

Alcoa
Fastening
Systems



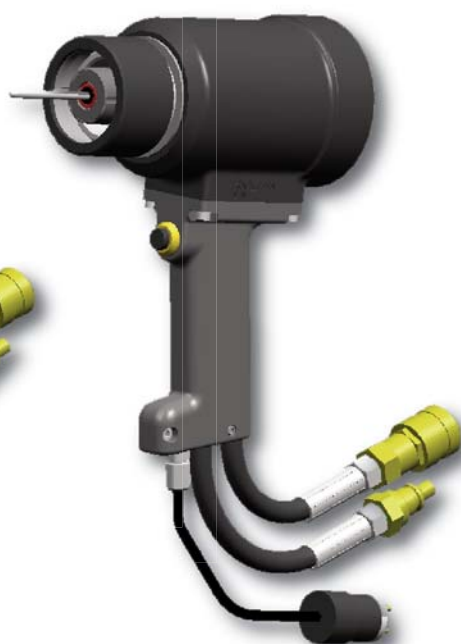
INSTRUCTION MANUAL

HYDRAULIC INSTALLATION TOOLS

3585



3585PT



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

August 20, 2014
HK1080





EC Declaration of Conformity

Manufacturer:

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

Description of Machinery:

Models 3585 family of 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 (ISO 11148-1:2011)

European Representative:

Rob Pattenden, Huck International, Ltd. Unit C Stafford Park 7, Telford Shropshire TF3 3BQ, England, United Kingdom

Authorized Signature/date:

I, the undersigned, do hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Signature:

Full Name: Robert B. Wilcox

Position: Engineering Manager

Location: Huck International, LLC d/b/a Alcoa Fastening Systems
Kingston, New York, USA

Date: 27/12/2013 (December 27, 2013)


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 μ Pa)
Uncertainty, KpA: 3 dB

C-weighted peak emission sound pressure level, LpC, peak: **119** dB
(reference 20 μ Pa)
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: **.40** m/s²

Uncertainty, K: **.02** m/s²

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.



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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.

I. GENERAL SAFETY RULES:

1. A half hour long hands-on training session with qualified personnel is recommended before using Huck equipment.
2. Huck equipment must be maintained in a safe working condition at all times. Tools and hoses should be inspected at the beginning of each shift/day for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.
3. For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the assembly power tool. Failure to do so can result in serious bodily injury.
4. Only qualified and trained operators should install, adjust or use the assembly power tool.
5. Do not modify this assembly power tool. This can reduce effectiveness of safety measures and increase operator risk.
6. Do not discard safety instructions; give them to the operator.
7. Do not use assembly power tool if it has been damaged.
8. Tools shall be inspected periodically to verify all ratings and markings required, and listed in the manual, are legibly marked on the tool. The employer/operator shall contact the manufacturer to obtain replacement marking labels when necessary. Refer to assembly drawing and parts list for replacement.
9. Tool is only to be used as stated in this manual. Any other use is prohibited.
10. Read MSDS Specifications before servicing the tool. MSDS specifications are available from the product manufacturer or your Huck representative.
11. Only genuine Huck parts shall be used for replacements or spares. Use of any other parts can result in tooling damage or personal injury.
12. Never remove any safety guards or pintail deflectors.
13. Never install a fastener in free air. Personal injury from fastener ejecting may occur.
14. Where applicable, always clear spent pintail out of nose assembly before installing the next fastener.
15. Check clearance between trigger and work piece to ensure there is no pinch point when tool is activated. Remote triggers are available for hydraulic tooling if pinch point is unavoidable.
16. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle or to bend or pry the tool. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency, eliminating downtime, and preventing an accident which may cause severe personal injury.
17. Never place hands between nose assembly and work piece. Keep hands clear from front of tool.
18. Tools with ejector rods should never be cycled with out nose assembly installed.
19. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet for correct positioning.

II. PROJECTILE HAZARDS:

1. Risk of whipping compressed air hose if tool is pneudraulic or pneumatic.
2. Disconnect the assembly power tool from energy source when changing inserted tools or accessories.
3. Be aware that failure of the workpiece, accessories, or the inserted tool itself can generate high velocity projectiles.
4. Always wear impact resistant eye protection during tool operation. The grade of protection required should be assessed for each use.
5. The risk of others should also be assessed at this time.
6. Ensure that the workpiece is securely fixed.
7. Check that the means of protection from ejection of fastener or pintail is in place and operative.
8. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.

III. OPERATING HAZARDS:

1. Use of tool can expose the operator's hands to hazards including: crushing, impacts, cuts, abrasions and heat. Wear suitable gloves to protect hands.
2. Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
3. Hold the tool correctly and be ready to counteract normal or sudden movements with both hands available.
4. Maintain a balanced body position and secure footing.
5. Release trigger or stop start device in case of interruption of energy supply.
6. Use only fluids and lubricants recommended by the manufacturer.
7. Avoid unsuitable postures, as it is likely for these not to allow counteracting of normal or unexpected tool movement.
8. If the assembly power tool is fixed to a suspension device, make sure that fixation is secure.
9. Beware of the risk of crushing or pinching if nose equipment is not fitted.

