**SAFETY**

This instruction manual must be read with particular attention to the following safety guidelines, 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.

2. **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.

3. 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.

4. 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.

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.
DESCRIPTION

Model 588RR* Hydraulic Installation Tool (HIT) installs various 3/4" and 7/8" Huck Blind Fasteners and HUCKBOLT® Fasteners. This in-line design has proven to be effective for the heavier fasteners.

This electrically triggered tool is used with Huck Models 913, 918 and 940 POWERIG® Hydraulic Units, or equivalent. Except for the nose assembly, each Tool is complete with 24" hydraulic hoses, couplings and electric control cord ready to be attached to POWERIG Hydraulic Unit's hoses and control cord.

Tool consists of a cylinder and piston assembly with an unloading valve to relieve hydraulic pressure at both ends of piston's stroke. After each fastener installation cycle, pintail ejector pushes broken-off pintail out of nose assembly. Split ring and sleeve are included for attaching nose assembly to tool.

SPECIFICATIONS

Weight

|          | 25 lbs. | - . - | 11.3 kg |

Min. effective stroke

|          | 1.786 min. | - . - | 45.4 mm |

Hydraulic power source

|          | Huck POWERIG Hydraulic Unit |

PULL pressure

|          | 7250 psi | - - | 49986 kPa |

RETURN pressure

|          | 2200 - 2400 psi | - - | 15200 - 16500 kPa |

Hydraulic fluid

Automatic transmission fluid, DEXRON II, or equivalent.

For dimensions of basic Tool, see Figure 1 - Outline Drawing. Length and weight do not include nose assembly.

*Patent Pending Model 588RR
PRINCIPLE OF OPERATION
See Figure 2

Switch in handle controls PULL and RETURN strokes of tool. As switch is pressed, hydraulic pressure is directed to PULL side of piston. Piston, with nose assembly collet, moves rearward; jaws grip pintail and anvil starts to swage collar.

When fastener installation is completed, switch is released. Hydraulic pressure is directed to RETURN side of piston and it moves forward -- nose assembly's anvil is pushed off installed fastener. Jaw release opens jaws and ejector rod ejects broken pintail. Tool/nose assembly is ready for next installation cycle.

Flats on both ends of unloading valve relieve pressure at end of both PULL and RETURN strokes. Flats provide passages for fluid to pass through the piston -- pressurized fluid is "unloaded/dumped" -- fluid circulates back to reservoir in POWERIG® Hydraulic Unit.

Figure 2 - Tool Components
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 Tool and in the
POWERIG® Hydraulic Unit.

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

Rub SLIC-TITE TEFNON thread compound, or equivalent, on pipe
treads to prevent leaks and for ease of assembly -- CAUTION: Do
not use TEFNON tape on pipe threads -- particles of shredded tape
cause failure of hydraulic unit valve.
(SLIC-TITE -- in stick form, P/N
503237; manufactured by Markal
Co.)

WARNING
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 SPECIFICATIONS and
Gauge Instruction Manual. Failure to
verify pressures may result in severe
personal injury.

WARNING
Be sure to connect Tool’s hydraulic
hoses to POWERIG Hydraulic Unit
before connecting Tool’s switch
cord to unit. If not
connected in this order, severe
personal injury may occur.

1. Use Huck POWERIG Hydraulic
Unit, or equivalent, that has been
prepared for operation per
INSTRUCTION MANUAL. Check
both PULL and RETURN pressures,
and if required, adjust to pressures
given in SPECIFICATIONS of this
manual. See both hydraulic unit’s
and T-10280’s instruction manuals
before and during checking
procedure.

2. First, turn hydraulic unit to OFF,
and
then, disconnect power supply from
hydraulic unit. Connect Tool’s hoses
to hydraulic unit.

3. Connect Tool’s control switch
electrical cord to hydraulic unit.

4. Connect hydraulic unit to power
supply. Turn hydraulic 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
hydraulic unit to OFF.

5. Select nose assembly from
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 CHART to
locate and correct Tool’s
malfunction.
OPERATING INSTRUCTIONS
For safety, please read completely

HUCKBOLT® Fastener Installation:

WARNING
Do not pull on a pin without a collar -- the pin will eject with velocity and force when the pintail breaks off -- this may cause serious 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 stripped/damaged.

Place pin in work hole 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 assembly anvil touches collar. Depress trigger -- hold trigger depressed until collar is swaged and pintail breaks. Release trigger and tool will go into return stroke. The tool and nose assembly are ready for the next fastener installation cycle.

