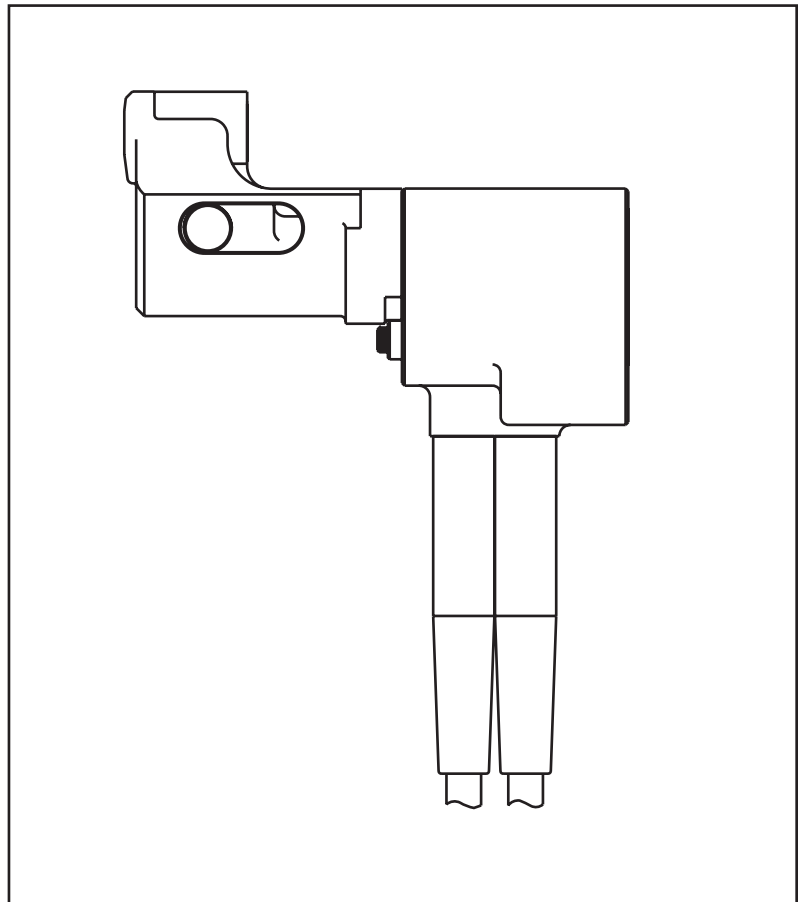


Alcoa  
Fastening  
Systems



**INSTRUCTION MANUAL**  
**MODEL** A206-375, 206-375,  
A206-375-2, A206-625, 206-625,  
206-500-25 and A206-375-25  
**HYDRAULIC INSTALLATION TOOL**



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

Form HK 1059  
03-01-2004



# EU Declaration of Conformity

**Manufacturer:**

Alcoa Fastening Systems, 1 Corporate Drive, Kingston, NY, 12401, USA

**Description of Machinery:**

Model number: 206/208 Series Fastener Installation Tools contained in this manual

**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 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: Henk Rosier

Position: Engineering Manager  
Installation Systems Division

Place: Kingston, New York, USA

Date: June, 2003

## Huck Model 206/208 (Family) Sound Level

SEL = 88.8 dB (A)  
peak value = 119 dB (C)

For an eight hour work day, installing 500 typical Huck fasteners will result in an equivalent noise level (Leq) of 71.3 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 206/208 (Family) Vibration Level

For an eight hour work day, installing 500 typical Huck fasteners will result in an equivalent weighted RMS vibration level (Aeq, 8 hrs) of 0.594 m/s<sup>2</sup>.

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

$$\text{Equivalent Vibration Level, Aeq (m/s}^2\text{)} = (n/480) \times N6$$

where n = number of fasteners in eight hours, and N6 (m/s<sup>2</sup>) = Aeq for 60 seconds.

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 daage equipment and or structure.

**Notes** - are reminders of required procdures.

**Bold, Italic type and underlining** - empha sizes 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](http://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 deflectors.
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 .....	1
Principle of Operation .....	2
Specifications .....	3
Tool Operation/Installation Sequence .....	4
Preparation for Use .....	5
Operating Instructions .....	6
Maintenance (Good Service Practices) .....	7
Maintenance (Preventive Maintenance) .....	8
Troubleshooting .....	9
Sub-assembly Part Numbers .....	10
Stroke Limiter/Max. Grip Conditions .....	10
Specifications for Standard Components .....	11
Service Parts Kit .....	11
Sectional View W/Part Numbers (206-375) .....	12
Disassembly .....	13 & 14
Assembly .....	14 & 15
Hydraulic Hose & Coupler Set .....	16
Air Trigger Assemblies .....	17, 17a & 17b
Electric Trigger Assembly .....	18
Air and Hydraulic Conversion Kit (125149) .....	19
Assembly Drawing W/Part Numbers (A206-375-2) .....	20
Assembly Drawing W/Part Numbers (A206-625) .....	21
Assembly Drawing W/Part Numbers (206-625) .....	22
Assembly Drawing W/Part Numbers (206-500-25) .....	23
Assembly Drawing W/Part Numbers (A206-375-25) .....	24

## DESCRIPTION

Huck Models A206-375 and 206-375 Hydraulic Installation Tools install various fasteners. These light-weight and compact mini- tools, with their offset nose assemblies, have been specially designed for limited clearance areas.

Tools are powered by Huck POWERIG® Hydraulic Units, or equivalent. These tools are designed to operate on 5400 to 5700 psi PULL pressure and 2200 to 2400 psi RETURN pressure as supplied by your hydraulic unit.

A206-375 is an air triggered tool to be used with Huck Models 956 and 970 POWERIG Hydraulic Units, or equivalent. 208-625 is an electric triggered tool designed for use with Models 913H, 918 and 940 or equivalent.

Use the correct nose assembly for your fastener — match the fastener type/size to the nose assembly on the NOSE ASSEMBLY SELECTION CHART.

Each 206-375 Tool is complete with hydraulic hoses, couplings and control trigger assembly (air or electric).

Tool consists of a cylinder assembly and a piston assembly — piston has an unloading valve to relieve hydraulic pressure at end of PULL stroke. Piston rod is off-center to the centerline of piston — tool clearance is increased by having an off-center piston assembly. An offset nose assembly enhances tool's built-in clearance — this provides maximum clearance obtainable. A nose assembly is attached to the tool's piston rod using the nose assembly's draw bar. An anvil holder stop limits nose assembly rotation to 80 degrees. Included with each tool is an extra unloading valve — valve is used when a long-stroke tool is required — remove stroke limiter and install extra valve (flats to rear of tool). See MAX.

### GRIP CONDITIONS

and INCREASING TOOL STROKE for conditions that require long stroke.

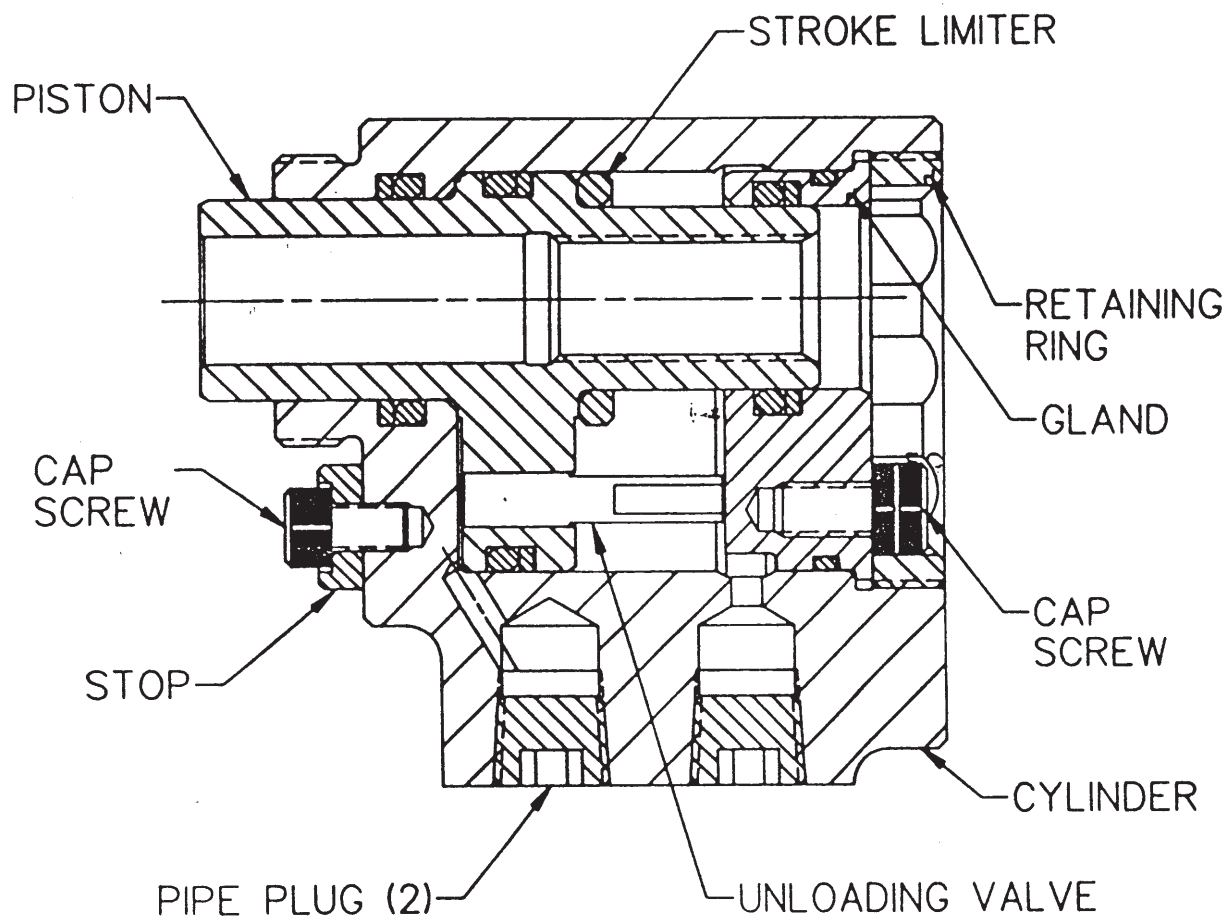
Hoses may be installed in bottom of cylinder or out the back of cylinder, as application requires. After removing hoses, move pipe plugs to hose ports — reinstall hoses. Use TEFLON pipe sealant/compound on threads — CAUTION: Do not use TEFLON tape — see Note on page 4.