IV. REPETITIVE MOTION HAZARDS:

1. When using assembly power tool, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
2. When using tool, the operator should adopt a comfortable posture while maintaining a secure footing and avoid awkward or off balanced postures.
3. The operator should change posture during extended tasks to help avoid discomfort and fatigue.
4. If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warnings should not be ignored. The operator should tell the employer and consult a qualified health professional.

V. ACCESSORIES HAZARDS:

1. Disconnect tool from energy supply before changing inserted tool or accessory.
2. Use only sizes and types of accessories and consumables that are recommended. Do not use other types or sizes of accessories or consumables.

VI. WORKPLACE HAZARDS:

1. Be aware of slippery surfaces caused by use of the tool and of trip hazards caused by the air line or hydraulic hose.
2. Proceed with caution while in unfamiliar surroundings; there could be hidden hazards such as electricity or other utility lines.
3. The assembly power tool is not intended for use in potentially explosive environments.
4. Tool is not insulated against contact with electrical power.
5. Ensure there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by use of the tool.

VII. NOISE HAZARDS:

1. Exposure to high noise levels can cause permanent, disabling hearing loss and other problems such as tinnitus, therefore risk assessment and the implementation of proper controls is essential.
2. Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpiece from 'ringing'.
3. Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations.
4. Operate and maintain tool as recommended in the instruction handbook to prevent an unnecessary increase in the noise level.
5. Select, maintain and replace the consumable / inserted tool as recommended to prevent an unnecessary increase in noise.
6. If the power tool has a silencer, always ensure that it is in place and in good working order when the tool is being operated.

VIII. VIBRATION HAZARDS:

1. Exposure to vibration can cause disabling damage to the nerves and blood supply to the hands and arms.
2. Wear warm clothing when working in cold conditions and keep hands warm and dry.
3. If numbness, tingling, pain or whitening of the skin in the fingers or hands, stop using the tool, tell your employer and consult a physician.
4. Support the weight of the tool in a stand, tensioner or balancer in order to have a lighter grip on the tool.

X. HYDRAULIC TOOL SAFETY INSTRUCTIONS:

1. Do not exceed maximum pressure setting stated on tool.
2. Carry out a daily check for damaged or worn hoses or hydraulic connections and replace if necessary.
3. Use only clean oil and filling equipment.
4. Power units require a free flow of air for cooling purposes and should therefore be positioned in a well ventilated area free from hazardous fumes.
5. Ensure that couplings are clean and correctly engaged before operation.
6. Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
7. Be sure all hose connections are tight.
8. Wipe all couplers clean before connecting. Failure to do so can result in damage to the quick couplers and cause overheating.



DESCRIPTION

3585

Huck Model **3585** In-line Hydraulic Installation Tool is designed to install **-16 (1/2") to -24 (3/4") Pintail-style Lockbolt Fasteners**.

This tool operates on 7400 psi (510 BAR) PULL and 2200 psi (151 BAR) RETURN pressures as supplied by Huck Hydraulic POWERIG® Models 918 or equivalent. Lengths and weights do not include Nose Assemblies.

Except for a nose assembly, the tool is complete with handle, hoses, couplers and control cord ready to be attached to a HUCK POWERIG.

The 3585 tool is basically a cylinder and piston assembly. An unloading valve, designed to relieve the hydraulic pressure at both ends of the stroke, is positioned by the piston. A pintail ejector is provided to eject the broken pintail from the nose assembly. The end of the piston rod is threaded and a nose adapter and retaining rings are included for attaching nose assemblies.

Proper PULL and RETURN pressures are important for the proper function of the Installation Tool and Nose Assemblies, and for the safety of the operator. A Gauge Set-up T-124833CE is available for checking these pressures. Instructions are furnished with the Gauge and in applicable POWERIG® Instruction Manuals.

3585PT

Huck Model **3585PT** In-line Hydraulic Installation Tool is designed to install all **-16 (1/2") to -24 (3/4") Huck-Spin, Huck-Spin2, and BOBTAIL Fasteners**.

This tool operates on 7400 psi (510 BAR) PULL and 2200 psi (151 BAR) RETURN pressures as supplied by Huck Hydraulic POWERIG® Models 918 or equivalent. Lengths and weights do not include Nose Assemblies.

Except for a nose assembly, the tool is complete with handle, hoses, couplers and control cord ready to be attached to a HUCK POWERIG.

The 3585PT tool is basically a cylinder and piston assembly. An unloading valve, designed to relieve the hydraulic pressure at both ends of the stroke, is positioned by the piston. The 3585PT does not have a pintail ejector as it is designed to install those fasteners without pintail break. The piston includes a pass through hole to allow the included T-wrench to install Huck-Spin collars..

