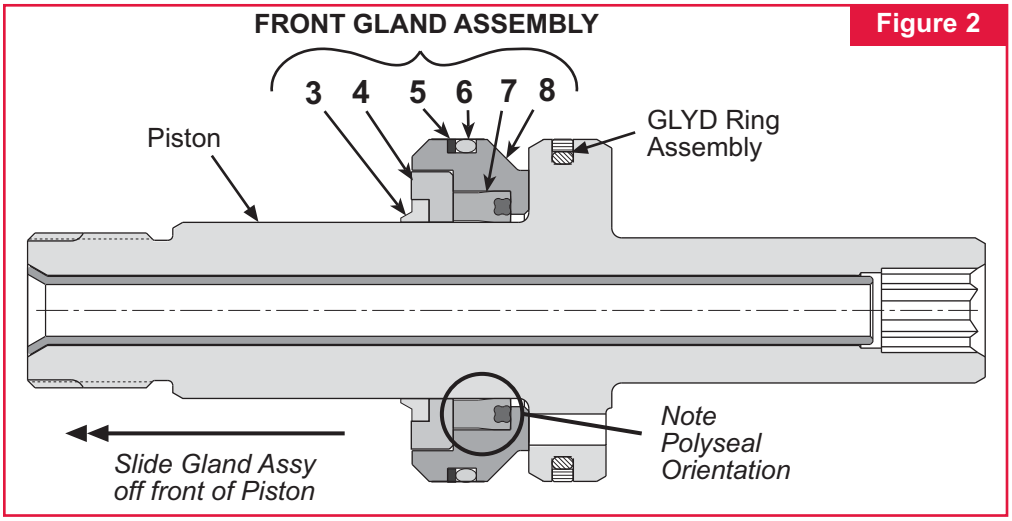
10. Use a small diameter dull pointed rod to remove all O-rings and Seals. Clean parts and examine for wear and other defects.

11. Remove Piston Assembly Tool and Spacer *(Fig. 1)*.

12. Slide Front Gland (8) off of Piston (1) and remove Front Wiper (3), Front Wiper Housing (4), Back-up Ring (5), O-Ring (6) and Polyseal (7) *(Fig. 2)*.

13. Remove GLYD Ring (13) from Piston (4)*(Fig. 2)*.

Figure 2



Assembly

For component identification, see Figure 6 and Parts List.
NOTE: Clean components with mineral spirits or similar solvent. Inspect for wear/damage and replace as necessary. Replace all seals of disassembled components. Use seals in **Service Parts Kit 2600KIT.** Smear LUBRIPLATE 130AA or PARKER-O-LUBE on O-rings, Back-up Rings, and mating parts to ease assembly. Assemble tool taking care not to damage seals.

1. Install GLYD Ring Assembly (9) on Piston (1). [Place the special O-ring in groove; place GLYD Ring on top of it. Roll GLYD Ring's diameter to a diameter smaller than Piston before installing ring. This is to insure that ring stays in place during Piston installation.] *(Fig. 3)*

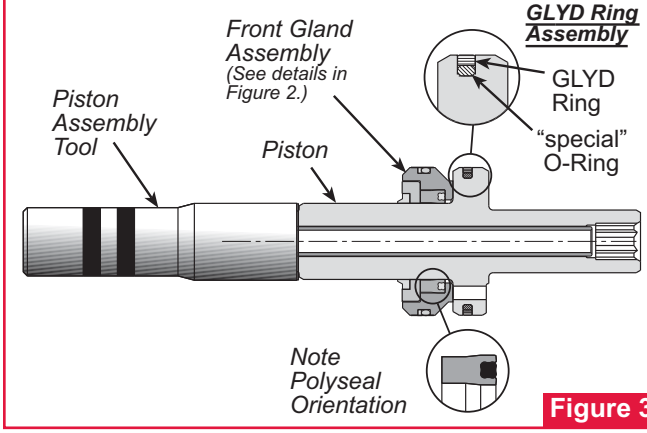


Figure 3

2. Thread Piston Assembly Tool 123111 onto Piston (1). ***Note: Do not install Spacer.*** *(Fig. 3)*

3. Push Front Wiper Housing (4) into Front Gland (8). ***Taking care not to pinch inner ring of Polyseal*** (7), press it into Front Gland. Lubricate inside diameter of Polyseal and outside diameter of Piston. While holding Wiper Housing in place, guide Front Gland/ Polyseal onto Piston.

CAUTION:
Be sure that seal does not hang up on edge of Piston chamfer.