**PRINCIPLE OF OPERATION** (See Figure 2)

First, hydraulic hoses, and then, trigger control cord/hose are connected to POWERIG® Hydraulic Unit — trigger controls PULL and RETURN strokes of Tool. Trigger is depressed; hydraulic pressure is directed to PULL side of piston and piston moves rearward — fastener installation begins.

When installation is completed, trigger is released. Hydraulic pressure is directed to RETURN side of piston — it moves forward — nose assembly, with tool, is pushed off installed fastener.

At end of piston's PULL stroke, the flat of unloading valve provides a passage for fluid from PULL side to RETURN side of piston. When this occurs, pressurized fluid is unloaded/dumped — fluid circulates back to reservoir of the hydraulic unit.



**Figure 2 - Tool Components**

**SPECIFICATIONS** (All Models)

Power source .....	Huck POWERIG Hydraulic Unit	
PULL pressure .....	5400-5700 psi	37200-39300 kPa
RETURN pressure .....	2200-2400 psi	15200-16500 kPa
Maximum pinbreak .....	5350 lb <sub>f</sub> 23,798 N	
Fasteners installed .....	Refer to appropriate NOSE ASSEMBLY SELECTION CHART.	
Operating temperature .....	32° - 125° F (0° - 51.7° C)	
Hydraulic fluid .....	Automatic transmission fluid DEXRON III, DTE20 or equivalent.	

**Note:** Quintolubric 822 can be used if fire resistant fluid is required.

MSDS Specifications are available from you Huck representative or on-line at [www.huck.com](http://www.huck.com). Click on Installation Systems Division.

<u>Model No.</u>	<u>Length</u>	<u>Width</u>	<u>Height</u>	<u>Weight</u>
206-375	4.5 in.	1.75 in.	3.25 in.	3.37 lbs.
	115 mm	43.5 mm	83mm	1.5 kg

**Note:** Length, Width, Height and Weight include overall dimensions/weight of typical assembled Offset Nose Assembly and Tool.

SEE N.A.D.S. FOR DIMS.

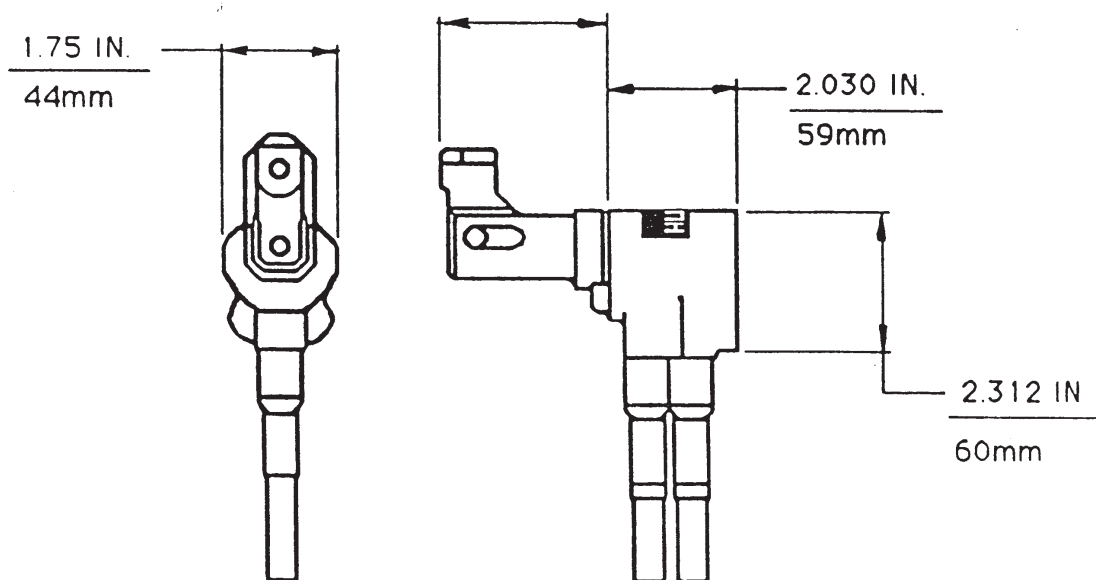


Figure 1 - Outline Dimensions

The diagram consists of several technical drawings and a sequence of illustrations. At the top, a cross-sectional view shows the tool in its 'HOME POSITION (RETURN)' with dimensions: 4.537, 115.2, 2.221, 56.4, 1.153, 29.3, 8.25, 21, 9.7, 13.1, 5.15, 1.250, 31.8, 2.146 REF, 54.5, 13.1, 6.64, 17.6, 7.63, 13.2, 2.436, 61.9, 2.708, 68.8. To its right, another cross-section shows the 'RETRACTED POSITION (PULL)' with dimensions: 2.604, 58.1, 1.536, 39, 1.208, 30.7. Below these, a third cross-section shows the 'HOME POSITION (RETURN)' with dimensions: 4.686, 115.2, 4.537, 115.24, 1.151, 29.23, 8.23, 20.89, 9.42, 3.71, 1.250, 31.75, 55.05 REF, 2.168 REF, 13.88, 5.47, 0.83, 1.9, 2.437, 61.9, 2.709, 68.81. To its right, a fourth cross-section shows the 'RETRACTED POSITION (PULL)' with dimensions: 1.533, 38.05, 1.205, 30.61. In the center, a cross-section shows the 'HOME POSITION (RETURN)' with dimensions: 4.66, 118.41, 1.13, 28.64, 8.48, 1.25, 31.75, 53.29 REF, 2.10, 13.08, 5.2, 2.38, 60.33, 2.65, 67.23. To its right, a fifth cross-section shows the 'RETRACTED POSITION (PULL)' with dimensions: 1.51, 38.35, 40, 10.1. At the bottom left, a diagram labeled 'TOOL OPERATION' shows a hand holding the tool, with 'DANGER ZONES' and 'PROPER HAND POSITION' indicated. Below this, a diagram shows the '206-375 TOOL WITH 99-4700DG NOSE ASSEMBLY SHOWN ENGAGED ON FASTENER WITH CYLINDER IN HOME POSITION (RETURN)'. At the bottom right, a sequence of four illustrations shows the 'INSTALLATION SEQUENCE'.



## PREPARATION FOR USE



### CAUTION:

*Do not let disconnected hoses and couplers contact a dirty floor — keep harmful material out of hydraulic fluid — dirt in hydraulic fluid causes valve failure In Tool and In POWERIG Hydraulic Unit.*

### Note:

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

Rub SLIC-TITE TEFLON thread compound, or equivalent, on pipe threads to prevent leaks and for ease of assembly — **CAUTION:** *Do not use TEFLON tape on pipe threads* — particles of shredded tape cause failure of hydraulic unit valve. (Use 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-124883 and T-124883CE, 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 control cord to unit. If not connected in this order, severe personal injury may occur.**

1. Use Huck POWERIG Hydraulic Unit, or equivalent, that has been prepared for operation per INSTRUCTION MANUAL. Check both PULL and RETURN pressures, and if required, adjust to pressures given in SPECIFICATIONS of this manual. See both hydraulic unit's and T-124883's Instruction manuals before/during checking procedure. Visually inspect for leaks and to verify that End Cap is installed correctly.
2. First, turn hydraulic unit to OFF, and then, disconnect power supply from hydraulic unit — disconnect trigger control system from hydraulic unit.
3. Connect tool hoses to hydraulic unit. If required, adjust position of trigger assembly on return pressure hose. Connect trigger control system to hydraulic unit.
4. Connect hydraulic unit to power supply (air or electric). Turn hydraulic unit to ON. 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.
5. Select nose assembly from SELECTION CHART for fastener to be installed. Disconnect hydraulic unit from power supply; disconnect Tool's trigger control system from hydraulic unit. Attach nose assembly to Tool per instructions in NOSE ASSEMBLY DATA SHEET.
6. Reconnect Tool's trigger control system to hydraulic unit; reconnect unit to power supply. 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.
7. Operator should receive training on proper use from qualified personnel.