WARNING
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.

When operating Huck Installation Equipment, always wear approved eye protection.

Be sure of adequate clearance for operator's hands before proceeding with fastener installation.

Blind Fastener Installation:

WARNING
Do not pull on a fastener's pin without first placing fastener in a work piece -- the fastener will eject forcibly when the pintail breaks off -- this may cause serious injury.

Remove excess gap from between the sheets to permit correct fastener installation. Fastener may be placed in work hole or in end of nose assembly -- see WARNING. In either case, tool and nose assembly must be held against work and at right angles to it. Depress trigger -- hold trigger depressed until fastener is installed and pintail breaks. Release trigger and tool will go into its return stroke. The tool and nose assembly are ready for next fastener installation cycle.

CAUTION
To avoid structural and Tool damage, be sure enough clearance is allowed for nose assembly at full stroke. Do not abuse the tool by dropping it, using it as a hammer or otherwise causing unnecessary wear and tear. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency and reducing downtime.

Please note
Failure to understand WARNINGS may cause serious personal injury.

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

For additional safety information, see front of manual.
MAINTENANCE

CAUTION
Keep dirt and other harmful material out of hydraulic system -- this includes Tool, hoses, couplers and POWERIGB Hydraulic Unit. Parts must be kept away from unclean work surfaces. Dirt in hydraulic fluid causes valve failure in Tool and in POWERIGB Hydraulic Unit.

Good Service Practices
The efficiency and life of your Installation Tool depends upon proper maintenance and good service practices. Using the manual will help give a clear understanding of your tool and basic maintenance procedures -- please read entire page before proceeding with maintenance/repair.

Use proper hand tools in a clean well-lighted area for maintenance and repair -- always be careful to keep dirt/debris out of pneumatic and hydraulic systems. Only standard hand tools are required in most cases; where a special tool is required, the description and part number are given.

While clamping Installation Tool and/or parts in a vise, and when parts require force, use suitable soft materials to cushion impact -- for example, using a half-inch brass drift, wood block and/or vise with soft jaws greatly diminishes the possibility of a damaged Tool. Remove components in a straight line without bending, cocking or undue force -- reassemble Tool with the same care.

Note: Individual parts must be handled carefully and examined for damage or wear -- replace parts where required. Always replace O-rings and back-up rings when the tool is disassembled for any reason -- see SERVICE KIT.

Consult manual's TROUBLESHOOTING if malfunction occurs -- then see appropriate section of DISASSEMBLY, ASSEMBLY and SECTIONAL VIEW W/TOOL P/N's.

Note: Where a part number (P/N) is given, Huck sells that part or a sub-assembly containing the part.

Standard Sealants, Lubricants, and SERVICE KIT
Rub SLIC-TITE TEFLOL thread compound, or equivalent, on pipe threads to prevent leaks and for ease of assembly -- CAUTION: Do not use TEFLOL tape on pipe threads -- particles of shredded tape cause Tool and hydraulic unit valve failure/malfunction. (SLIC-TITE -- in stick form, P/N 503237.)

Smear LUBRIPLATE 130AA, or equivalent lubricant, on O-rings and mating surfaces -- this prevents nicking/pinching O-rings on any rough/tight spot and increases ease of assembly. (LUBRIPLATE 130AA -- in tube, P/N 502723.)

SERVICE KIT contains perishable parts for your specific Tool -- see NOTES FOR TOOL. For convenience and as experience indicates, keep extra Kits (O-rings; back-up rings; other standard items) and Tool parts on hand. As an alternative, you can obtain O-rings and back-up rings from any regular retailer of these items -- ask for: O-ring size (AS 568-number); material and durometer. For additional information/specifications on O-rings and back-up rings, see NOTES AND SPECIFICATIONS FOR STANDARD PARTS.
MAINTENANCE (cont.)

PREVENTIVE MAINTENANCE

System Inspection
Operating efficiency of the Tool is directly related to performance of complete system including Tool with nose assembly, hydraulic hoses, switch 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 hose fittings, couplings and electrical connections are secure.

3. Inspect hydraulic hoses for signs of damage or deterioration. Do not carry Tool suspended from hoses coupled together. Replace hoses as required.

