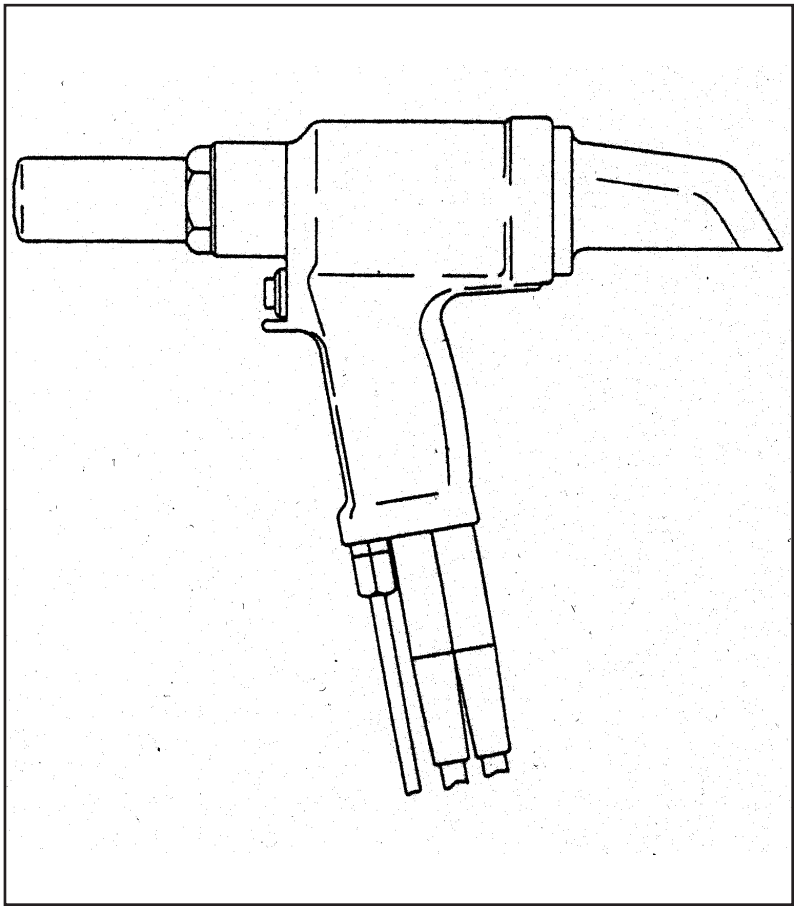
Alcoa Fastening Systems

ALCOA

INSTRUCTION MANUAL

MODEL 2600 AND 2600-16

HYDRAULIC INSTALLATION TOOL



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

Form HK 914
03-11-2004

HUCK®

EU Declaration of Conformity

Manufacturer:
Huck International Inc., Installation Systems Division, 85 Grand Street, Kingston, NY, 12401, USA

Description:
Model number 2400 series fastener installation tools
Model number 2500 series fastener installation tools
Model number 2600 series fastener installation tools

Relevant provisions complied with:
Council Directive related to Machinery, (89/392/EEC), (91/368/EEC), (93/44/EEC), (93/68/EEC)
Council Directive related to EMC/EMI, (89/336/EEC)

European Representative:
Rob Pattendon, Huck Internationl, 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: Renno W. Budziak

Full Name: Renno Budziak

Position: Vice President of Engineering, Installation Systems Division

Place: Kingston, New York, USA

Date: May, 1996

Huck Model Series 2400, 2500 and 2600 (families) Sound Level

SEL = 75.8 dB (A)
peak value = 108.2 dB (C)

For an eight hour work day, installing 3000 typical Huck fasteners will result in an equivalent noise level (Leq) of 66 dB (A).

To calculate equivalent noise level for other quantities of fasteners in an eight hour period, use the formula:

Leq = SEL + 10 log (n/28,800)

where n = number of fasteners in eight hours.

Huck Model Series 2400, 2500 and 2600 (families) Vibration Level

For an eight hour work day, installing 3000 typical Huck fasteners will result in an equivalent weighted RMS vibration level (Aeq) of 12.50m/s^2.

To calculate equivalent vibration level for other quantities of fasteners in an eight hour period, use the formula:

Equivalent Vibration Level, Aeq (m/s^2) = (n/480) x 2.00

where n = number of fasteners in eight hours, and 2.00(m/s^2)

Test data to support the above information is on file at Huck International, Inc., Kingston, NY, USA. Vibration measurements are frequency weighted in accordance with ISO 8041 (1990).

SAFETY

This instruction manual must be read with particular attention to the following safety guide lines, by any person servicing or operating this tool.

1. Safety 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. Huck equipment must be maintained in a safe working condition at all times and inspected on a regular basis 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 and understand any Warning and Caution stickers/labels supplied with equipment before connecting equipment to any primary power supply. As applicable, each of the sections in this manual have specific safety and other information.

4. See MSDS Specifications before servicing the tool. MSDS Specifications are available from you Huck representative or on-line at www.huck.com. Click on Installation Systems Division.

5. When repairing or operating Huck installation equipment, always wear approved eye protection. Where applicable, refer to ANSI Z87.1 - 1989

6. Disconnect primary power source before doing maintenance on Huck equipment.

7. If any equipment shows signs of damage, wear, or leakage, do not connect it to the primary power supply.

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

9. Never remove any safety guards or pintail deflector.

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

11. When using an offset nose always clear spent pintail out of nose assembly before installing the next fastener.

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

13. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle. 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.

14. Never place hands between nose assembly and work piece.

15. Tools with ejector rods should never be cycled with out nose assembly installed.

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

Contents

Description

Model 2600 Hydraulic Installation Tool (HIT) with appropriate nose assembly installs a wide range of Huck blind fasteners and HUCKBOLT® Fasteners. This lightweight and compact mini tool is particularly adapted to installing fasteners in limited clearance areas. Each tool is complete with hydraulic hoses and couplings; electric switch and cord. The tool is basically a cylinder and piston assembly. An unloading valve, designed to relieve hydraulic pressure at end of the PULL stroke, is positioned by the piston. End of piston rod is threaded and retaining nut and stop are included for attaching nose assemblies.

Huck Hydraulic Installation Tools are designed to be powered by Huck POWERIG® Hydraulic Units. The 2600 is designed to operate at maximum of 5,700 psi (39,000 kPa) PULL and 2,800 psi (19,300 kPa) RETURN pressures as supplied by Huck POWERIG Hydraulic Unit Models 913, 918, 918-5, 940, 943, or equivalent.