## OPERATING INSTRUCTIONS

*For safe operation. Please read completely*

### General



Operators should receive training from qualified personnel.



**WARNING:** To avoid severe personal injury: Wear approved eye and ear protection. Be sure of adequate clearance for Operator's hands before proceeding with fastener installation. Be sure that pintail deflector is on tool and directed away from all personnel.

Do not bend tool to free if stuck.

Tool should only be used to install fasteners. NEVER use as a jack/spreader or hammer.

### HUCKBOLT® Fastener Installation:



**WARNING:** Do not pull on a pin without placing fastener/collar in a workpiece, and also, collar chamfer **MUST** be out toward tool - - these conditions cause pin to eject with great velocity and force when the pintail breaks off or teeth/grooves strip. This may cause severe personal injury.

**CAUTION:** Remove excess gap from between the sheets. This permits enough pintail to emerge from collar for ALL jaw teeth to engage with pintail - - if ALL teeth do not engage properly, jaws will be damaged.

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 - - 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 - - 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.

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

## MAINTENANCE



### CAUTION:

- *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 unloading 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 or Unloading Valve.*

### Good Service Practices

The efficiency and life of your Installation Tool depends upon proper maintenance and good service practices. Using our manual will help give you 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/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 PARTS KIT.

**Note:** Consult manual's TROUBLESHOOTING CHART 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.

### Fluid Maintenance

For fluid maintenance please refer to NAS 1638 class 9 or ISO CODE 18/15 or SAE level 6

### Standard Sealants, Lubricants and SERVICE PARTS KIT

Rub SLIC-TITE TEFLON thread compound, or equivalent, on pipe threads to prevent leaks and for ease of assembly — **CAUTION: Do not use TEFLON tape on pipe threads** — particles of shredded tape cause 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 PARTS 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.

Inspect tool daily. Check hoses, fittings and disconnects for leaks or damage.

## **MAINTENANCE (cont.)**

### **PREVENTIVE MAINTENANCE**

#### **System Inspection**

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

1. Inspect Tool for external damage.
2. Verify that hoses and fittings, and trigger connections are secure.
3. Inspect hydraulic hoses for signs of damage. Replace if required.
4. Inspect 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/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. Spare Parts Kits should be kept on hand. Inspect cylinder bore, piston and rod/extension, and unloading valve for scored surfaces, excessive wear or damage — replace parts as necessary. On any assembly with UNITIZED™ Jaws, clean all parts in mineral spirits or isopropyl alcohol only — under no circumstances let jaws come in contact with other solvents — also, do not let jaws soak; dry the jaws immediately after cleaning; dry other parts before assembling. Urethane soaks up other solvents, then swells up and becomes unusable. Use a sharp pointed “pick” to remove imbedded particles from the pull grooves of the jaws. If additional information is required, 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 Trouble Shooting Chart as an aid for locating and correcting trouble.

- |  |  |
|--|--|
| 1. Tool fails to operate when trigger is depressed.                  | <ul style="list-style-type: none"> <li>a. Inoperative POWERIG® Hydraulic Unit. See applicable instruction manual.</li> <li>b. Loose air or electric connections.</li> <li>c. Damaged trigger assembly</li> <li>d. Loose or faulty hydraulic hose couplings</li> <li>e. Unloading valve not installed in Tool.</li> </ul>           |
| 2. Tool operates in reverse. connections                             | <ul style="list-style-type: none"> <li>a. Reversed hydraulic hose between hydraulic unit and Tool.</li> </ul>  |
| 3. Tool leaks hydraulic fluid.                                       | <ul style="list-style-type: none"> <li>a. Defective Tool O-rings or loose hose connections at Tool.</li> </ul>   |
| 4. Hydraulic couplers leak fluid.                                    | <ul style="list-style-type: none"> <li>a. Damaged or worn O-rings in coupler body — see Coupler, 110440.</li> </ul>  |
| 5. Hydraulic fluid overheats.  | <ul style="list-style-type: none"> <li>a. Hydraulic unit not operating properly — see manual.</li> <li>b. Unloading valve installed incorrectly.</li> <li>c. POWERIG Hydraulic Unit running in reverse (918; 918-5 only) — see unit's manual.</li> </ul>   |
| 6. Tool operates erratically and fails to install fastener properly. | <ul style="list-style-type: none"> <li>a. Low or erratic hydraulic pressure — air in system.</li> <li>b. Damaged or worn piston O-ring in Tool.</li> <li>c. Unloading valve installed incorrectly.</li> <li>d. Excessive wear on sliding surfaces of Tool parts.</li> <li>e. Excessive wear of unloading valve in Tool.</li> </ul> |
| 7. Pull grooves on fastener pintail stripped during PULL stroke.     | <ul style="list-style-type: none"> <li>a. Operator not sliding anvil completely onto fastener pintail.</li> <li>b. Incorrect fastener grip.</li> <li>c. Worn or damaged jaw segments.</li> <li>d. Metal particles in pull grooves of jaw segments.</li> <li>e. Excessive sheet gap.</li> </ul>                                     |
| 8. Collar of HUCKBOLT® fastener not completely swaged.               | <ul style="list-style-type: none"> <li>a. Improper Tool operation — see Trouble 6.</li> <li>b. Scored anvil.</li> </ul>  |
| 9. Shear collar on Huck blind fastener not driven.                   | <ul style="list-style-type: none"> <li>a. Improper Tool operation.</li> <li>b. Worn or damaged driving anvil in nose assembly.</li> </ul>  |
| 10. Tool "hangs-up" on swaged collar of HUCKBOLT Fastener.           | <ul style="list-style-type: none"> <li>a. Improper Tool operation — see Trouble 6.</li> <li>b. RETURN pressure too low.</li> <li>c. Nose assembly not installed per NOSE DATA SHEET.</li> </ul>  |
| 11. Pintail of fastener fails to break.                              | <ul style="list-style-type: none"> <li>a. Improper Tool operation — see Trouble 6.</li> <li>b. Pull grooves on fastener stripped. — see Trouble 7.</li> <li>c. PULL pressure too low.</li> <li>d. Worn unloading valve.</li> </ul>   |

**SUB-ASSEMBLY PART NUMBERS**

① Cylinder Assembly, 119435, includes 503802, 501106 and 503704 (2).

② Piston Assembly, 119851, includes 503810 and 501114.

③ Gland Assembly, 119420, includes 500820, 505758 and 501105.

**MAX. GRIP CONDITIONS and INCREASING TOOL STROKE**

Included with Tool is a longer unloading valve. To install valve, remove stroke limiter from Tool and replace original unloading valve with longer valve, 119422, — Tool will now have .500 stroke. The .500 stroke is required when installing fasteners in maximum grip conditions, and when excessive sheet gap exists. Under normal conditions, Nose Assemblies will install fasteners with standard 206-375 or A206-375.



**WARNING:** When stroke has been increased, care should be exercised to be sure clearance is allowed for the operator's hands and the Tool. If clearance is not maintained, severe personal injury could result — long stroke also increases possibility of structural and Tool damage.