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

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

Tool and Nose Assembly Maintenance and Precautions
Whenever disassembled, and also at regular intervals (depending on severity and length of use), replace all O-rings and back-up rings -- Service Kits should be kept on hand. Inspect cylinder bore, piston and rod, and unloading valve for scored surfaces, excessive wear or damage -- replace parts as necessary.

Clean nose assembly often -- dip in mineral spirits, or similar solvent, to clean jaws and wash away metal chips and debris. At regular intervals, indicated by experience, disassemble nose assembly and use a sharp pointed "pick" to remove imbedded particles from the pull grooves of the jaws -- see appropriate NOSE ASSEMBLY DATA SHEET.
TROUBLESHOOTING

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

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

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

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

4. Hydraulic couplers leak fluid.
   a. Damaged or worn O-rings in coupler body -- see Coupler, 110440.

5. Hydraulic fluid overheats.
   a. Hydraulic unit not operating properly.
   b. Unloading valve installed incorrectly.
   c. POWERIG Hydraulic Unit running in reverse (918; 918-5) -- 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. Unloading valve installed incorrectly.
   d. Excessive wear on sliding surfaces of Tool parts.
   e. Excessive wear of unloading valve in Tool.
TROUBLESHOOTING (cont.)

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 pull grooves of jaw segments.
e. Excessive sheet gap.

8. Collar of Huckbolt®
Fastener not completely swaged
a. Improper Tool operation
   -- see Trouble 6.
b. Scored anvil.

9. Tool "hangs-up" on swaged collar of Huckbolt Fastener.
a. Improper Tool operation
   -- see Trouble 6.
b. RETURN pressure too low.
c. Not enough collar lubricant.
d. Nose assembly not installed per NOSE ASSEMBLY DATA SHEET.

10. Pintail of fastener fails to break.
a. Improper Tool operation
    -- see Trouble 6.
b. Pull grooves on fastener stripped
    -- see Trouble 7.
c. PULL pressure too low.
d. Worn unloading valve.

11. Nose assembly will not release broken pintail.
a. Nose assembly not installed per NOSE ASSEMBLY DATA SHEET.
b. Bent/broken pintail ejector tool.
Figure 3 - Hydraulic Coupler Set

O-ring P/N 504438, and back-up ring, P/N 501102, must be replaced if leakage occurs when hydraulic couplings are connected. Use a pick with a long point, approximately .060 in diameter, to lift out O-ring and back-up ring. O-ring and back-up ring are included in SERVICE PARTS KIT.

TO PREVENT DAMAGE TO O-RING, USE A FINE INDIA STONE TO REMOVE ANY NICKS OR BURRS FROM DIAMETER AND LEADING EDGE "A".
NOTES FOR TOOL
1. 11/32 wrench
2. 3/32 hex key, 502293
3. 3/16 hex key, 502296
4. 5/64 hex key, 502444
5. 1/16 hex key, 502443

NOTES and SPECIFICATIONS for STANDARD PARTS
1. All part numbers shown are available from Huck. The 500000 series numbers are standard parts which can generally be purchased locally.
2. Part No. 588KIT is the SERVICE KIT for 588RR.
3. The Aerospace Standard designation for O-rings is "AS568-". The last 3 digits after the dash give size -- i.e. in AS568-111, 111 is the size. (AS568- was previously ARP568-.)
4. Back-up rings are W.S. Shambam & Co. series S-11248-, single turn TEFOLON (MS-28774), or equivalent -- size is the last 3 digits (equivalent to O-ring size).
5. Materials for O-rings are shown below (equivalent may be used):

SERVICE KIT, 588KIT

<table>
<thead>
<tr>
<th>FIG.</th>
<th>P/N</th>
<th>DESCRIPTION</th>
<th>QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>504438</td>
<td>O-ring, AS568-111, (VITON-Parker Co. 747-75, 75 D)</td>
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<td>4</td>
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<td>O-ring, AS568-237, (BUNA N - Minn. Rbbr. Co. 366Y, 70D)</td>
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<td>506170</td>
<td>POLYSEAL (Microdot Inc. 125-00 187-2503)</td>
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<tr>
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<td>506171</td>
<td>POLYSEAL (Microdot Inc. 187-01 875-375B)</td>
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<tr>
<td>4</td>
<td>506174</td>
<td>wiper, (Microdot Inc. 959-20)</td>
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<td>back-up ring, S-1248-111</td>
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<td>back-up ring, S-1248-339</td>
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<td>501110</td>
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<tr>
<td>5</td>
<td>501106</td>
<td>back-up ring, S-1248-115</td>
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</table>
Figure 4 - Cylinder Assembly with Part Numbers

(See page 11 for disassembly tools and SERVICE KIT)
DISASSEMBLY
(See Figures 4, 5, 6 and NOTES FOR TOOL)

For part identification see Figures given above. The following procedures are for complete disassembly of Tool. Remove ONLY those parts necessary -- check and replace damaged or worn components. Replace ALL seals and back-up rings whenever tool is disassembled for any reason. See CAUTIONS in ASSEMBLY.