A specific nose assembly is required for each fastener type and size. Nose assemblies must be ordered separately. See your Huck representative.

Tool Specifications

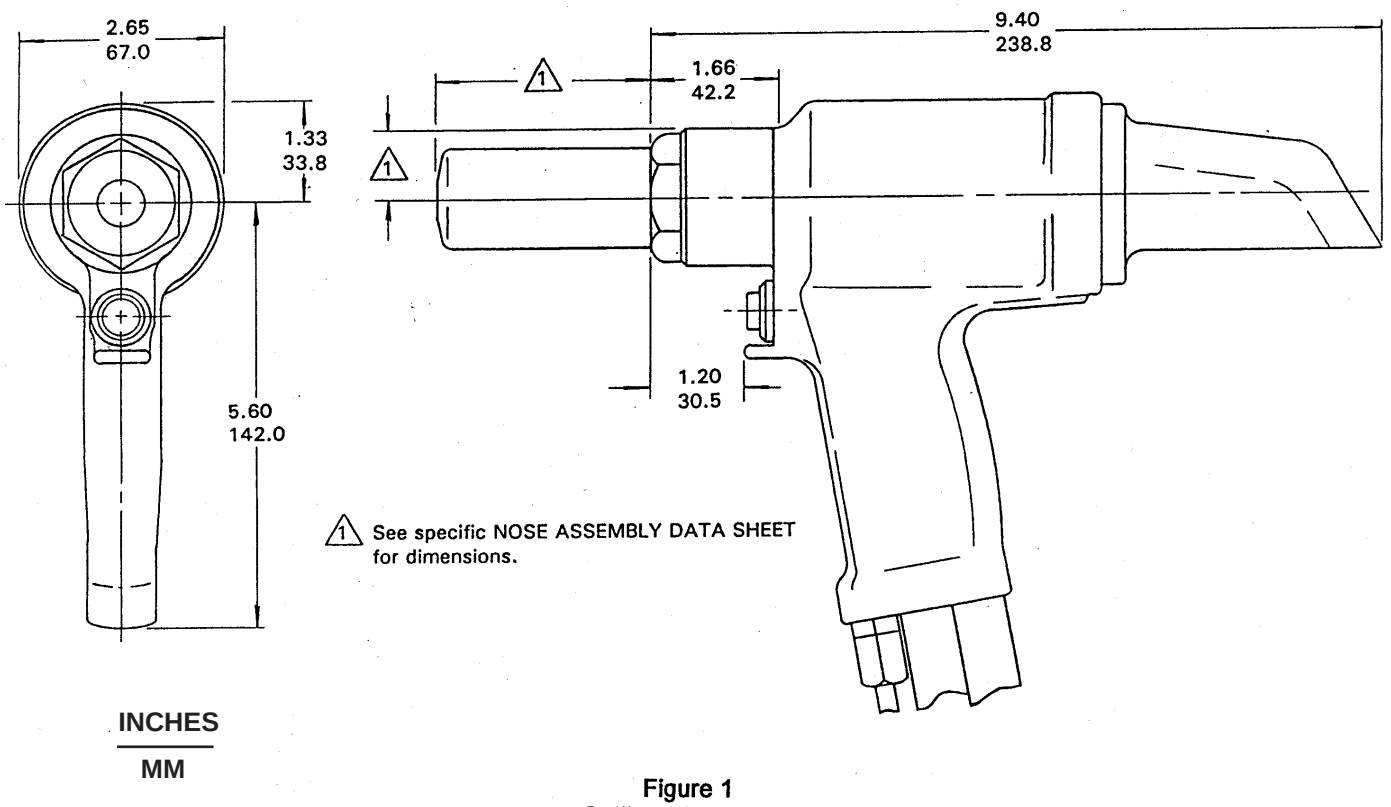


Figure 1
Outline Dimensions

• **Length:**	9.40 in.	(239mm)	• **Min. effective stroke:**	1.22 in.	(31mm)
• **Width:**	2.65 in.	(67mm)	• **Pull Capacity at 5700:**	13,840 lbs	(61.4 kN)
• **Height** (incl. handle)**:**	6.93 in.	(176mm)	*NOTE: Length and weight does not include hoses/cord or nose assembly.*		
• **Weight :**	7.30 lbs	(3.3kg)	Power Source: Huck POWERIG® Hydraulic Unit. Hydraulic Fluid: Automatic transmission fluid. DEXRON III, or equivalent.		
• **PULL pressure:**	5700 psi	(39,300 kPa)			
• **RETURN pressure:**	2800 psi	(19,300 kPa)			

Principle of Operation

Refer to Figure 2
An electric trigger controls PULL and RETURN strokes of tool. Press trigger to direct hydraulic pressure to PULL side of piston - - fastener installation begins.
At end of PULL stroke, before trigger is released, piston uncovers flats of unloading valve - - pressure is unloaded by allowing fluid to flow back to POWERIG hydraulic unit. Release trigger at end of PULL stroke when fastener is installed - - pressure is directed to RETURN side of piston and moves piston forward. Nose assembly, with tool, is pushed off fastener.