Proper PULL and RETURN pressures are important for the proper function of the Installation Tool and Nose Assemblies, and for the safety of the operator. A Gauge Set-up T-124833CE is available for checking these pressures. Instructions are furnished with the Gauge and in applicable POWERIG® Instruction Manuals.



SPECIFICATIONS

POWER SOURCE:

Huck POWERIG Hydraulic Unit

HOSE KITS:

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

HYDRAULIC FLUID:

“Hydraulic fluid shall meet DEXRON III, DEXRON VI, MERCON, Allison C-4 or equivalent ATF specifications. Fire resistant fluid may be used if it is an ester based fluid such as Quintolubric HFD or equivalent. Water based fluid shall NOT be used as serious damage to equipment will occur.”

WEIGHT:

19 lbs (8.62 kg)

STROKE:

3585	1.81 inches (4.60 cm)
3585PT	1.90 inches (4.83 cm)

MAX OPERATING TEMP:

125°F (51.7°C)

MAX FLOW RATE:

2 gpm (7.5 l/m)

MAX PULL PRESSURE:

7400 psi, (510 bar)

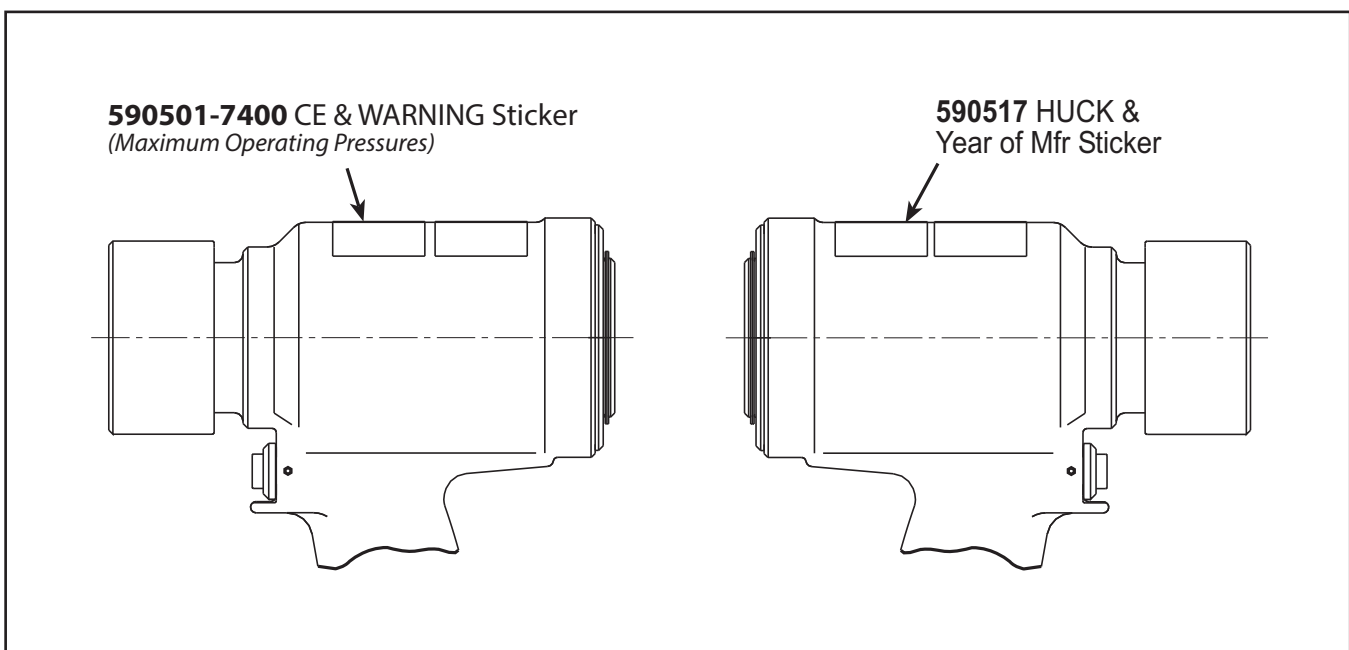
MAX RETURN PRESSURE:

2200 psi, (151 bar)