4. Press Front Wiper (3) into groove on Wiper Housing.

5. Install O-Ring (6) and Back-up Ring (5) on Front Gland. *(For Front Gland Assembly detail, see Fig. 2.)*

6. Thread 121694-2600 into back of Cylinder to prevent damage to GLYD Ring Assembly. *(Fig. 4)*

7. Using a press, carefully push Piston and Front Gland Assemblies into the back of Cylinder (10). *(Fig. 4)*

8. Remove Piston Assembly Tool and GLYD Ring Insertion Tool.

9. From rear of Cylinder, install Dump Valve (20) with ***four flats facing rear of tool*** *(Fig. 6)*.

10. Install O-ring (6), Back-up Ring (5), Polyseal (17), Spacer (18) and Retaining Ring (19) in Rear Gland (11). *(Fig. 5)*

11. Lubricate inside of assembled Rear Gland Assy, and press into Cylinder.

12. Press Wiper (15) into groove in Rear Gland.

13. Align recess in Rear Gland with groove in Cylinder, and install Locking Disc (16).

14. Screw Barbed Retainer (13) into Cylinder until it bottoms out. Back Retainer out to first visible threaded hole in Rear Gland. Install and tighten Socket Head Screw (12) to 40 +/- 3in/ lbs.

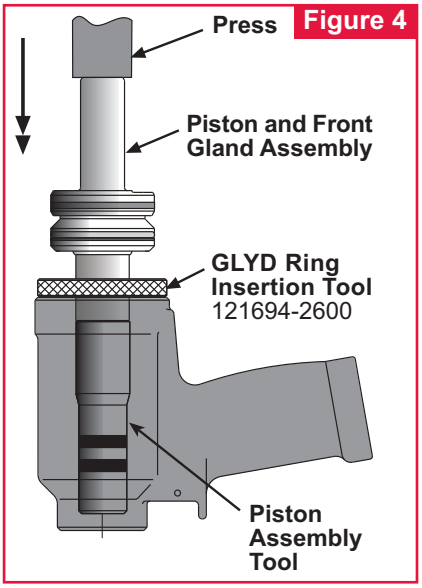


Figure 4

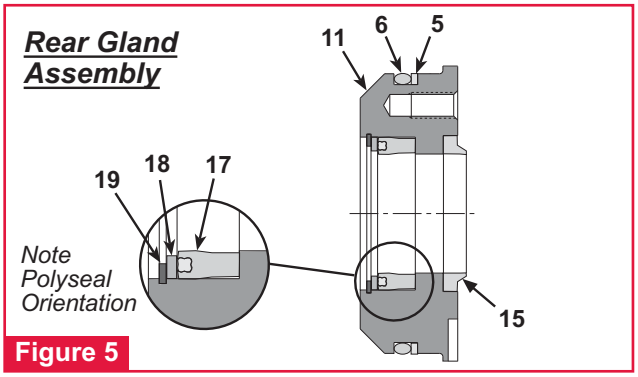


Figure 5

15. If hydraulic hoses have been removed, thread hydraulic hoses into handle. Slide shrouds over fittings.

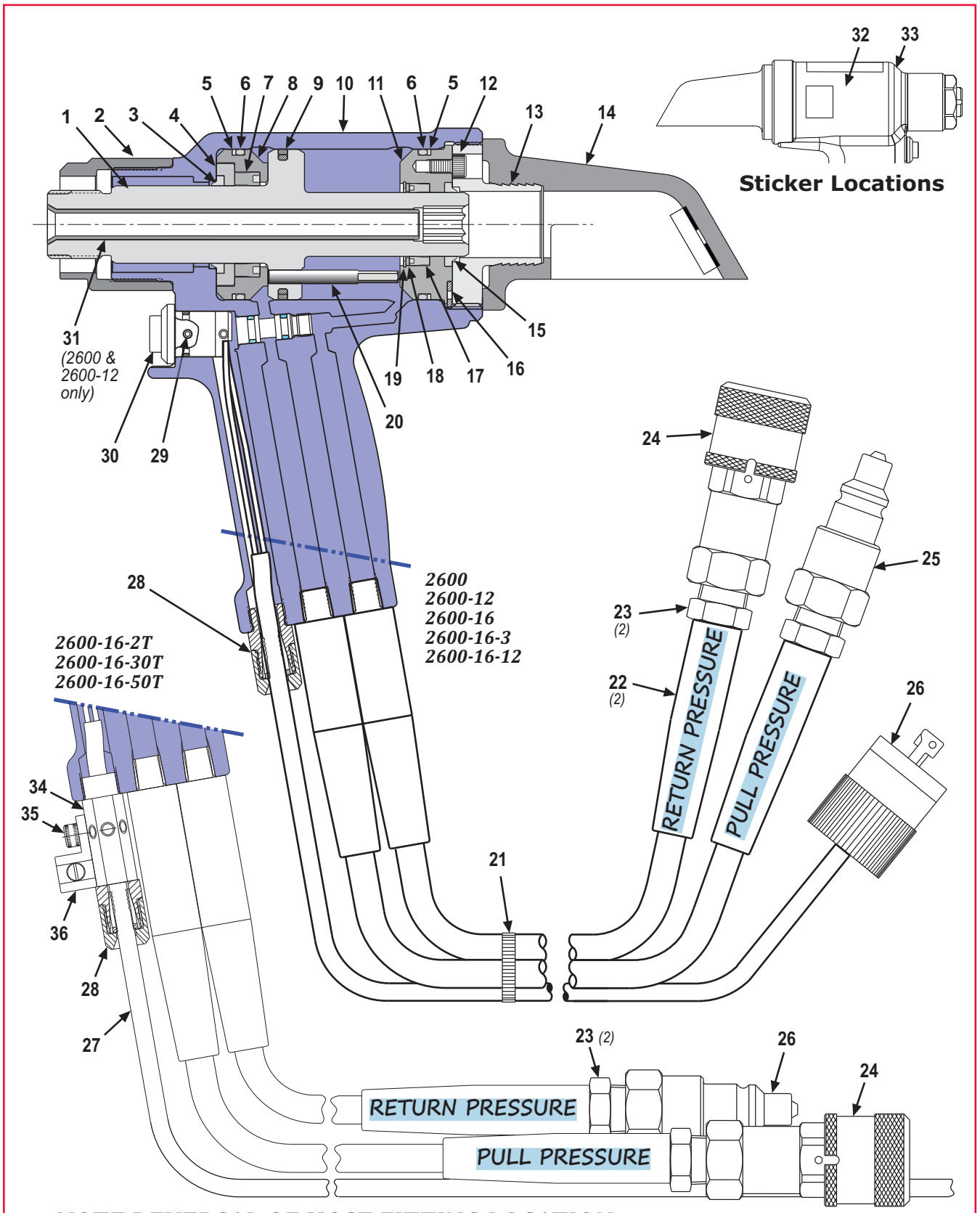
CAUTION:
Do not use Teflon tape on pipe threads. See Servicing the Tool section of this manual.

16. If removed, reinstall Electrical Connector: Assemble Control Cord (27) to Male Connector (26). Screw Strain Relief (28) grommet into handle. Push Cord through grommet. Attach Cord to Trigger Switch (30). Press Switch into handle and tighten Setscrew (29) against Switch. Pull excess Cord down through handle and Strain Relief grommet. Tighten grommet.

17. Screw Connectors (24 & 25) hoses onto applicable PULL and RETURN ports of tool per Figure 6.