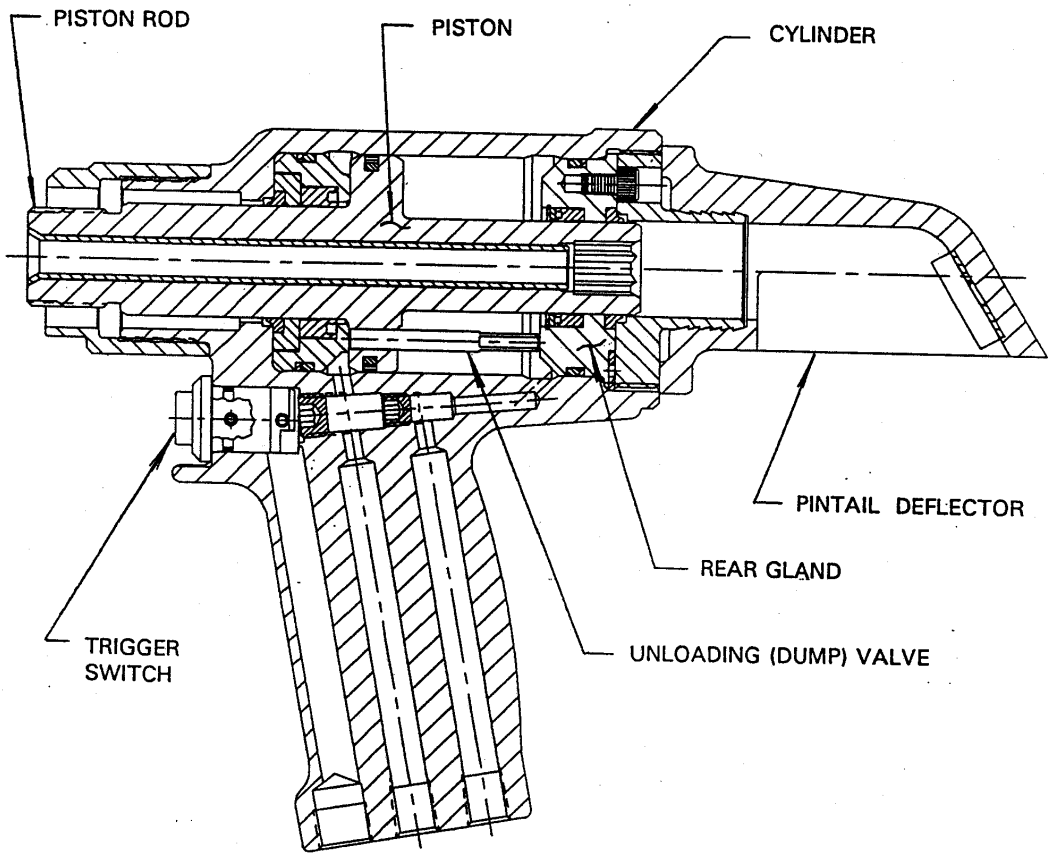


Figure 2
Main Components

WARNINGS

Operators of Huck Installation equipment must always wear approved eye protection.

Only Huck POWERIG® Hydraulic Units are recommended as the power source for Huck tools. Units that deliver high pressure for both PULL and RETURN, and are not equipped with relief valves, are specifically not recommended. Severe personal injury or damage to equipment may occur when using other units.

Proper PULL and RETURN pressures are important for proper function of Installation Tools. Severe personal injury or damage to equipment may occur without correct pressures. Gauge Set-up, P/N T-124833, is available for checking these pressures using instructions furnished with T-124833 and in applicable POWERIG Hydraulic Unit instruction manuals. See *Checking and Adjusting Output Pressures*.

CAUTION

Keep dirt and other foreign matter out of hydraulic systems of the tools, hoses, couplers and POWERIG Hydraulic Unit. Do not let hose fittings and couplers contact a dirty floor or unclean working surface. Foreign matter in hydraulic fluid may cause hydraulic unit valves and tool valves to malfunction.

Preparation for Use

CAUTION: Do not let disconnected hoses and couplers contact a dirty floor. Dirt/debris in hydraulic fluid causes valve failure in the equipment.

Checking and Adjusting Output Pressures

POWERIG® Hydraulic Unit pressures must be checked and adjusted at first time start-up, after overhauling the unit and when troubleshooting.

WARNINGS: Correct PULL and RETURN pressures are required for operator's safety and for installation tool's function. Gauge Set-up, T-10280, is available for checking pressures. See tool's *Table 1 - Specifications* and INSTRUCTION MANUAL, T-10280. Failure to verify pressures may result in severe injury.

Be sure to connect tool's hydraulic hoses to POWERIG Hydraulic Unit before connecting tool's switch control cord to unit. IF NOT CONNECTED IN THIS ORDER, severe personal injury may occur.

1. Use Huck POWERIG Hydraulic Unit, or equivalent, that has been prepared per INSTRUCTION MANUAL. Check both PULL and RETURN pressures and adjust to pressures given in SPECIFICATIONS section of this manual. See both hydraulic unit's and T-10280's manuals.
2. First, turn hydraulic unit to OFF, then, disconnect unit's power supply.
3. Connect tool's switch electrical cord to hydraulic unit.
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 from NOSE ASSEMBLY SELECTION CHART for fastener to be installed. Disconnect tool's control switch electrical cord from hydraulic unit; disconnect hydraulic unit from power supply. Attach nose assembly to tool as given by instructions on NOSE ASSEMBLY DATA SHEET.
6. Reconnect hydraulic unit to power supply. Reconnect tool's switch control cord to unit. Check operation of nose assembly. See NOSE ASSEMBLY DATA SHEET. 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.

Service Notes

Operating Instructions

PLEASE NOTE
Failure to understand WARNINGS may cause severe personal injury.

Failure to understand CAUTIONS may cause damage to structure and tool.

For additional safety information, see safety section at front of manual.

WARNING
To avoid severe personal injury, be sure of adequate clearance for operator's hands before proceeding with fastener installation.

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.

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.) Hold pin and push nose assembly onto pin protruding through collar until nose anvil touches collar. Depress trigger and hold trigger depressed until collar is swaged and pintail breaks. Release trigger. Tool will go into its return stroke. Tool/nose are ready for next installation cycle.

Blind Fastener Installation:

WARNING
Do not pull on a pin without placing fastener in a workpiece. Fastener will eject from front with velocity and force when pintail breaks off or teeth/grooves strip. This may cause severe personal injury.

CAUTION
Remove excess gap from between the sheets to permit correct fastener installation and prevent jaw damage. ALL jaw teeth must engage pintail to avoid damaging teeth.

Fastener may be placed in workpiece or in end of nose assembly. See WARNING. In either case, tool/nose must be held against work and at right angles to it. Depress trigger and hold trigger depressed until fastener is installed and pintail breaks. Release trigger. Tool will go into its return stroke. Tool/nose are ready for next installation cycle.

CAUTIONS
BOM® blind fasteners jam in nose assembly if pulled when not in workpiece.

To avoid structural and tool damage, be sure enough clearance is allowed for nose assembly at full stroke.

Do not abuse tool by dropping it, using it as a hammer or otherwise causing unnecessary wear and tear.

Reasonable care of tools by operators is an important factor in maintaining efficiency and reducing downtime.

MAINTENANCE

Preventive Maintenance

NOTE: Refer to the applicable section for *DISASSEMBLY* or *ASSEMBLY*. For extra information refer to *TROUBLESHOOTING* and illustrations.