## NOTES AND SPECIFICATIONS FOR STANDARD PARTS

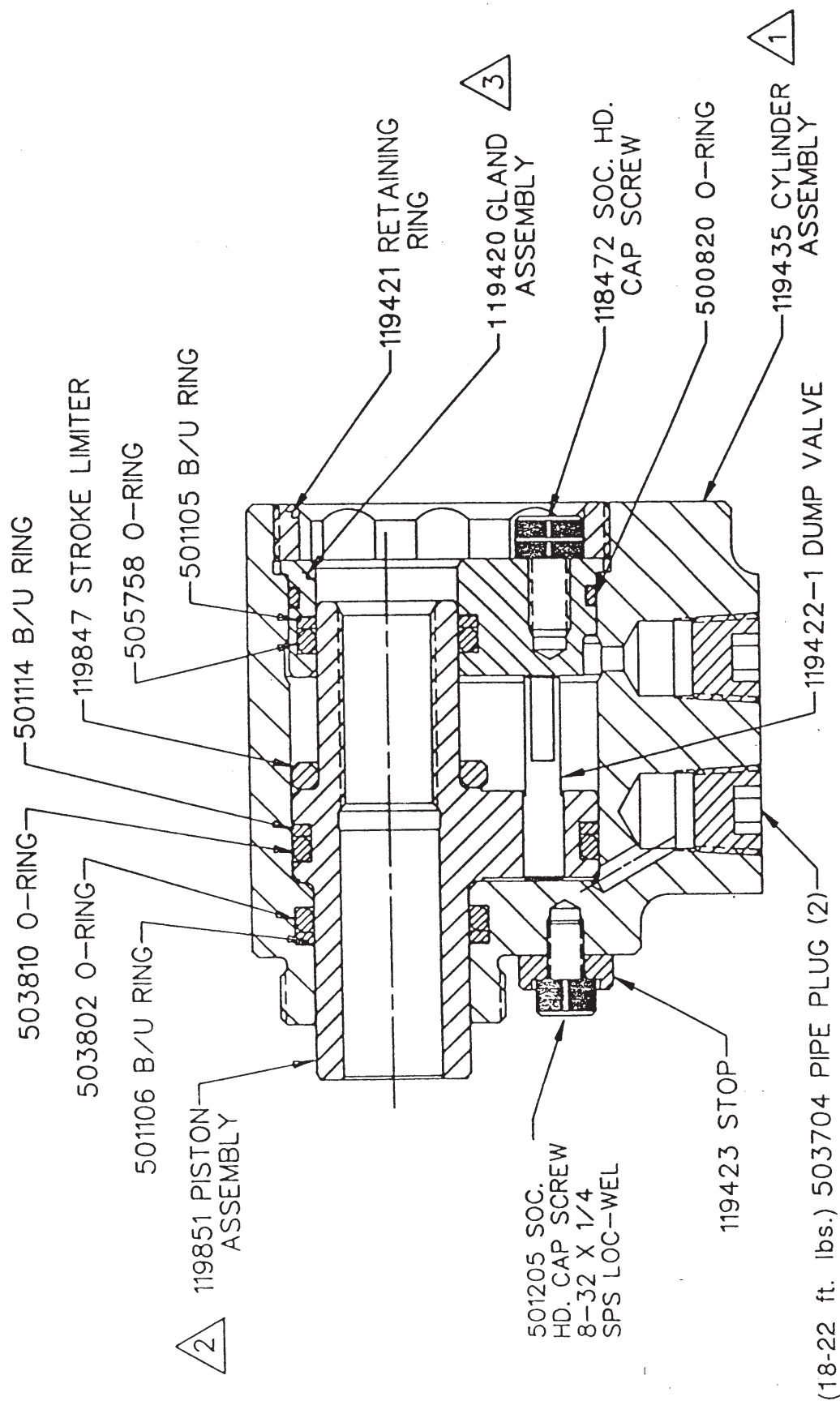
1. All part numbers shown are available from Huck Manufacturing Co. The 500000 series numbers are standard parts which can generally be purchased locally.
2. Part No. 206-375KIT is the Service Parts Kit for both the 206-375 and A206-375.
3. O-ring sizes are called "AS dash numbers": i.e. last 3 digits give size. AS (Aerospace Standard), with 568-, identifies O-rings and is prefix for a particular O-ring size. AS 568 was previously ARP 568.
4. Back-up rings are W.S. Shambam & Co. series S-11248-, single turn TEFLON (MS-28774), or equivalent. The dash numbers. i.e. last 3 digits, are the same as the O-ring's dash numbers.
5. Materials for O-ring:

FIG .	P/N	MATERIAL	DUROMETER
FIG 3	503802	DISOGRIN IDSA 9250	90
FIG 3	505758	DISOGRIN "	90
FIG 6	504438	VITON V747-75	75
FIG 7	500773	(BUNA N MINN RBBR CMPND 366Y,	70
Fig. 8	500780	" "	
FIG 7	500777	SAE SB715 BE 1 E3 F2)	-
FIG 3	500820	"	

## SERVICE PARTS KIT, 206-375KIT, (for 206-375; A206-375)

P/N	DESCRIPTION	QTY./ASSEM.
501105	B-U RING 5-11248-114	1
505758	O-RING AS 568-114	1
501114	B-U RING 5-11248-123	1
503810	O-RING AS 568-1231	
501 106	B-U RING S-11248-115	1
503802	O-RING AS 568-115	1
500820	O_RING AS 568-1 23	1
504438	O-RING AS 568-111	1
501102	B-U RING S-11248-111	1
500773	O-RING AS 568-007	1
500777	O-RING AS 568-011	1
500780	O-RING AS 568-0141	





**Figure 3 - Sectional View with Part Numbers**  
(See pages 10 and 11 for additional parts and part no. information.)

**NOTE**  
Position of installed plugs/hoses is optional. Illustration shows only one position for plugs; hoses not shown -- hoses show when plugs are not shown.

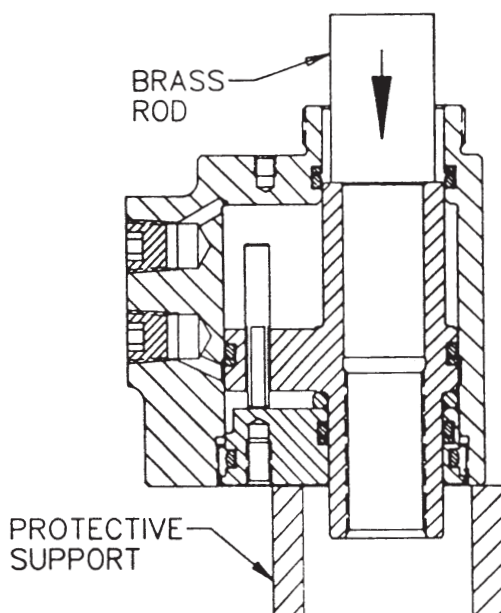


**DISASSEMBLY (See Figures 3, 4, 5, 6, 7 and 8)**

For component identification see Figures 3, 6, 7 and 8. The following procedure is for complete disassembly of Tool. Remove only those parts necessary — check and replace damaged/worn components. Replace O-rings and back-up rings.

**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 or air trigger control hose from hydraulic power unit — then, uncouple Hydraulic Hoses.
2. Unscrew Cap Screw and remove Anvil Retainer — remove nose assembly from Tool.
3. Cut Cable Ties from hoses, being careful not to cut into hoses.
4. Remove Trigger Housing from hoses (for more detailed information, refer to Illustrations of applicable trigger assemblies in this manual).
5. Remove both Couplers (nipple & body) from hoses — drain hoses into container.
6. Unscrew both hoses from Tool's Cylinder.
7. Unscrew Socket Head Screw— use 5/32 hex key — remove Retaining Ring.
8. Drain fluid from cylinder into container and discard fluid.
9. Press Piston and Gland from cylinder in two steps as follows:
  - STEP 1. Press against piston rod with a wood block until block contacts front of cylinder (block not shown).
  - STEP 2. Then, using a brass drift/rod, resume pressing on piston rod until piston rod and gland are free of cylinder (see Figure 4).



**Figure 4 - Removing Piston and Cap**

**DISASSEMBLY (cont.)**

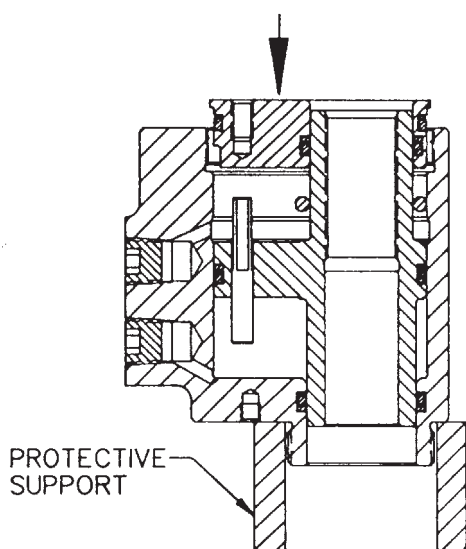
10. Slide Gland from piston rear extension.
11. Remove Unloading Valve from piston; remove Stroke Limiter from piston extension.
12. Use a small, dull pointed rod to remove all O-rings and back-up rings from parts.
13. See Figures 7 and 8, control trigger systems, for parts.

**Note:** Disassemble control trigger systems only when necessary to rewire or replace switch/trigger.

**ASSEMBLY**

Clean all tool components with mineral spirits, or equivalent, and inspect for wear or damage — replace as required. **Always replace all seals on/in disassembled components.** Use O-rings and back-up rings supplied in SERVICE PARTS KIT, 208-625KIT, (see page 10). 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.

1. Set Cylinder Assem. on a protective support, such as a pipe coupling or a hollow wood block, (FIGURE 5), that will protect the front extension's threads — the Piston can then slide through front opening of cylinder.



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

**Cautions:** - Always use proper dump valve and stroke limiter. (If stroke is going to be changed, see appropriate drawing)

- Always make sure the large flats of the dump valve face the rear of the tool.

**Figure 5 - Replacing Piston and Cap**

2. Position piston in cylinder so that piston rod is aligned with front opening of cylinder. Push down on piston face (see Figure 5) — continue to push until piston stops at bottom of cylinder — piston rod now extends through front opening.
3. Push Unloading Valve into hole in piston face — flats on valve must be toward rear of Tool. Slide Stroke Limiter onto piston extension.
4. Place Gland in cylinder so that opening aligns with extension. Press gland into cylinder until it stops against cylinder shoulder.