WARNING
Be sure to disconnect Tool's control trigger system from POWERIG®Hydraulic Unit before disconnecting Tool's hydraulic hoses from unit. If not disconnected in this order before any maintenance or cleaning is done, severe personal injury may occur.

1. First, disconnect Tool's electric trigger Control Cord from hydraulic unit -- then, uncouple Hydraulic Hoses.

Note: Disassemble control switch only when necessary to rewire or replace -- see appropriate paragraph.

2. Cut Cable Ties from hoses, being careful not to cut into hoses.

3. Remove both Couplers (nipple & body) from hoses -- drain hoses into container -- push rearward on Piston until fluid is drained.

4. Unscrew both hoses from Tool's Handle.

5. Unscrew Socket Head Cap Screw -- use hex key. Remove Locator from End Cap.

6. Unscrew end cap -- tap with brass drift to get started.

7. Pull Dump Valve out of Piston.

8. Remove Retaining Ring from Nose Adapter.
122998 EJECTOR GLAND ASSEMBLY

121187 GLAND ASSEMBLY

Figure 5 - Gland Assemblies with Part Numbers
(See page 11 for disassembly tools and SERVICE KIT)
DISASSEMBLY (cont.)

9. Push rearward on piston and adapter until both are out of Cylinder -- pull out of adapter.

**Note:** Ejector gland can be removed to inspect and/or replace components without completely disassembling Tool.


11. Use a small diameter, dull-pointed rod to remove seals and back-up rings from all parts.

12. Unscrew six Socket Head Cap Screws from Handle -- use hex key. Carefully lift Cylinder away from handle.

13. Pull both Gland Assemblies out.

ASSEMBLY

Clean tool parts with mineral spirits, or equivalent, (see page 7) -- inspect for wear or damage -- replace as required. **Always replace all seals on/in disassembled components.** Use O-rings and back-up rings supplied in **SERVICE KIT**, also see page 6 for alternative sources. Smear **LUBRIPLATE 130AA**, or equivalent, on O-rings, back-up rings and mating components for ease of assembly. Assemble Tool taking care not to damage either O-rings or back-up rings.

**CAUTION**

*Use SLIC-TITE on pipe threads -- do not use TEFLO N tape.*

1. Place both Gland Assemblies in Cylinder.

2. Carefully push Handle onto Gland Assemblies. Screw two Socket Head Cap Screws into opposite sides of handle -- tighten with hex key. Install remaining screws. *Tighten all screws evenly to 18-22 foot pounds.*
ASSEMBLY (cont.)

3. Assemble Ejector Gland Assembly as shown.

4. **CAUTION**: Do not damage lip of POLYSEAL with ejector rod. Carefully push ejector rod through gland assembly - - tighten gland into piston with 11/32 box end or socket wrench.

5. Push Adapter into Cylinder - - install retaining ring.

6. **CAUTION**: Be sure POLYSEAL does not hang up on edge of piston chamfer. Push piston/seal assembly into cylinder - - align dump valve in piston with hole in adapter. Push dump valve through piston and into hole in adapter. If dump valve holes are not aligned, the end cap will not thread all the way into the cylinder.

7. Thread End Cap completely into cylinder. **Cap must be flush with cylinder or slightly below**.

8. Back end cap out until nearest cap slot aligns with cylinder groove. Push Locator into recess and install Socket Head Cap Screw -- use hex key.

9. Push electrical cord through Strain Relief and attach wires to Switch -- use hex key.

10. Screw both Hoses into handle -- see **CAUTION** just prior to 1. Screw Coupler Nipple onto hose in port P and Coupler Body in port R.