PULL CAPACITY: 45,668 lbs (203 KN) @ 7400 psi

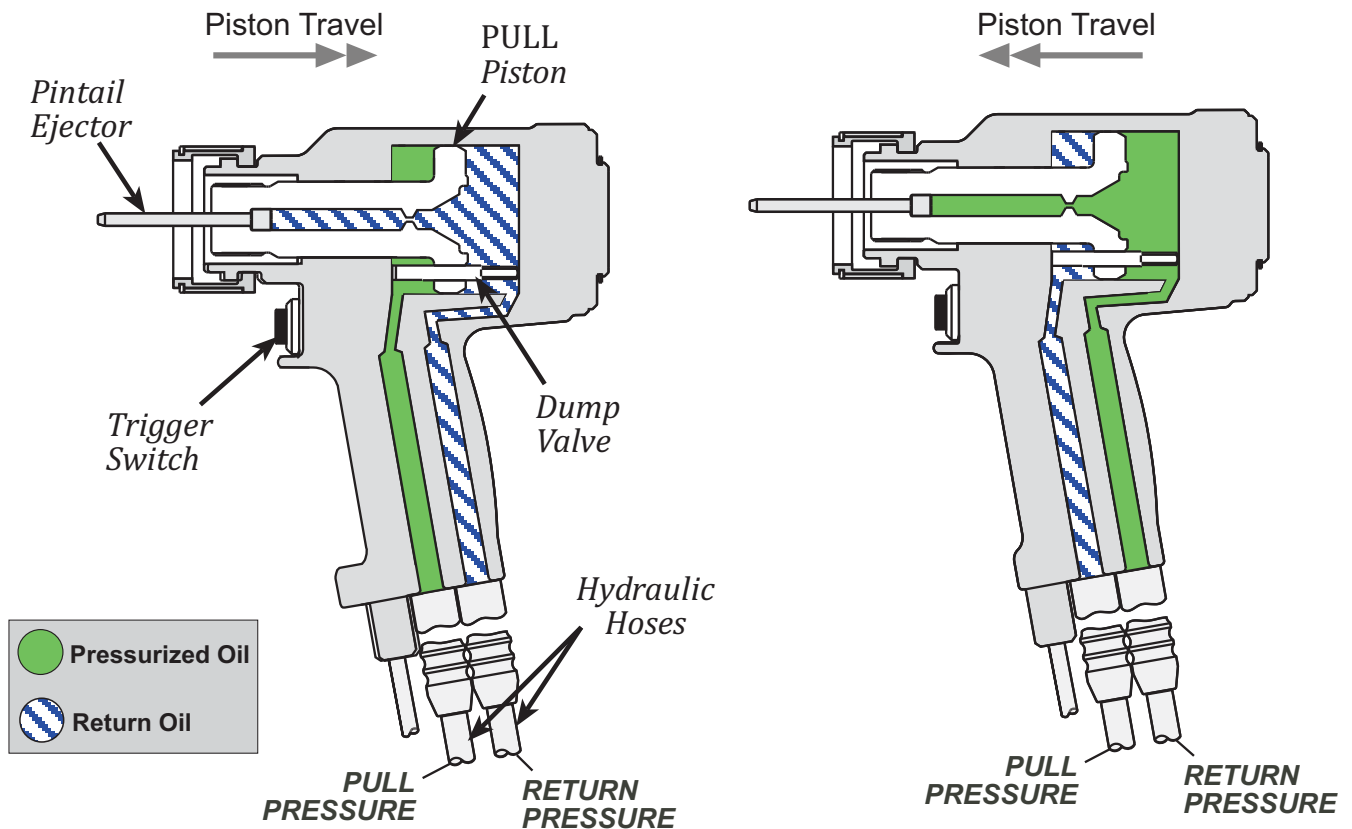
STICKER LOCATIONS

The 3585 series tools come labeled with important stickers which contain safety and pressure settings information. It is necessary that these stickers remain on the tools and are easily read. If stickers become damaged or worn, or if they have been removed from the tool, they must be replaced. The part numbers are shown in the drawing below.





PRINCIPLE OF OPERATION



Pull Pressure (Pull Cycle)

Fig. 1(a)

When the trigger 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 (Fig 1a).

The piston and nose assembly collet moves rearward installing the fastener.

When the piston reaches the end of the PULL stroke, it uncovers flats on the rear end of the dump valve. These flats 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 (Fig 1a).

Return Pressure (Return Cycle)

Fig. 1(b)

When the trigger is released the solenoid is de-energized and the valve directs pressurized fluid to the rear side of the piston and allows fluid on the PULL side to flow back to the tank (Fig. 1b). This causes piston and collet to move forward and pushes the nose assembly and tool off 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.



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. Threadmate™ is available from Huck in a 4oz. tube as part number 508517.



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

Remove shipping caps from ends of pipe plug fittings. Coat pipe plug threads, hose fitting threads, and quick connect fittings with Threadmate™, which is available from Huck in a 4oz. tube as part number 508517.

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 order and **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.

* Threadmate is a registered trademark of Parker Intangibles LLC
* TEFLON is a registered trademark of DuPont Corp.



OPERATING INSTRUCTIONS



WARNING: Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency 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.

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.

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.)



SERVICING THE TOOL



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.

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. Threadmate™ is available from Huck in a 4oz. tube as part number 508517.