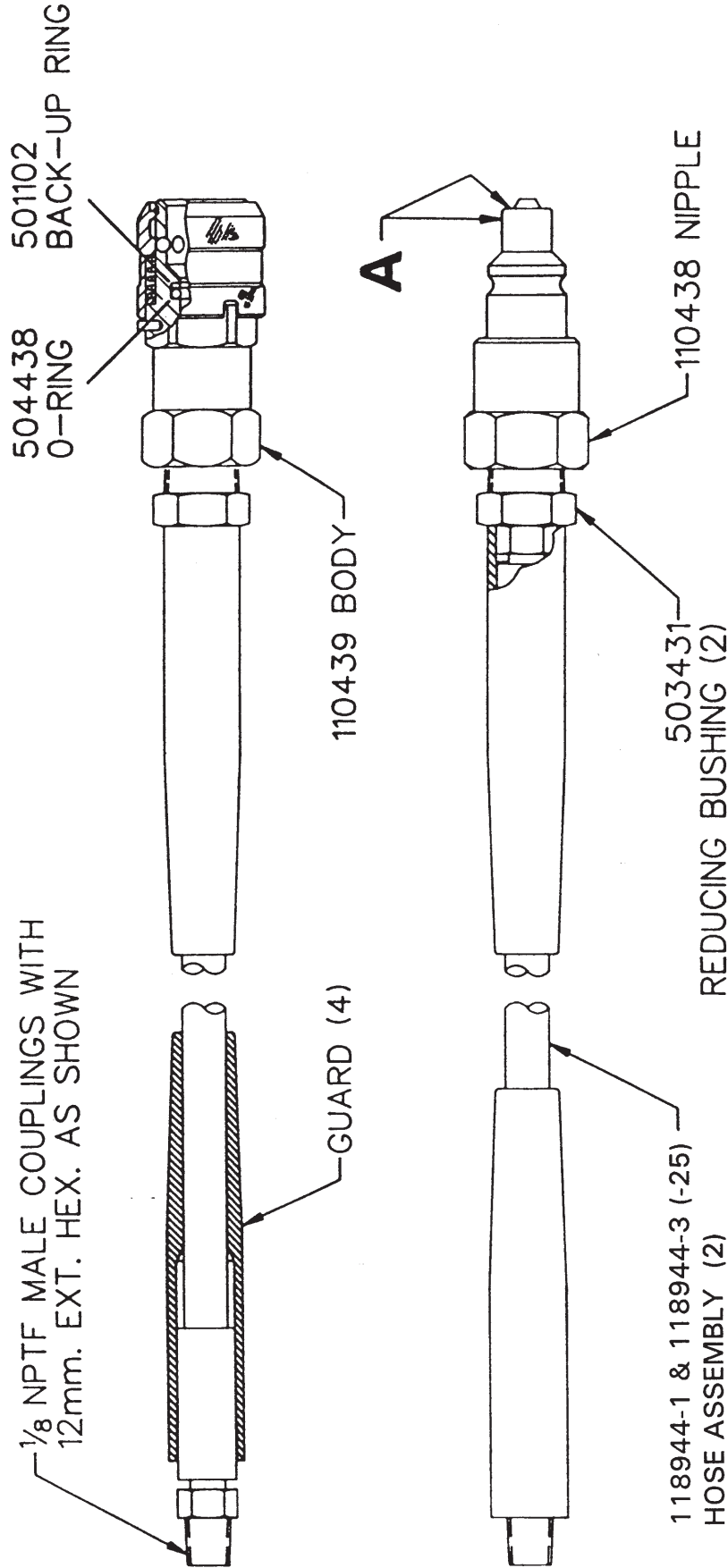
**ASSEMBLY (cont.)**

5. Screw Retaining Ring into cylinder until it stops. Back ring out 1/4 turn, or less, until Cap Screw can be screwed into gland at nearest retaining ring scallop—tighten with 5/32 hex key.
6. Screw hoses into Cylinder — use SLIC-TITE, **CAUTION:** *No not use TEFLON tape.*
7. See Figure 7 for components of Air Trigger Assembly.
8. See Figure 8 for components of Electric Trigger Assembly.  
**NOTE:** Air Trigger Control Assembly can be modified to use with 970 POWERIG® Hydraulic Unit. Remove Quick Disconnect, 113021; replace with Male Air Fitting, 503902. — screw 503902 into sub-plate of 970.
9. Clamp either trigger assembly onto return hose and close to Tool.
10. Install new cable ties. Six (6) ties are spaced approx. 18" apart.
11. **NOTE:** See WARNING in DISASSEMBLY.
  - A. Connect hydraulic hoses to Powerig® Hydraulic Unit.
  - B. Connect control trigger connector/disconnect to hydraulic unit.
12. **NOTE:** -- see PREPARATION FOR USE for WARNINGS, CAUTIONS, procedure for Tool set-up, reference to nose assembly and checking installed fasteners. See OPERATING INSTRUCTIONS for safe fastener installing procedure.
13. If all test results are good, Tool is ready to return to service.

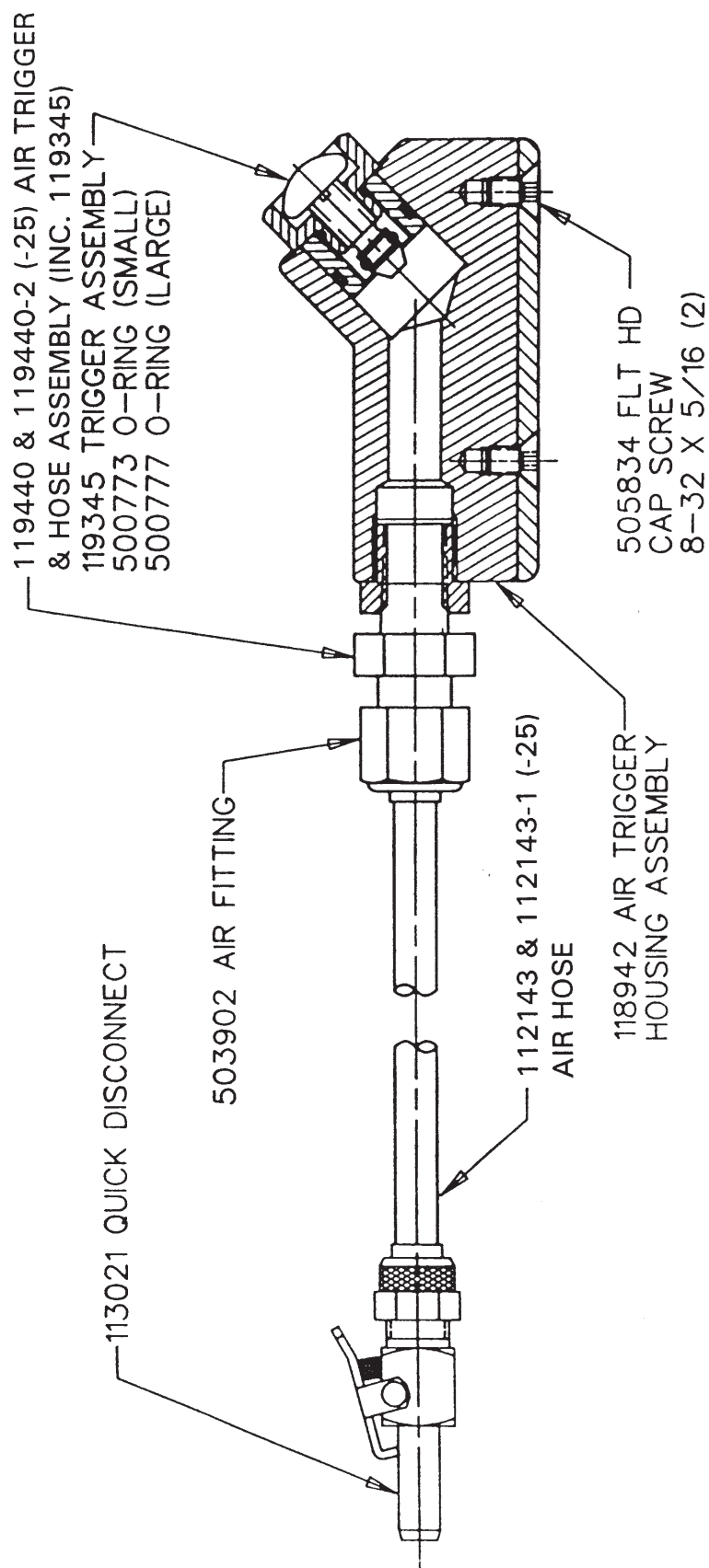
**HYDRAULIC COUPLER SET, P/N 110440**

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 kit.