System Inspection

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

1. Inspect tool and nose assembly for external damage.

2. Verify that hydraulic hose fittings and couplings, and electrical connections are secure.

3. Inspect hydraulic hoses for damage. Replace hoses if damaged. Do not use hoses to carry tools.

4. Observe tool, hoses and POWERIG Hydraulic Unit during operation to detect abnormal heating, leaks or vibration.

POWERIG® Hydraulic Unit Maintenance

Refer to the applicable POWERIG Hydraulic Unit Instruction Manual.

Tool Maintenance

At regular intervals, depending upon use, replace all seals, wipers and back-up rings in tool. Service Kits and hoses 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. **Always replace seals, wipers and back-up rings whenever the tool is disassembled for any reason.**

Nose Assembly Maintenance

Nose assemblies with UNITIZED jaws must be disassembled and cleaned in mineral spirits or isopropyl alcohol. **Do not let UNITIZED jaws (urethane) soak in solvent. *Do not use solvents that cause urethane to swell.* Dry components immediately after cleaning.** Use sharp "pick" to remove particles packed in jaw grooves. Reassemble per instructions on applicable Nose Assembly Data Sheet.

General Precautions

During disassembly and assembly, take the following precautions to avoid damaging tool or components:

(A) A clean, well-lighted area should be available for servicing the tool. Special care must be taken to prevent contamination of hydraulic systems.

(B) Use soft materials, such as brass, alluminum or wood, to protect the tool when applying pressure. Only standard hand tools are required. Brass drifts, wood blocks, a vise with soft jaws and an arbor press will prevent damaging tool. Standard tools available Huck are listed in this manual.

(C) Apply 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 of an assembly.

(D) Never continue to force a component if it "hangs-up" due to misalignment. Reverse the procedure to correct misalignment and start over.

(E) Smear SUPER O-LUBE*, or equivalent lubricant, on seals and mating surfaces to facilitate assembly and to prevent damage to seals (SUPER O-LUBE is available, in a tube as Part Number 505476, from Huck.)
***SUPER O-LUBE is a trademark of Parker Seal

(F) Rub SLIC-TITE TEFLON* thread compound, or equivalent, on pipe threads, to aid assembly and sealing. **CAUTION: DO NOT USE TEFLON TAPE ON PIPE THREADS. Shredded particles cause valves to malfunction.** (TEFLON compound is available from Huck in stick form as P/N 503237.) ***TEFLON is a trademark of E.I. DuPont de Nemours & Co.

(G) All parts must be handled carefully and examined for damage or wear. Always replace seals, wipers and back-up rings when tool is disassembled for any reason. Components should be disassembled and assembled in a straight line without bending, cocking, or undue force. Disassembly and assembly procedures outlined in this manual should be followed.

SERVICE PROCEDURES

DISASSEMBLY:

Refer to *MAINTENANCE: General Precautions* and illustrations. The following procedure is for complete disassembly. Disassemble only subassemblies necessary to check and replace damaged seals, wipers, back-up rings and components. ***Always replace seals, wiper, O-rings and back-up rings of disassembled subassemblies.*** See **CAUTION** at beginning of *ASSEMBLY*.

WARNING: **Be sure electric control cord is disconnected from POWERIG® Hydraulic Unit *before* disconnecting tool's hoses from hydraulic unit. *ALWAYS* disconnect connections in this order to prevent possible severe personal injury.**

1. Disconnect electrical connector. Uncouple tool hydraulic hoses

2. Remove nose assembly.

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

4. Push rearward on piston until remaining hydraulic fluid is drained into container and discard fluid.

5. NOTE: Do not remove hydraulic hoses from tool unless replacing hoses. If necessary to remove hoses, uncover hose fittings by sliding plastic shrouds back.

6. Loosen strain relief grommet. To remove switch, loosen set screw and carefully pry switch out with a small screwdriver. Loosen two wires at rear of switch and remove it from cord. Pull cord out and remove grommet. Disassemble electrical connector to replace connector or to rewire it.

7. Remove pintail deflector 122766 by twisting and pulling in the same motion.

8. Remove socket screw from rear gland and barbed retainer.

9. Insert two 5/16 pins in opposite holes in rear of barbed retainer and unscrew retainer.

10. Remove dump valve from rear of cylinder.

11. See Figure 5. Place Spacer 123112 over threaded end of piston. Screw Piston Assembly Tool onto piston. Press or drive piston, front gland and rear gland out of cylinder. Place hose ends in container to catch oil that is forced out by piston.

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

SERVICE PROCEDURES (CONTINUED)

ASSEMBLY:

Refer to appropriate illustrations and *MAINTENANCE: General Precautions.* Clean out O-ring grooves and reinstall perishable parts. See below.
***CAUTION:* See special instructions in Step 5 (below) for replacing seals. Use Service Kit. Always replace seals, wipers, O-rings and back-up rings of disassembled subassemblies.**

1. Install GLYD RING assembly on piston; 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.

2. Taking care not to pinch inner ring, press POLY-SEAL into front gland housing. Install O-ring and back-up ring on front gland assembly.

3. See Figure 6. Thread Assembly Tool 123111 onto piston.

4. Lubricate POLY-SEAL's inside diameter.

   NOTE: *To keep POLY-SEAL in front gland, push front wiper housing into front gland. Hold housing against POLY-SEAL while pressing front gland/POLY-SEAL onto piston.*

5. ***CAUTION: Be sure that seal does not hang up on edge of piston chamfer.*** See NOTE above. Press with suitable pressing drift against back of piston. While holding wiper housing in place, guide POLY-SEAL onto piston.

6. Press wiper into groove on wiper housing.

   NOTE: *Thread retaining nut onto cylinder to act as stand-off.*

7. Lubricate piston's outer seal and POLY-SEAL.

8. See Figure 6. Install GLYD RING Insertion Tool 121694-2600 into cylinder to prevent damage to GLYD RING Assembly.

9. Carefully drive, or press, piston into cylinder.

10. Remove Tools 121694-2600 and 123111. Install relief valve into piston with four flats toward REAR of tool.

11. Install the following in rear gland: O-ring and back-up ring, POLY-SEAL, spacer and retaining ring. Press assembled gland into cylinder. Press wiper into groove in gland.

12. Align recess in rear gland with groove in cylinder. Install locking disc.

13. Screw barbed retainer into cylinder until it bottoms out. Back retainer out to first visible threaded hole in rear gland. Install and tighten locking screw to 40 +/- 3in/lbs.

14. **CAUTION: Do not use TEFLON tape on pipe threads. See MAINTENANCE:General Precautions.** If hydraulic hoses have been removed, thread hydraulic hoses into handle. Slide shrouds over fittings.