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 **3585KIT** or **3585PTKIT** 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

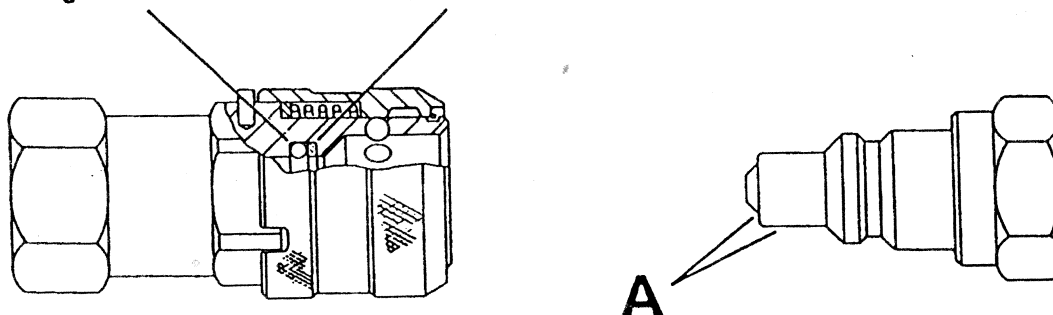
Daily cleaning of the nose assembly is recommended. This can usually be accomplished by dipping nose assembly in mineral spirits, or other suitable solvent, to clean jaws and wash away metal chips and dirt. If more thorough cleaning or maintenance is necessary, disassemble the nose assembly. Use a sharp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

- * Threadmate is a registered trademark of Parker Intangibles LLC
- * TEFLON is a registered trademark of DuPont Corp.

HYDRAULIC COUPLINGS

O-ring—P/N 504438

Back-up Ring—P/N 501102



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



DISASSEMBLY AND ASSEMBLY PREPARATION



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.

GENERAL PRECAUTIONS

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

- (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. Reverse the procedure to correct misalignment and start over.
- (e) Smear Lubriplate™ 130AA or equivalent on O-rings and mating surfaces to aid assembly and prevent damage to O-rings. (A handy tube of Lubriplate 130AA is available from Huck as part number 502723).
- (f) Coat pipe plug threads, hose fitting threads, and quick connect fittings with Threadmate™, which is available from Huck in a 4oz. tube as part number 508517. **DO NOT use Teflon tape on hose fitting threads.**

DISASSEMBLY AND ASSEMBLY TOOLS

Standard hand tools such as wrenches, drifts, copper or lead hammers, screwdrivers, socket screw hexagon keys, long forceps (tweezers), etc. which can be purchased at most local supply firms are required. If possible, an arbor press and vise with soft jaws should be available. Wrench 122048 is available for Ejector Gland. Wrench 126981 is available for End Cap.

SPARE PARTS AND SPARE PARTS KITS

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

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 **3585KIT** or **3585PTKIT** 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 be 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.

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* LUBRIPLATE is a registered trademark of Fiske Brothers Refining Co.



DISASSEMBLY



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.

DISASSEMBLY

The following procedure is for complete disassembly. Disassemble only components necessary to check damaged O-ring, C-ring, back-up ring, or other components.

1. Uncouple tool hydraulic hoses, and disconnect electrical control cord.
 2. Remove Sleeve (19) and Split Ring (20). Remove nose assembly.
 3. Remove Coupler Nipple (32) and Coupler Body (33). Drain Hydraulic Hoses (12) into a clean container.
 4. Push rearward on Piston (29) until hydraulic fluid is drained into container.
 5. **3585:** Remove Retaining Ring (5) and Cover Plate (4).
3585PT: Remove Screws (5) and Retainer (6).
 6. **3585:** Use Wrench to remove End Cap (6).
3585PT: Use Wrench to remove End Cap Assembly (21).
 7. Push rearward on Adapter Assembly (23) and piston, along with adapter, will slide from cylinder.
 8. Pull piston out of adapter, and remove Unloading Valve (8) from piston.
- NOTE:**
The ejector gland can be removed to inspect and/or replace components without completely disassembling tool.
9. Remove Ejector Gland Assembly (21) and Pintail Ejector (22) from piston. Use Special Wrench, P/N 122048, to unscrew gland.
 10. Use a small diameter, dull-pointed rod to remove O-rings, and back-up rings from all components.
 11. Remove Socket Head Cap Screw (10) from Handle Assembly (9).
 12. Remove two Button Head Cap Screws from one-half of handle and cylinder.
 13. Separate handle halves, and lift out assemble Switch (16), Control Cord (14) including Cord Connector (13), and Strain Relief (15).
 14. Remove remaining button head cap screws and handle half. Remove both Hydraulic Hoses (12) from cylinder.
 15. Loosen two screws at rear of switch to remove switch from electrical cord. Remove two #6-32 socket set screws to disassemble switch for cleaning. Pull strain relief grommet from cord.
 16. Disassemble electrical connector to replace Connector, or to rewire.



ASSEMBLY

ASSEMBLY All Models

Numbers in parentheses () are reference numbers for: **3585** shown in **Figure 8**; **3585PT** in **Figure 9**.