TO PREVENT DAMAGE TO O-RING, USE A FINE INDIA STONE TO REMOVE ANY NICKS OR BURRS FROM DIAMETER AND LEADING EDGE "A".



**Figure 6 - Hydraulic Hose and Coupler Set**



**Figure 7 - Air Trigger Assembly, 118935 & 118935-1**

(Note: 118935 & 118935-1 includes entire assembly.)

REV	DESCRIPTION	DATE
A	RELEASE	04/22/96

125142 AIR TRIGGER  
& HOSE ASSEMBLY

118942 AIR TRIGGER  
HOUSING ASSEMBLY

FORM: KE104 REV C		By accepting this proprietary Huck drawing, recipient agrees not to reproduce or disclose any part thereof to any others without the written permission of Huck International, Inc.	
MATERIAL:	-	SPEC:	TOLERANCES UNLESS OTHERWISE SPECIFIED: (ALL DIMENSIONS ARE IN INCHES)
HARDNESS:	-	(RAW OR STOCKED STATE)	HUCK INTERNATIONAL, INC., I.S.D. 85 GRAND STREET, P.O. BOX 2270 KINGSTON, NEW YORK 12401
HEAT TREAT TO:	-	SPEC:	XX, .XXX ± -
SURFACE TREAT:	-	SPEC:	INT. COR. RADII -
SURFACE FINISH NOT TO EXCEED:	Ra	BREAK EDGES	-
IDENTIFICATION PER SPEC 42-311:	★ BAG	ANGLES ±	-
SURFACES TO BE	○ // . φ . ⊥ . & □ WITHIN T.I.R.	FINAL ASSY:	-

DET: SMR	CHK: <i>[Signature]</i>	DATE: 04/22/96	SCALE: FULL
FOC: TFF	A	125145	
FAC:			

REV	DESCRIPTION	DATE
A	RELEASE	04/22/96

NOTES:

1 INCLUDE 119345 AND CABLE TIE P/N 5058333  
LOOSE IN BAG.

119345 AIR TRIGGER

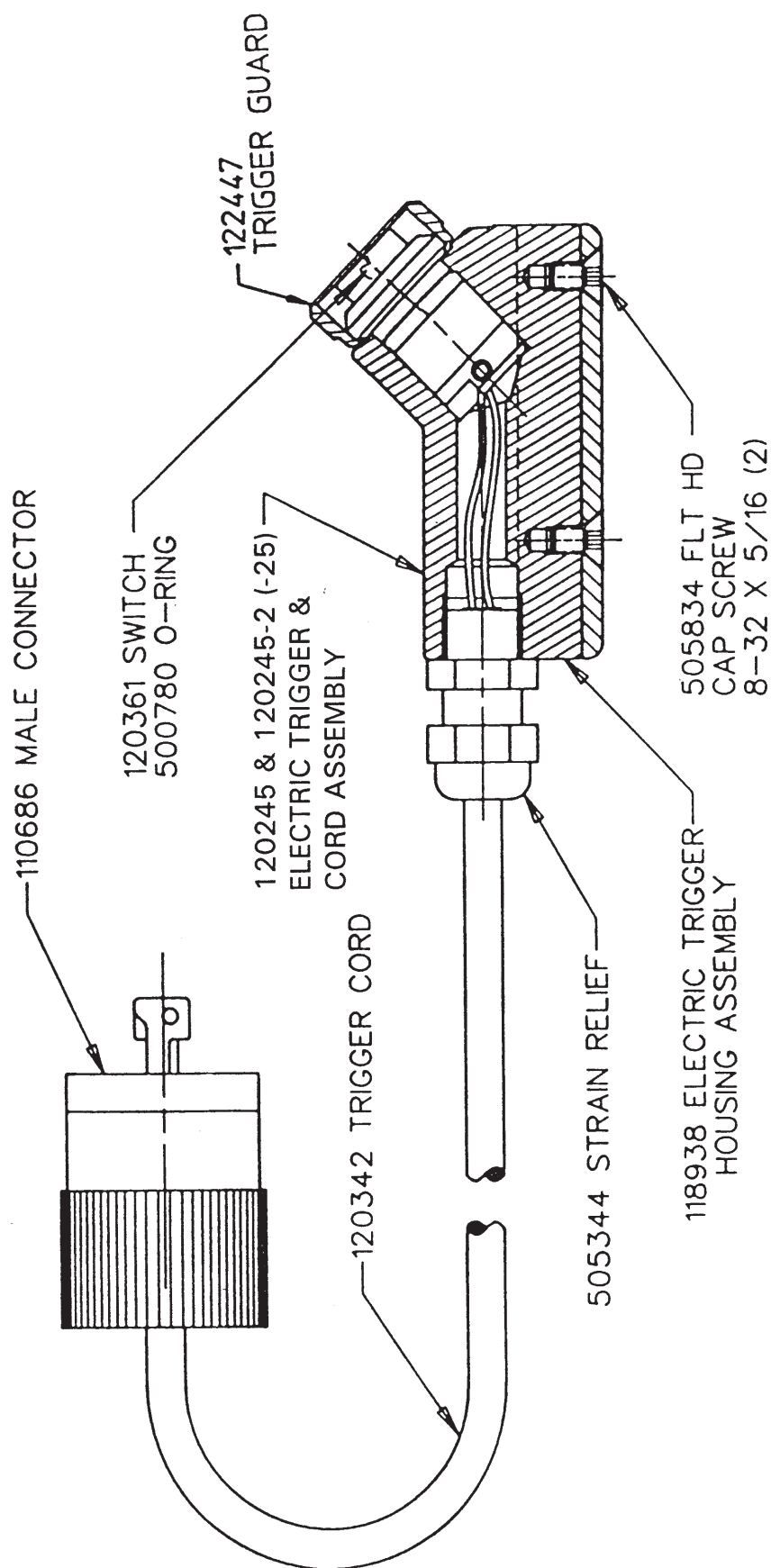
112143-2 TUBING

503902 AIR FITTING

506267 PLUG

506973 FEMALE CONNECTOR

FORM: KE104 REV C		By accepting this proprietary Huck drawing, recipient agrees not to reproduce or disclose any part thereof to any others without the written permission of Huck International, Inc.	
MATERIAL:	-	SPEC:	TOLERANCES UNLESS OTHERWISE SPECIFIED: (ALL DIMENSIONS ARE IN INCHES)
HARDNESS:	-	(RAW OR STOCKED STATE)	HUCK INTERNATIONAL, INC., I.S.D. 85 GRAND STREET, P.O. BOX 2270 KINGSTON, NEW YORK 12401
HEAT TREAT TO:	-	SPEC:	XX, XXX ±
SURFACE TREAT:	-	SPEC:	NT, COR, RADII
SURFACE FINISH NOT TO EXCEED: Ra		BREAK EDGES	-
IDENTIFICATION PER SPEC 42-311: ★ BAG		ANGLES ±	-
SURFACES TO BE ○, //, ⊕, ⊥, & □ WITHIN T.I.R.		FINAL ASSY:	-
		DET: SMR CK: <i>hje</i> DATE: 04/22/96 SCALE: FULL	
		FOC: TFF A	125142
		FAC:	