15. Assemble electrical cord to connector. Screw strain relief grommet into handle. Push cord through grommet. Attach cord to trigger switch. Press switch into handle and tighten set screw against switch. Pull excess cord down through handle and strain relief grommet. Tighten grommet.

16. See **CAUTION** in 14. Screw coupling nipple onto PULL pressure hose (from "P" port of tool). Screw coupling body onto RETURN pressure hose.

17. Before attaching nose assembly and using tool, read entire PREPARATION FOR USE section. 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. Use pintail tube if pintail will fall through.

18. See **WARNING** in DISASSEMBLY and reverse the given procedure i. e. CONNECT HOSES FIRST, and then connect electrical control cord.

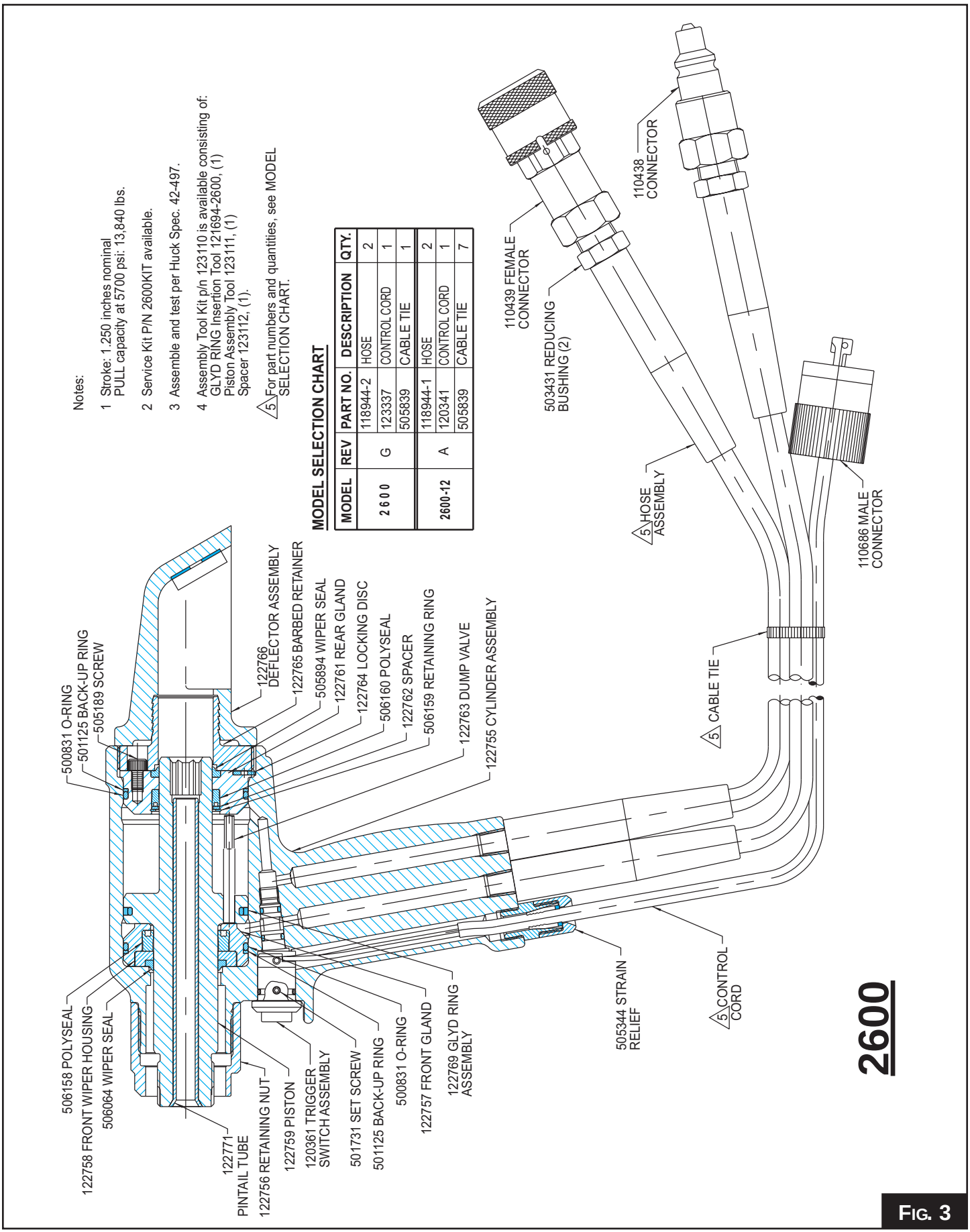
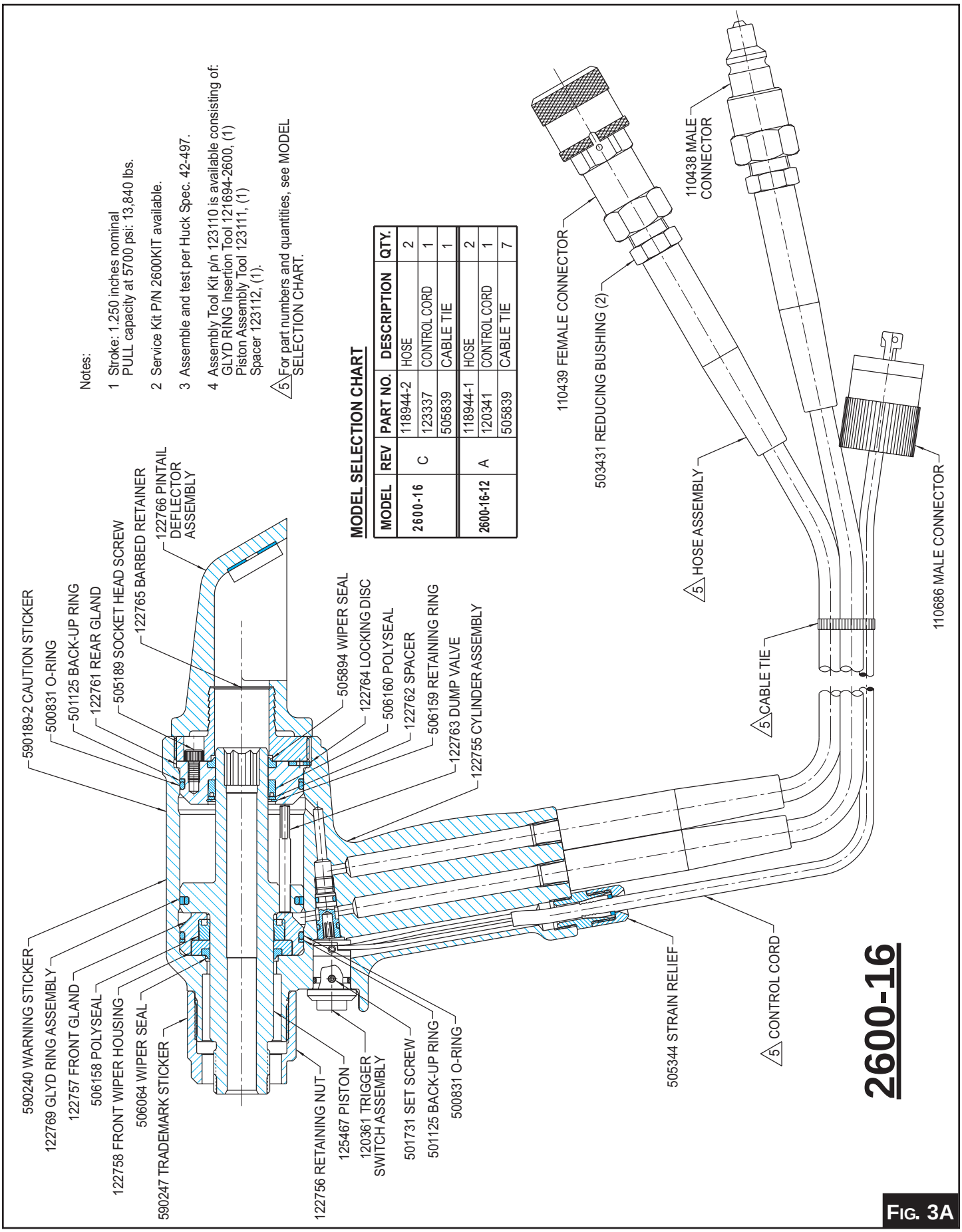