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



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



CAUTION: Do not use TEFLON tape.

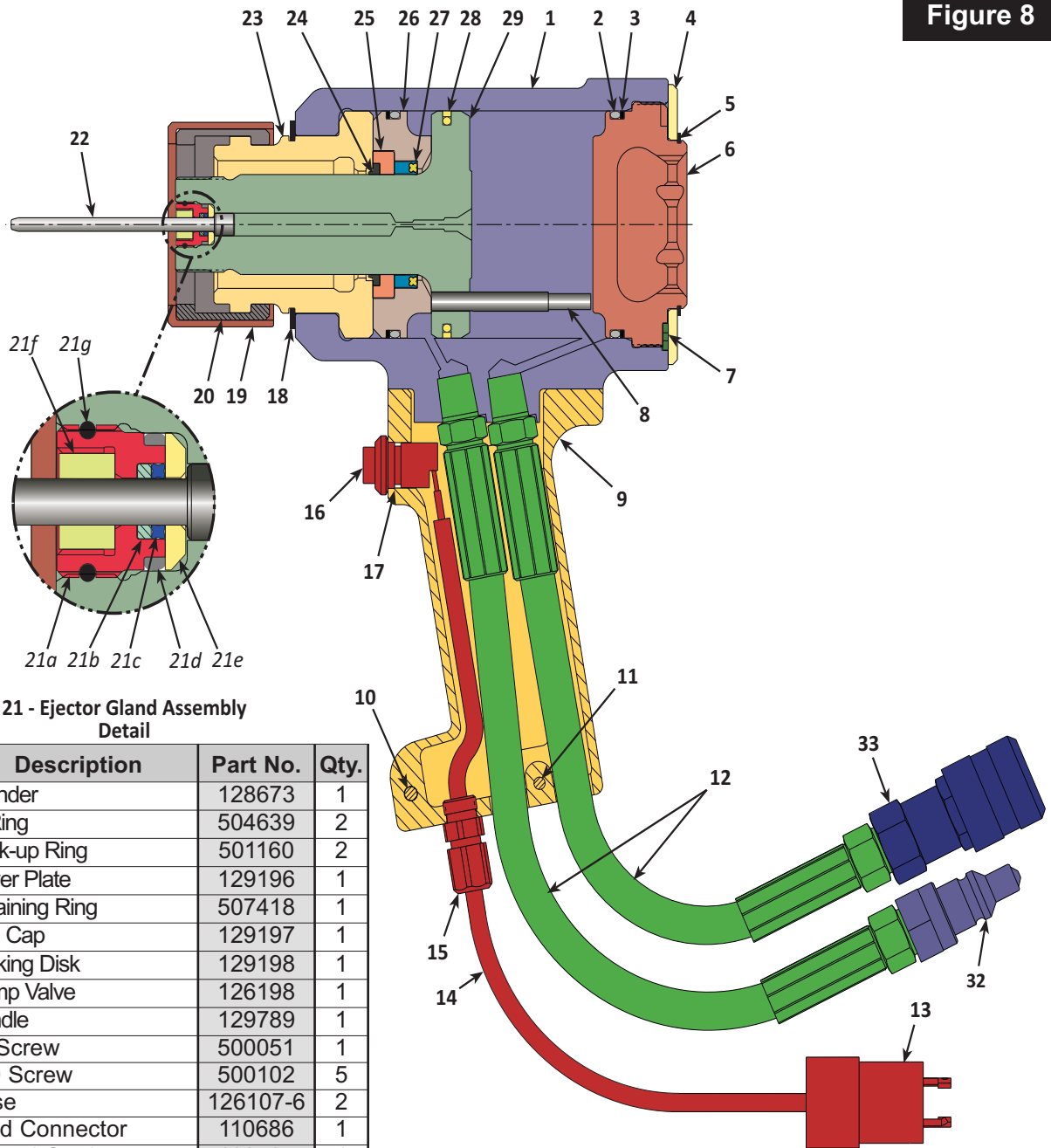
Before assembling tool:

- (a) Clean components in mineral spirits or other solvent compatible with O-ring seals.
 - (b) Clean out O-ring grooves.
 - (c) Inspect components for scoring, excessive wear or damage.
 - (d) Replace O-rings and back-up rings. Be sure that relative positions of the O-rings and back-up rings are as shown in Figure 8.
 - (e) Service Kit part number 3585KIT contains O-Rings, Back-up Rings and other seals necessary for servicing this tool.
 - (f) Smear Lubriplate 130AA on O-rings and mating surfaces to prevent damage to O-rings and to aid assembly.
1. Assemble electrical Control Cord (14) to plug of electrical Connector (13).
 2. Push cord thru Strain Relief (15), and attach to Switch (16).
 3. Screw both Hoses (12) into Cylinder (1).
 4. Loosely attach handle half by turning two Button Head Cap Screws into cylinder.
 5. Place assembled switch, electrical cord, strain relief and electrical connector into handle recesses. Evenly tighten four cap screws to 50 in. lbs. torque if plated, and 70 in. lbs. if unplated, while holding assembled components in position.
 6. Assemble ejector gland assembly and pintail ejector to the piston as follows:
 - a. Insert Pintail Ejector (22) into Piston (29).
 - b. Drop in Ejector Washer (21e).
 - c. Drop in O-ring (21d).
 - d. Screw in Gland (21a) with O-ring (21g) in groove in threads, back-up ring (21b) and QUAD ring (21c) inside and Ejector Rod Wiper (21f) in place.
 - e. Tighten Ejector Gland Assembly with Wrench.
 7. Push Nose Adapter (23) into Cylinder.
 8. Install Retaining Ring (18) into groove in adapter.
 9. Push assembled Piston (23), assembled Front Gland with all O-rings, back-up rings, Polyseals, Wiper (24) and Wiper Housing (25) in place, and into assembled cylinder and adapter.
 10. Slide Unloading Valve (22) into hole thru piston. **BE SURE UNLOADING VALVE IS ASSEMBLED WITH FOUR FLATS TO THE REAR AS SHOWN.**
 11. Tighten End Cap, then, back off until Locator can be placed in closest matching grooves.
 12. **3585:** After End Cap is locked in place, install Cover Plate (4) and Retaining Ring (5).
3585PT: After End Cap is locked in place, install Retainer (6) and Cap Screws (5).
 13. Screw Coupler Nipple (32) onto hose in port P and Coupler Body (33) onto hose in port R.
 14. Connect tool hoses to POWERIG hoses and cycle tool a few times. Observe action of tool and check for leaks.
 15. Attach nose assembly to tool following applicable Nose Assembly Data Sheet. Use Split Ring Set and Retaining Sleeve furnished with tool.



3585 ASSEMBLY DRAWING

Figure 8



21 - Ejector Gland Assembly Detail

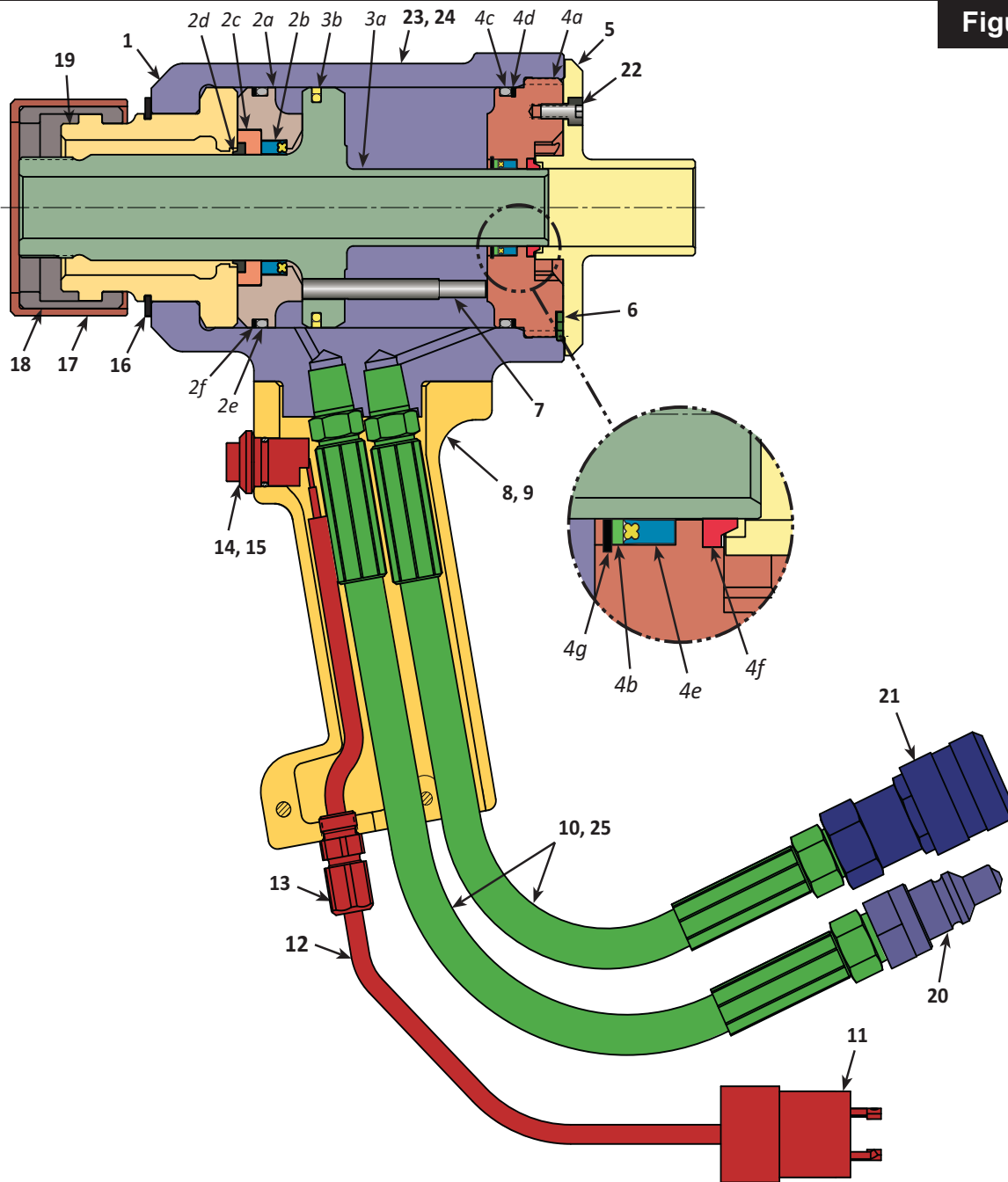
Item	Description	Part No.	Qty.
1	Cylinder	128673	1
2	O-Ring	504639	2
3	Back-up Ring	501160	2
4	Cover Plate	129196	1
5	Retaining Ring	507418	1
6	End Cap	129197	1
7	Locking Disk	129198	1
8	Dump Valve	126198	1
9	Handle	129789	1
10	#6 Screw	500051	1
11	#10 Screw	500102	5
12	Hose	126107-6	2
13	Cord Connector	110686	1
14	Control Cord	128705	1
15	Strain Relief	505344	1
16	Trigger Switch Assy	120361	1
17	Set Screw	501731	1
18	Retaining Ring	501030	1
19	Sleeve	100248	1
20	Split Ring	100247	1
21	Ejector Gland Assy	120653	1
21a	Gland	122047	1
21b	Back-up Ring	501080	1
21c	QUAD Ring	501411	1
21d	O-Ring	500779	1
21e	Ejector Washer	120652	1
21f	Ejector Rod Wiper	122742	1
21g	O-Ring	500779	1