18. Before attaching nose assembly and using tool, read entire **Preparation for Use** section of this manual. Hold 7/16" hex wrench in back of tool when tightening collet. After collet bottoms, loosen collet 1/4 turn or less until ball lock can be felt dropping into groove in Piston rod. ***2600 & 2600-12 ONLY****: Use Pintail Tube (31) if pintail will fall through.*

Assembly Drawing



NOTE REVERSAL OF HOSE FITTING LOCATION
OF 2600-16-2T, 2600-16-30T, & 2600-16-50T

FIGURE 6

Parts List for Figure 6

Item	Description	Qty	2600	2600-12	2600-16	2600-16-3	2600-16-12	2600-16-2T	2600-16-30T	2600-16-50T
1	Piston	1	122759[1]		125467[2]					
2	Retaining Nut	1	122756							
3	Front Wiper Seal	1	505064							
4	Front Wiper Housing	1	122758							
5	Back-up Ring	2	501125							
6	O-Ring	2	500831							
7	Polyseal	1	506158							
8	Front Gland[4]	1	122757							
9	GLYD Ring Assy	1	122769							
10	Cylinder Assy	1	122755							
11	Rear Gland[5]	1	122761							
12	Socket Head Screw	1	505189							
13	Barbed Retainer	1	128055							
14	Pintail Deflector Assy	1	122766							
15	Rear Wiper Seal	1	505894							
16	Locking Disc	1	122764							
17	Polyseal	1	506160							
18	Spacer	1	122762							
19	Retaining Ring	1	506159							
20	Dump Valve	1	122763							
21	Cable Tie	[3]	n/a	505839						
22	Hose Assy	2	118944-2	118944-1	118944-2	118944-14	118944-1	118944-2	118944-10	118944-6
23	Reducing Bushing	2	503431							
24	Female Connector	1	100439							
25	Connector	1	110438							
26	Male Connector[6]	1	110686							
27	Control Cord[6]	1	123337-1	120341	123337	120341		127760-4	127760-2	127760
28	Strain Relief[6]	1	505344							
29	Setscrew	1	501731							
30	Trigger Switch Assy[6]	1	120361							
31	Pintail Tube	1	122771							
32	HUCK Sticker	1	590517							
33	CE WARNING Sticker	1	590424-7400							
34	Lug Adapter	1	n/a					129995		
35	Cap Screw	1	n/a					506033		
36	Mounting Block	1	n/a					508462		
37	Hose Sleeve *(not shown)*	1	n/a						120770-7	120770-6