Notes:
1 Stroke: 1.250 inches nominal
PULL capacity at 5700 psi: 13,840 lbs.
2 Service Kit P/N 2600KIT available.
3 Assemble and test per Huck Spec. 42-497.
4 Assembly Tool Kit p/n 123110 is available consisting of:
GLYD RING Insertion Tool 121694-2600, (1)
Piston Assembly Tool 123111, (1)
Spacer 123112, (1).
5 For part numbers and quantities, see MODEL SELECTION CHART.
MODEL SELECTION CHART
MODEL REV PART NO. DESCRIPTION QTY.
2600 G 118944-2 HOSE 2
123337 CONTROL CORD 1
505839 CABLE TIE 1
2600-12 A 118944-1 HOSE 2
120341 CONTROL CORD 1
505839 CABLE TIE 7
500831 O-RING
501125 BACK-UP RING
505189 SCREW
122766 DEFLECTOR ASSEMBLY
122765 BARBED RETAINER
505894 WIPER SEAL
122761 REAR GLAND
122764 LOCKING DISC
506160 POLYSEAL
122762 SPACER
506159 RETAINING RING
122763 DUMP VALVE
122755 CYLINDER ASSEMBLY
506158 POLYSEAL
122758 FRONT WIPER HOUSING
506064 WIPER SEAL
122771 PINTAIL TUBE
122756 RETAINING NUT
122759 PISTON
120361 TRIGGER SWITCH ASSEMBLY
501731 SET SCREW
501125 BACK-UP RING
500831 O-RING
122757 FRONT GLAND
122769 GLYD RING ASSEMBLY
505344 STRAIN RELIEF
5 CONTROL CORD
5 CABLE TIE
5 HOSE ASSEMBLY
503431 REDUCING BUSHING (2)
110439 FEMALE CONNECTOR
110438 CONNECTOR
110686 MALE CONNECTOR
2600

FIG. 3



Notes:

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PULL capacity at 5700 psi: 13,840 lbs.

2 Service Kit P/N 2600KIT available.

3 Assemble and test per Huck Spec. 42-497.

4 Assembly Tool Kit p/n 123110 is available consisting of:
GLYD RING Insertion Tool 121694-2600, (1)
Piston Assembly Tool 123111, (1)
Spacer 123112, (1).

5 For part numbers and quantities, see MODEL SELECTION CHART.

MODEL SELECTION CHART

MODEL	REV	PART NO.	DESCRIPTION	QTY.
2600-16	C	118944-2	HOSE	2
		123337	CONTROL CORD	1
		505839	CABLE TIE	1
2600-16-12	A	118944-1	HOSE	2
		120341	CONTROL CORD	1
		505839	CABLE TIE	7

FIG. 3A

Assembly Tool Kit, 123110, includes:
121694-2600 - GLYD-RING Insertion Tool
123111 - Piston Assembly Tool
123112 - Spacer