Item	Description	Part No.	Qty.
22	Pintail Ejector	128742	1
23	Nose Adapter	128675	1
24	Wiper Seal	506001	1
25	Wiper Housing	125683	1
26	Front Gland	128674	1
27	Polyseal	507417	1
28	GLYD Ring	122769-3	1
29	Piston	128703	1
30	HUCK Sticker	590247	1
31	Caution Sticker	590189-2	1
32	Male Connector	110438	1
33	Female Connector	110439	1



3585PT ASSEMBLY DRAWING

Figure 9



Item	Description	Part No	Qty	Item	Description	Part No	Qty	Item	Description	Part No	Qty
1	Cylinder	128673	1	4c	O-Ring	504639	1	14	Trigger/O-Ring Assy	120631	1
2	Gland Assy	128776	1	4d	Back-up Ring	501160	1	15	Setscrew	501731	1
2a	Front Gland	128674	1	4e	Polyseal	507324	1	16	Retaining Ring	501030	1
2b	Polyseal	507417	1	4f	Wiper Seal	508443	1	17	Sleeve	100248	1
2c	Wiper Housing	125683	1	4g	Retaining Ring	508444	1	18	Split Ring	100247	1
2d	Wiper	506001	1	5	Retainer	129795	1	19	Nose Adapter	128675	1
2e	O-Ring	500865	1	6	Locking Disk	129198	1	20	Male Connector	110438	1
2f	Back-up Ring	501160	1	7	Dump Valve	129820	1	21	Female Connector	110439	1
3	Piston Assy	129833	1	8	Handle	129789	1	22	Screw	500060	3
3a	Piston	129792	1	9	Socket Hd Screw	500102	4	23	HUCK Sticker	590247	1
3b	GLYD Ring	122769-3	1	10	Hose	126107-2	2	24	Caution Sticker	590189-2	1
4	End Cap Assy	129832	1	11	Cord Connector	110686	1	25	Cable Ties	505839	10
4a	End Cap	129791	1	12	Control Cord	129839	1				
4b	Spacer	129796	1	13	Strain Relief	505344	1				



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.
 - b. Bent or broken Pintail Ejector.

KITS AND ACCESSORIES

SERVICE KIT:

3585KIT or 3585PTKIT

ACCESSORIES:

Ejector Gland Wrench	- 122048
End Cap Hex Wrench	- 126981
Remote Trigger (All Models)	- 123381-24



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One Corporate Drive Kingston, New York 12401-0250
Telephone (845) 331-7300 FAX (845) 334-7333

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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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Tacubaya Mexico, D.F.
C.P. 11850
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Industrial Products
Australia Operations
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Rowville, Victoria
Australia 3178
03-764-5500
Toll Free: 008-335-030
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Europe

Alcoa Fastening Systems
Industrial Products
United Kingdom Operations
Unit C, Stafford Park 7
Telford, Shropshire
England TF3 3BQ
01952-290011
FAX: 0952-290459

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