11. Install new cable ties -- see **WARNING** in DISASSEMBLY.

   A. Connect Hoses to POWERIG® Hydraulic Unit.

   B. Connect Control Cord Plug to hydraulic unit.

12. **IMPORTANT** -- see PREPARATION FOR USE for WARNINGS, CAUTIONS, procedure for Tool set-up and checking installed fasteners. See OPERATING INSTRUCTIONS for safe fastener installing procedure -- after checking performance, return Tool to service.
**SUB-ASSEMBLY PART NUMBERS and NOTE**

Refer to Figures 4, 5 and 6

<table>
<thead>
<tr>
<th>Description</th>
<th>P/N</th>
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<tr>
<td>Adapter Assembly includes:</td>
<td></td>
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<tr>
<td>nose adapter</td>
<td>122995</td>
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<tr>
<td>wiper</td>
<td>(1)</td>
</tr>
<tr>
<td>POLYSEAL</td>
<td>506174</td>
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<tr>
<td>back-up ring</td>
<td>506171</td>
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<td>O-ring</td>
<td>501164</td>
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<tr>
<td>retaining ring</td>
<td>500889</td>
</tr>
</tbody>
</table>

| Piston Assembly includes: | 122993 |
| piston | (1) |
| dump valve | 121176-1 |
| back-up ring | 502871 |
| O-ring | 506088 |

| End Cap Assembly includes: | 122994 |
| end cap | (1) |
| locater | 118921 |
| screw, 6-32 x .25 | 500047 |
| back-up ring | 501164 |
| O-ring | 500869 |

| Ejector Gland Assembly includes: | 122998 |
| ejector gland | (1) |
| POLYSEAL | 506170 |
| spacer | 122997 |
| retaining ring | 501087 |
| O-ring | 500781 |

| Gland Assembly includes: | 121187 |
| gland | (1) |
| O-ring | 500809 |
| back-up ring | 501103 |
| O-ring | 500812 |
| back-up ring | 501106 |

| Cord Assembly includes: | 110940 |
| connector - 24V3NP | 110686 |

**CAUTION**: Install POLYSEAL cup and wiper as shown.

(1) Purchase sub-assembly when this part is required.
SERVICE NOTES:
**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

**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.
A Global Organization
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 Aerospace centers, where they provide a ready source of AFS fasteners, installation tools, tool parts, and application assistance.

Alcoa Fastening Systems world-wide locations:

**Americas**

- **Aerospace Products**
  - **Tucson Operations**
    - 3724 East Columbia
    - Tucson, AZ 85714
    - 800-234-4825
    - 520-747-9898
    - FAX: 520-749-2142

- **Commercial Products**
  - **Kingston Operations**
    - 1 Corporate Drive
    - Kingston, NY 12401
    - 800-431-3091
    - 845-331-7300
    - FAX: 845-334-7333
    - www.hucktools.com

- **Carson Operations**
  - PO Box 5268
  - 900 Watson Center Rd.
  - Carson, CA 90749
  - 800-421-1459
  - 310-830-8200
  - FAX: 310-830-1436

- **Canada Operations**
  - 6150 Kennedy Road, Unit 10
  - Mississauga, Ontario L5T2J4
  - Canada
  - 905-564-4825
  - FAX: 905-564-1963

- **Waco Operations**
  - PO Box 8117
  - 8001 Imperial Drive
  - Waco, TX 76714-8117
  - 800-388-4825
  - 254-776-2000
  - FAX: 254-751-5259

- **Latin America Operations**
  - Avenida Parque Lira, 79-402
  - Tacubaya Mexico, D.F.
  - C.P. 11850
  - FAX: 525-515-1776
  - TELEX: 1173530 LUKSME

**Far East**

- **Commercial Products**
  - **Australia Operations**
    - 14 Viewtech Place
    - Rowville, Victoria
    - Australia 3178
    - 03-764-5500
    - Toll Free: 008-335-030
    - FAX: 03-764-5510

- **Aerospace Products**
  - **France Operations**
    - Clos D’Asseville
    - BP4
    - 95450 Us Par Vigny
    - France
    - 33-1-30-27-9500
    - FAX: 33-1-34-66-0600

**Europe**

- **Commercial Products**
  - **United Kingdom Operations**
    - Unit C, Stafford Park 7
    - Telford, Shropshire
    - England TF3 3BQ
    - 01952-290011
    - FAX: 0952-290459


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1 Corporate Drive, Kingston, NY 12401 • Tel: 800-431-3091 • Fax: 845-334-7333 • E-mail: hkitoolinfo@alcoa.com • www.alcoafasteningsystems.com