[1] Piston **122759** is not sold separately. It may be purchased as **Piston Assembly 122760**, which contains Piston **122759** and GLYD Ring Assembly **122769**.

[2] Piston **125467** is not sold separately. It may be purchased as **Piston Assembly 125468**, which contains Piston **125467** and GLYD Ring Assembly **122769**.

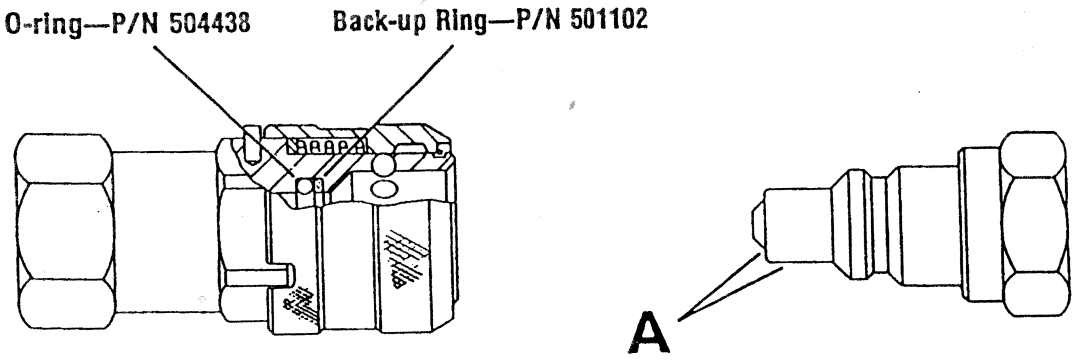
[3] Cable Tie quantity depends upon length of hoses.

[4] Front Gland may be purchased as **Front Gland Assembly 122767**, which includes Front Gland (8), O-Ring (6), Back-up Ring (5), Front Wiper Housing (4), and Front Wiper Seal (3).

[5] Rear Gland may be purchased as **Rear Gland Assembly 122768**, which includes Rear Gland (11), O-Ring (6), Back-up Ring (5), Polyseal (17), Spacer (18), Retaining Ring (19), and Rear Wiper Seal (15).

[6] Trigger Switch Assembly (30), Control Cord (27), Strain Relief (28), and Male Connector (26) are available as:
Trigger Cord Assembly:
123338: 2600 & 2600-16
123338-2: 2600-12 & 2600-16-12

Hydraulic Couplings



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

Sticker Locations

The 2600 series tools come labeled with Sticker part number 590424-7400, which contains safety and pressure settings information. It is necessary that this sticker remain on the tool and is easily read. If sticker becomes damaged or worn, or if it have been removed from the tool, or **when replacing Cylinder, this sticker must be ordered and placed in the location shown.** Sticker locations and part numbers may be found in Figure 6 and Parts List.

Troubleshooting

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

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

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

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

4. *Hydraulic couplers leak fluid.*
   a. Damaged or worn O-rings in Coupler Body Coupler

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

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

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

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

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

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

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

Kits & Accessories

Service Kit:

All Models	-	2600KIT

Assembly Tool Kit:

Assembly Tool Kit: All Models	-	123110
Includes: (Figs. 3 & 6))		
Spacer	-	123112
Piston Assembly Tool	-	123111
GLYD Ring Insertion Tool	-	121694-2600

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.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. HUCK MAKES NO OTHER WARRANTIES AND EXPRESSLY DISCLAIMS ANY OTHER WARRANTIES, INCLUDING IMPLIED WARRANTIES AS TO MERCHANTABILITY OR AS TO THE FITNESS OF THE TOOLING, OTHER ITEMS, NONSTANDARD OR CUSTOM MANUFACTURED PRODUCTS FOR ANY PARTICULAR PURPOSE AND HUCK SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECTLY OR INDIRECTLY, ARISING FROM THE USE OF SUCH TOOLING, OTHER ITEMS, NONSTANDARD OR CUSTOM MANUFACTURED PRODUCTS OR BREACH OF WARRANTY OR FOR ANY CLAIM FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

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:

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.

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.

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