**Figure 8 - Electric Trigger Assembly, 118940 & 118940-1**

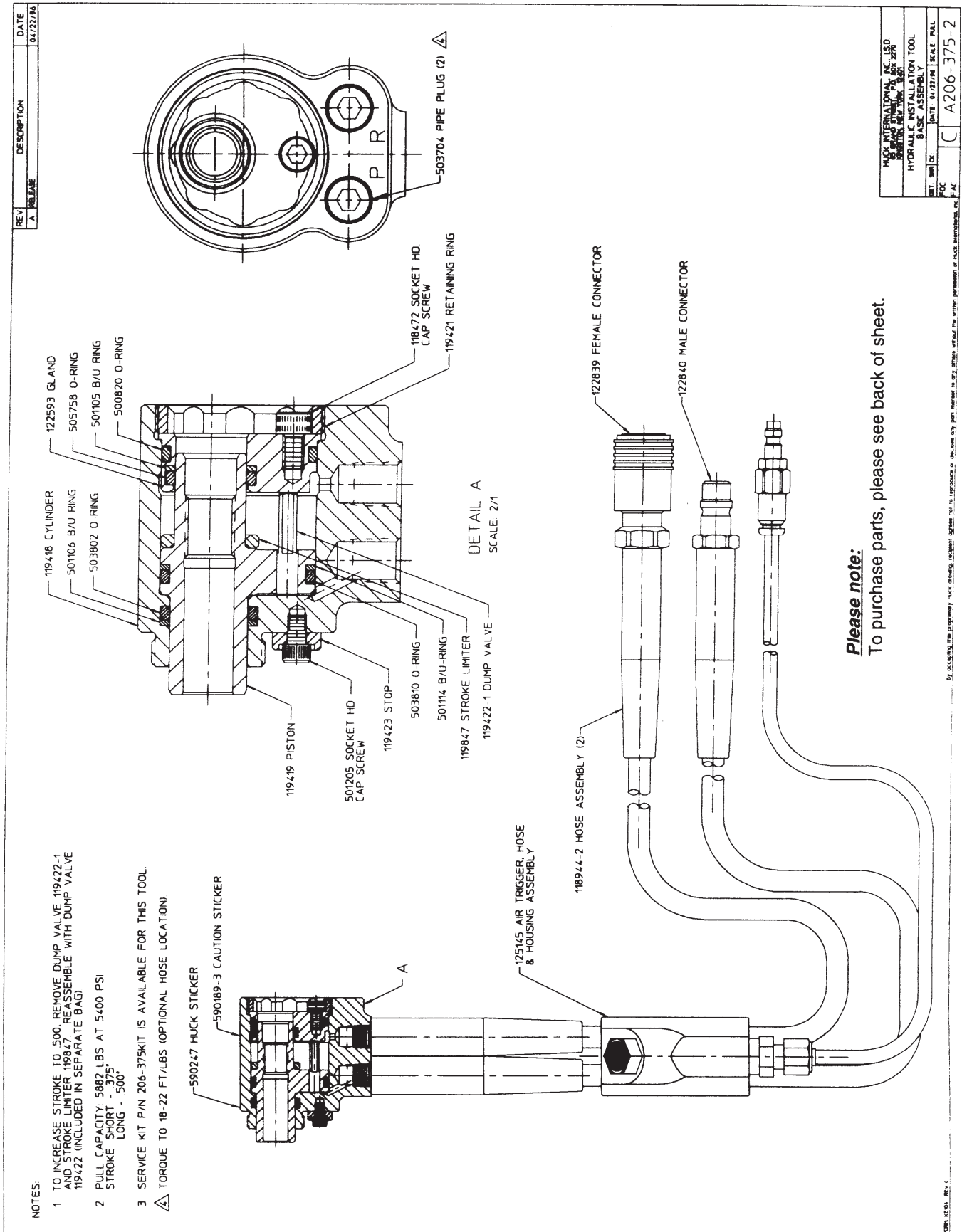
(Note: 118940 & 118940-1 includes entire assembly.)



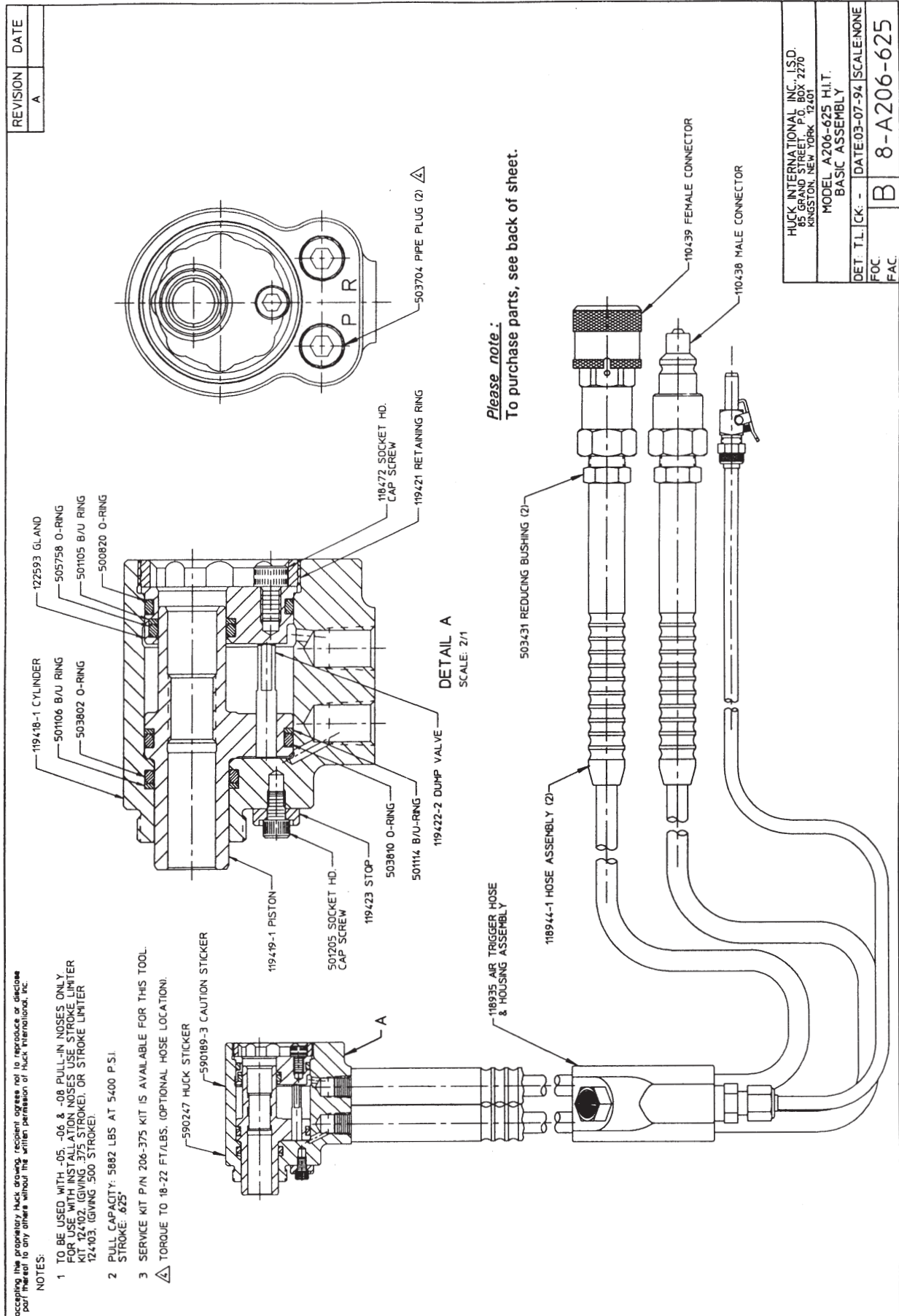
**Air and Hydraulic Conversion Kit, 125149**

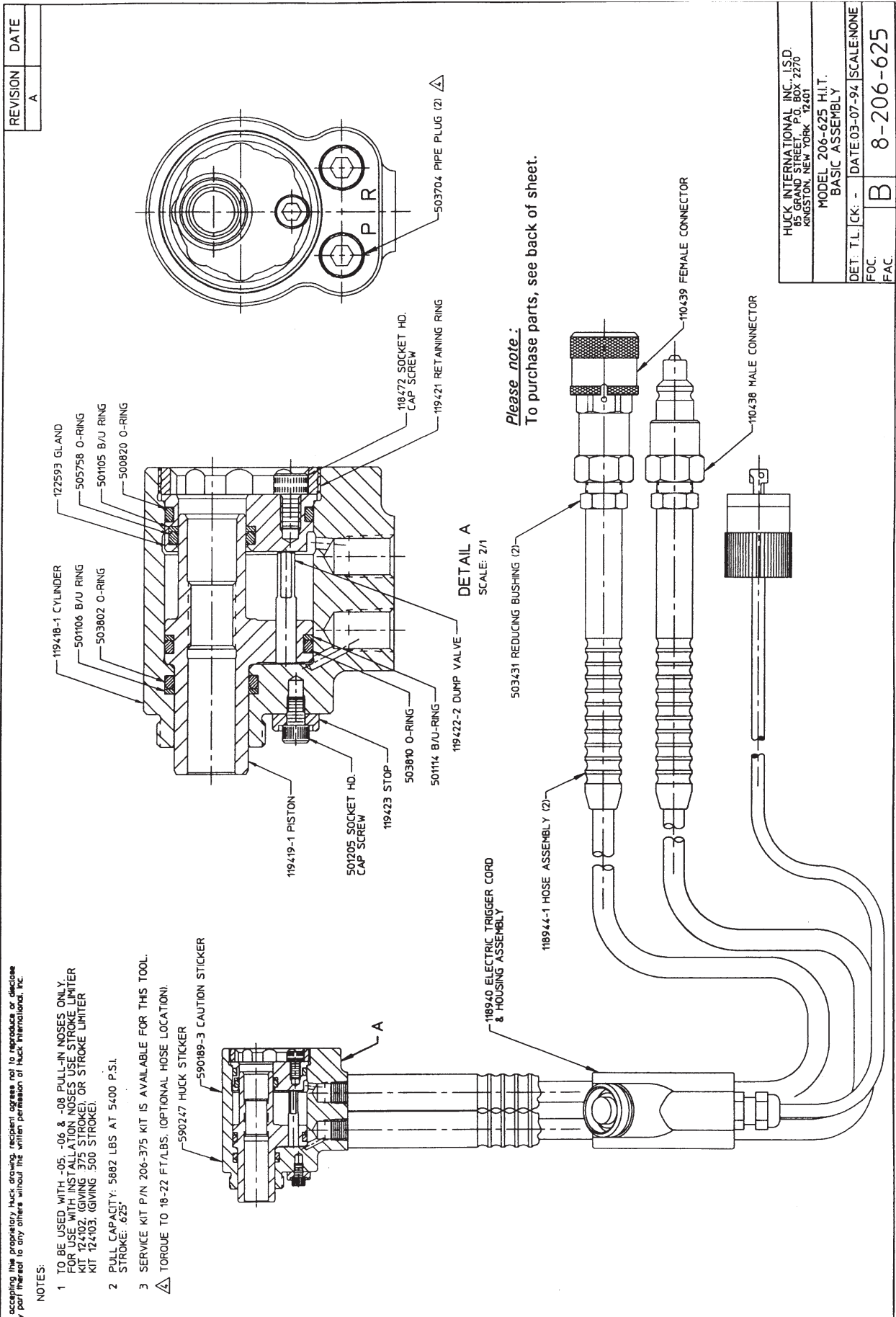
Converts existing tool into the -2 version with 2' hoses.