Piston Removal

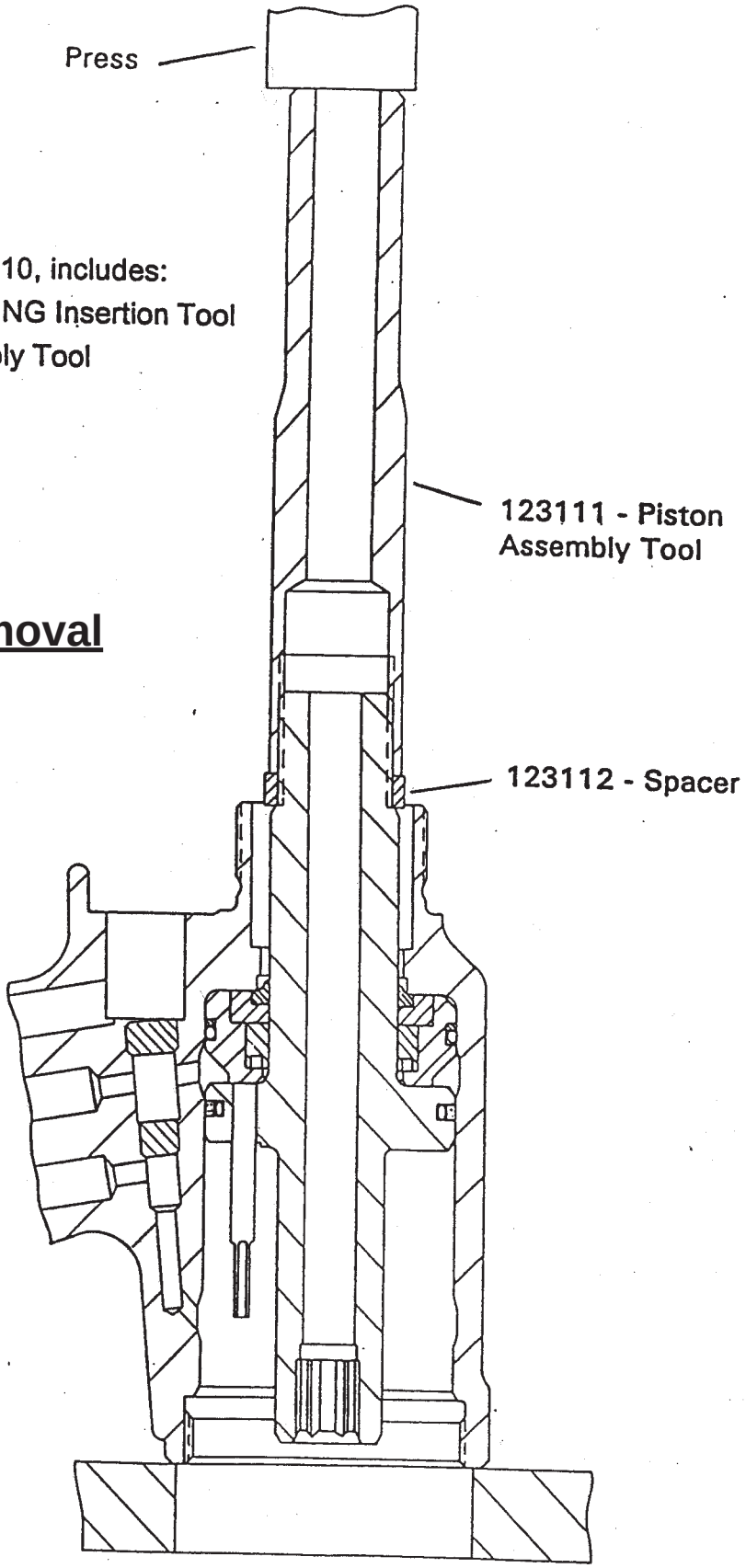

FIG. 4

Piston Installation

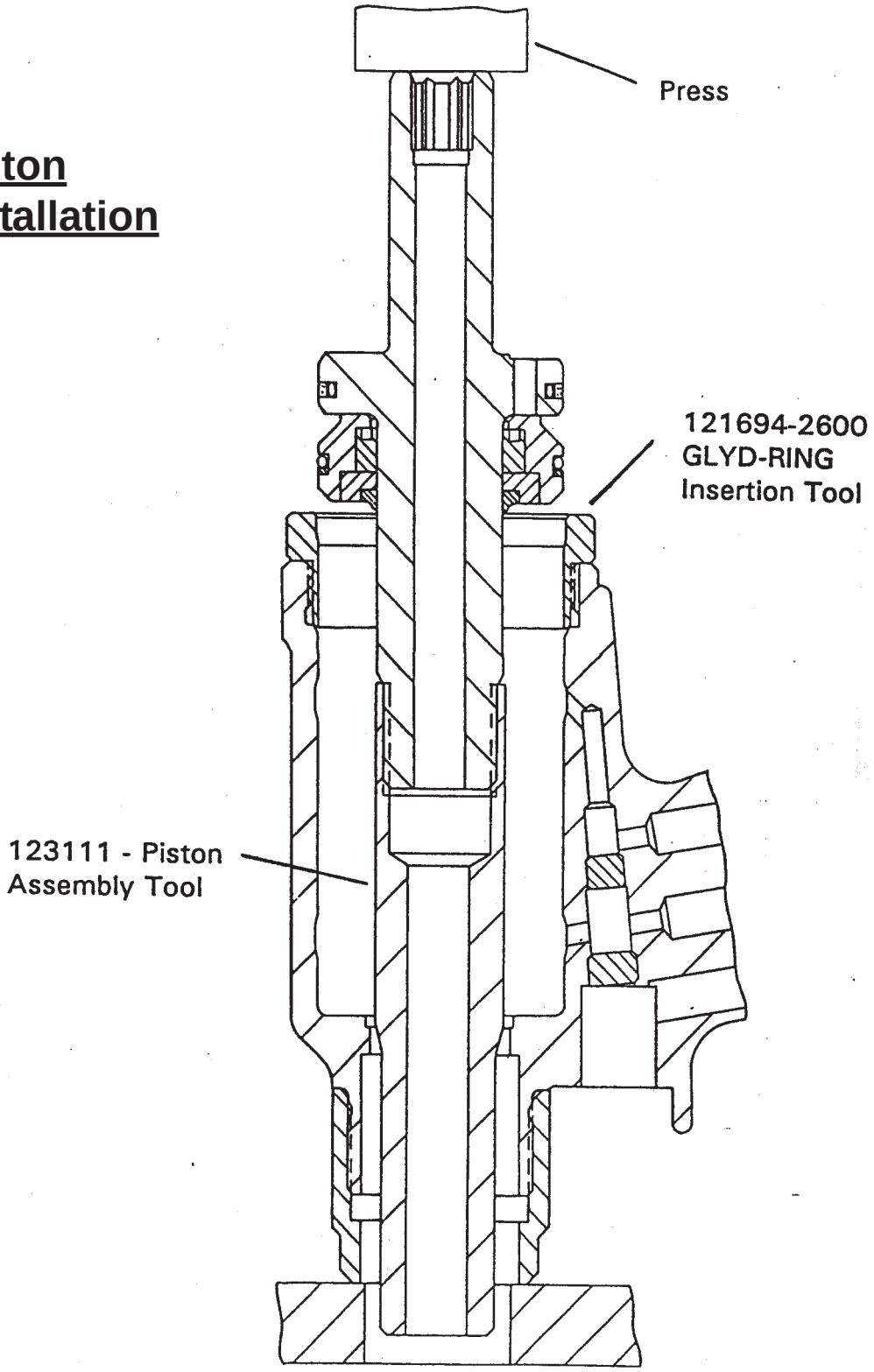

FIG. 5

Sub-assembly Part Numbers and Notes
Refer to Illustrations

1 A matching 12 ft. Hose Kit, 122854, is available.

2 122767 - Front Gland Assembly includes:
122757 - Front Gland Housing
500831 - O-ring
501125 - back-up ring
506158 - POLY-SEAL
122758 - Front Wiper Housing
506064 - wiper

3 122760 - Piston Assembly includes:
(1) - Piston
122769 - GLYD RING Assembly

4 122768 - Rear Gland Assembly includes:
122761 - Rear Gland
500831 - O-ring
501125 - back-up ring
505894 - wiper
506160 - POLY-SEAL
122762 - Rear Gland Spacer
506159 - Retaining Ring

5 123338 - Trigger Cord Assembly includes:
120361 - Trigger Switch Assembly
505344 - Strain Relief
123337 - Trimmed Cord
506192 - Male Connector

6 CAUTION: Install cups of POLY-SEALS and wipers as shown.

7 Torque screw, 505189, to 40 +/- 3 in. lbs.

8 Blind fasteners require pintail tube, 122771.

(1) Purchase sub-assembly when this part is required.