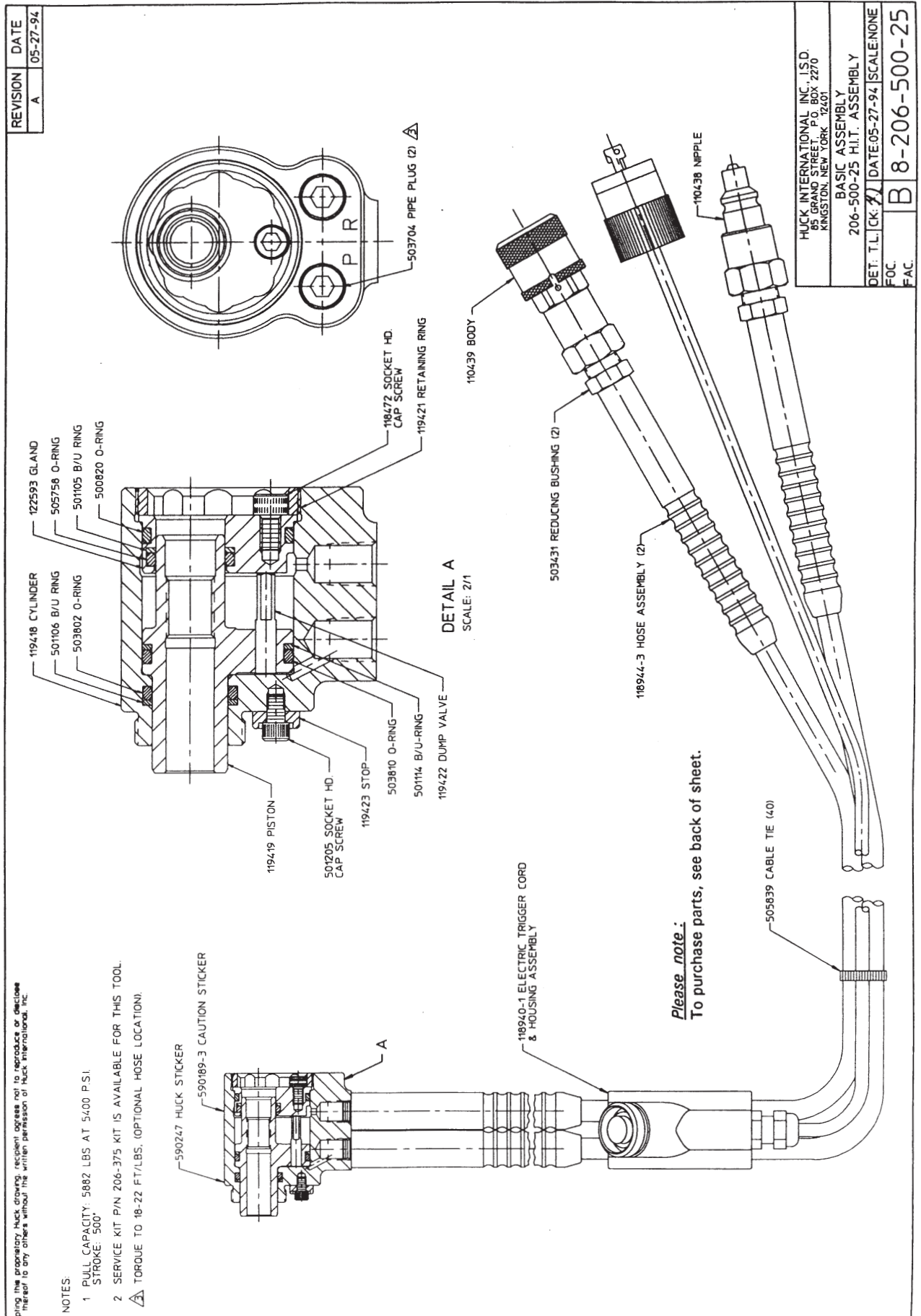
<u>Part No.</u>	<u>Description</u>	<u>Qty..</u>
118944-2	Light Weight Hi-pressure Hose	2
122839	Female Q. D. Hyd. Filling	1
122840	Male Q. D. Hyd. Fitting	1
112143-2	Air Hose	1
506973	Female Straight Connector	1
506267	Male Q. D. Air Fitting	1



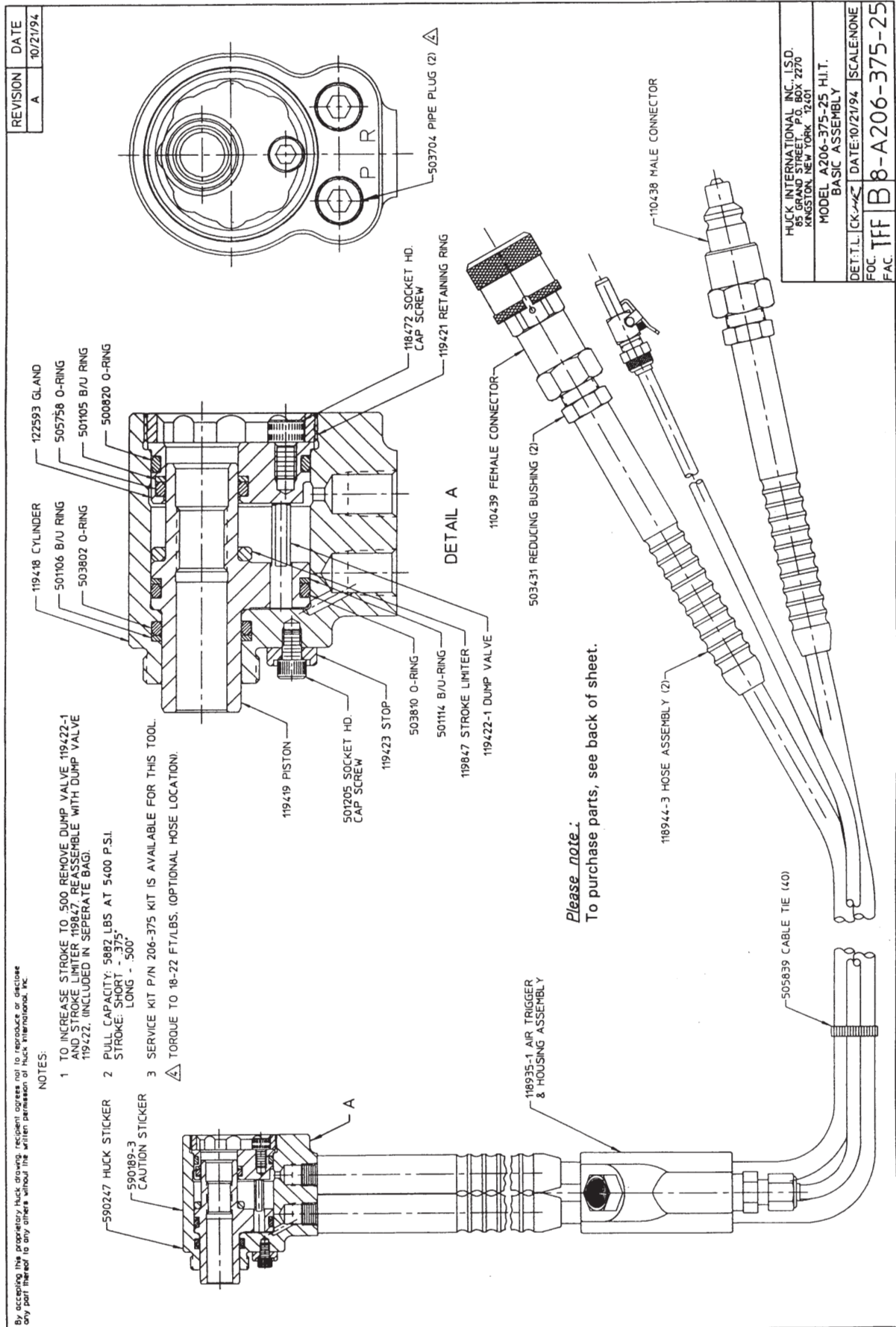
**Please note:**  
To purchase parts, please see back of sheet.











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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.



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