KITS AND ACCESSORIES

The quantity of spare parts that should be kept on hand varies with the application and number of tools in service. Spare service kits, 2600KIT, containing perishable parts such as seals, back-up rings, etc., should be kept on hand at all times.

Table 2 - Service Kit (P/N 2600KIT)

Part No.	Description	Quantity
500831	O-RING AS568-134 C366Y 70D	2
501125	BACK-UP RING S-11248-134	2
500780	O-RING AS568-014 C366Y 70D	1
506064	WIPER, MICRODOT #959-10	1
505894	WIPER, MICRODOT #959-7	1
506160	POLY-SEAL, MICRODOT #125-00.875-250B	1
506158	POLY-SEAL, MICRODOT #187-01.062-312B	1
122769	GLYD RING ASSEMBLY	1

Specifications for Standard Parts

1. All part numbers shown in this manual are available from Huck. The 500000 series part numbers are standard parts which can generally be purchased locally.

2. O-ring sizes are specified AS568 dash numbers (AS568 is an Aerospace Size Standard for O-rings and formerly was known as ARP). Table 2 - Service Kit has specific material and durometer just after the identifying AS568- dash numbers.

3. Back-up rings are W.S. Shamban & Co. series S-11248, single turn TEFLON (MS-28774), or equivalent. The dash numbers correspond to the O-ring dash numbers.

Conversion Kit, 123020

Conversion Kit, 123020, is supplied with each tool. Changing to kit's older, heavier type hoses will then accomodate the following extension hose kits:

110838 12 ft.
110839 26 ft.
110840 38 ft.
110841 52 ft.

See appropriate section of DISASSEMBLY and ASSEMBLY. **CAUTION: Do not use TEFLON tape on pipe threads.** See MAINTENANCE: General Precautions.

123020 - Conversion Kit Includes:
110439 - Female Connector (1)
110438 - Male Connector (1)
503431 - Reducing Bushing (2)
110686 - Electric Male Connector (1)
505839 - Cable Tie (1)

Optional Hose Kit 122854

Important Note: *To use the lighter type hoses/cord that are attached to the tool when purchased, one or more, optional 12' Hose Kit(s) 112854, must be purchased separately. Female cord connector should extend beyond the hose male connector by 4.5-5 inches.*

122853 - Cord and Plug Assembly includes:
506193 - Female Connector
123336 - Trimmed Cord
110686 - Male Connector

TROUBLESHOOTING

Always check out the simplest possible cause of a malfunction first. For example, an air hose not connected. Then proceed logically, eliminating each possible cause until the cause is located. Where possible, substitute known good parts for suspected bad parts. Use TROUBLESHOOTING CHART as an aid in locating and correcting malfunction.

1. Tool fails to operate when trigger is depressed:
   a. Inoperative POWERIG Hydraulic Unit. See applicable instruction manual.
   b. Loose or disconnected control cord.
   c. Damaged trigger assembly.
   d. Loose or faulty hydraulic hose couplings.
   e. Unloading valve not installed in tool.

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

3. Tool leaks hydraulic fluid:
   a. Depending on where leak occurs, defective or worn O-rings, or loose hydraulic hose connection at tool.

4. Hydraulic couplers leak fluid:
   a. Damaged or worn O-ring in coupler body. See Figure 3.

5. Hydraulic fluid overheats:
   a. Hydraulic unit not operating properly. See applicable POWERIG Hydraulic Unit Instruction Manual.
   b. Unloading valve installed backwards.

6. Tool operates erratically and fails to install fastener properly:
   a. Low or erratic hydraulic pressure supply: Air in system. See applicable POWERIG Instruction Manual.
   b. Damaged or excessively worn piston O-ring in tool.
   c. Unloading valve installed backwards.
   d. Excessive wear or scoring of sliding surfaces of tool parts.
   e. Excessive wear of unloading valve.

7. Pull grooves on fastener pintail stripped during pull stroke:
   a. Operator not sliding jaws completely onto fastener pintail.
   b. Incorrect fastener length.
   c. Worn or damaged jaw segments.
   d. Metal particles accumulated in pull grooves of jaw segments.
   e. Excessive sheet gap.
   f. Nose assembly not properly attached. See NOSE ASSEMBLY DATA SHEET.

8. Collar of HUCKBOLT Fastener not completely swaged:
   a. Improper tool operation. See 6.
   b. Scored anvil in nose assembly.

9. Shear collar on Huck blind fastener not properly installed:
   a. Improper tool operation. See 6.
   b. Worn or damaged driving anvil in nose assembly.

10. Tool "hangs-up" on swaged collar of HUCKBOLT Fastener:
    a. Improper tool operation. See 6.
    b. RETURN pressure too low.
    c. Nose assembly not properly attached. See NOSE ASSEMBLY DATA SHEET.

11. Pintail of fastener fails to break:
    a. Improper tool operation. See 6.
    b. Pull grooves on fastener stripped. See 7.
    c. Worn piston and/or unloading valve.
    d. Hydraulic pressure too low.
    e. Damaged O-ring on piston.

12. Operator cannot slide nose assembly (completely) onto fastener:
    a. Broken pintails jammed in tool. Install pintail tube if broken pintails will pass through.

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.

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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.

HUCK

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Alcoa Fastening Systems (AFS) maintains company offices throughout the United States and Canada, with subsidiary offices in many other countries. Authorized AFS distributors are also located in many of the world's industrial and Aerspace centers, where they provide a ready source of AFS fasteners, installation tools, tool parts, and application assistance.

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