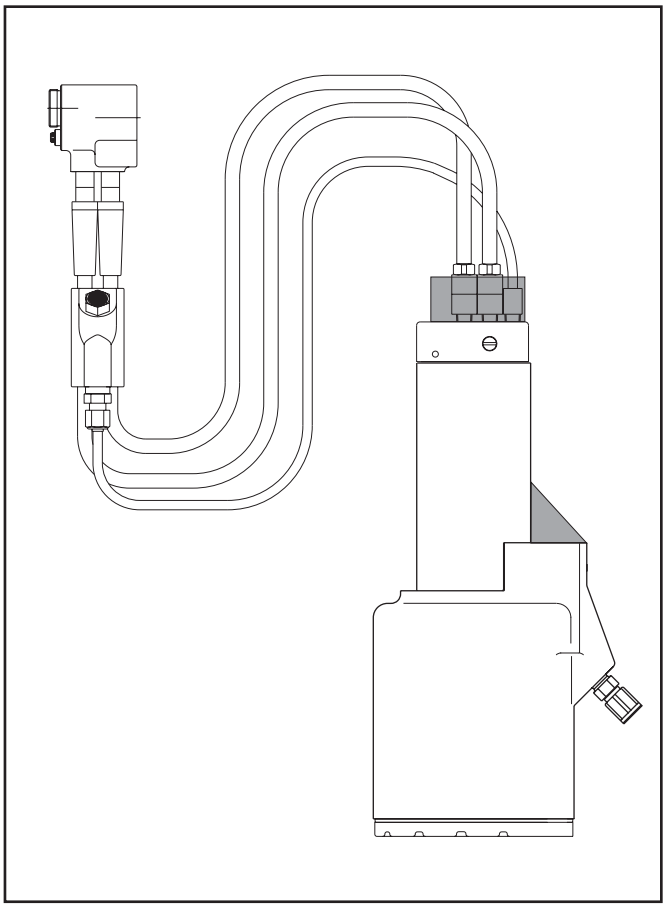
Alcoa Fastening Systems

ALCOA

INSTRUCTION MANUAL

206-375RI
206-375RI-10

PNEUDRAULIC INSTALLATION TOOLS



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

04-27-2005
HK1010

HUCK®

EU Declaration of Conformity

Manufacturer:
Huck International, Inc., Installation Systems Division, 1 Corporate Drive, Kingston, NY, 12401, USA

Description of Machinery:
Model number 206-375RI fastener installation tool

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

European Representative:
Rob Pattendon, 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: August, 1998

Huck Model 206-375RI Sound Level

The sound level of the 206-375RI tool cycling without fastener is

Sound Exposure Level (SEL) =84.4 dB (A)
Peak Value = 91.1 dB (C)

The noise of the fastener being installed in structure is considered process noise, not tool noise. Sound measurements of simulated process noise are available upon written request from Huck International in Kingston, NY, USA.

Huck Model 206-375RI Vibration Level

For an eight hour work day, installing 3000 typical Huck fasteners will result in an equivalent weighted RMS vibration level (Aeq) of 8.1m/s2.

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

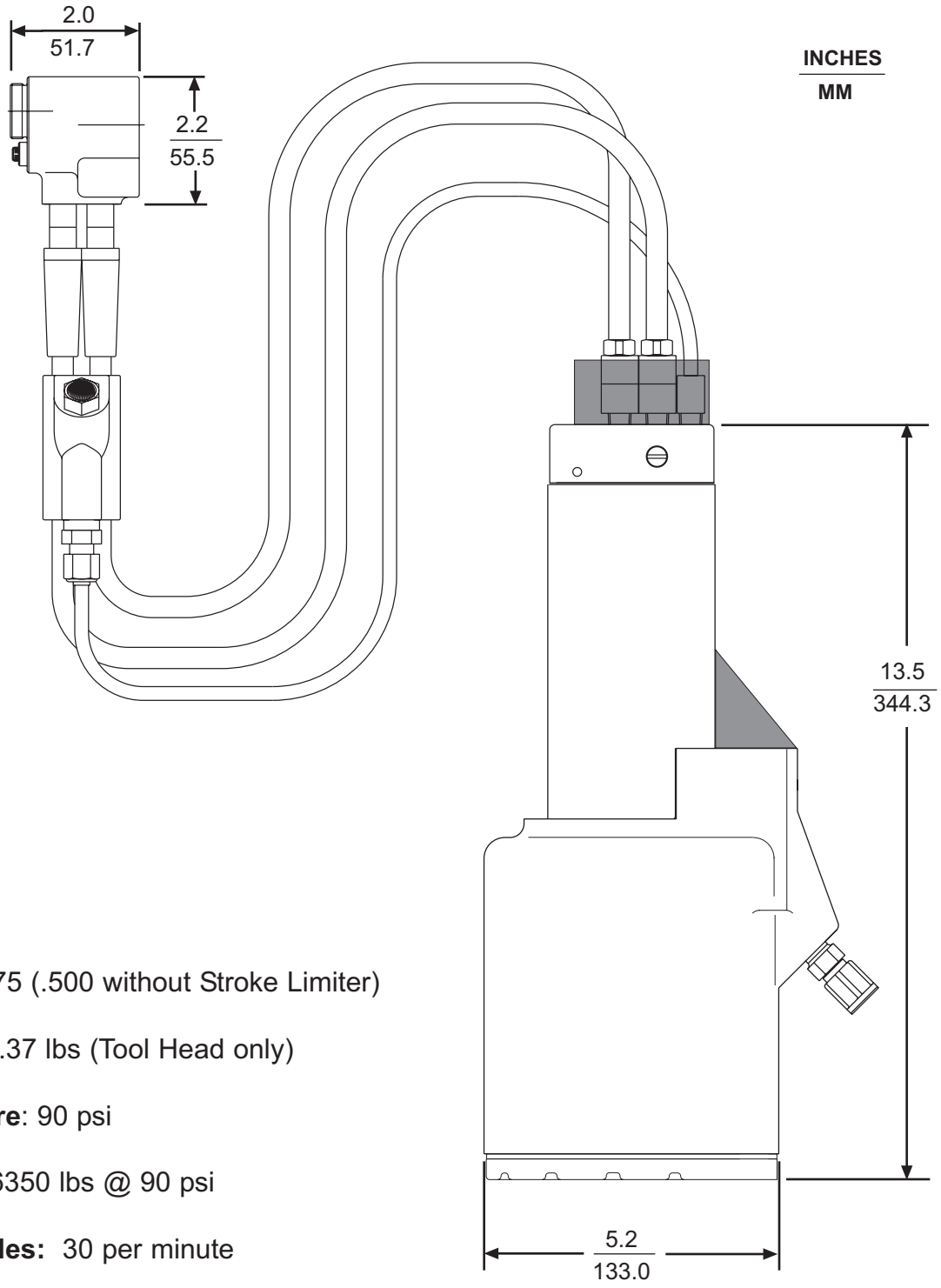
Equivalent Vibration Level, Aeq (m/s2) = (n/480) x 1.3

where n = number of fasteners in eight hours, and 1.3(m/s2) = 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).

Contents

SPECIFICATIONS



- **Stroke:** .375 (.500 without Stroke Limiter)
- **Weight:** 3.37 lbs (Tool Head only)
- **Air Pressure**: 90 psi
- **Capacity:** 6350 lbs @ 90 psi
- **Speed/Cycles:** 30 per minute
- **Noise Level:** 85 dBA @ 90 psi

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

CE — Product complies with requirements set forth by the relevant European directives.

 — Read manual prior to using equipment.

 — Eye protection required while using this equipment.

 — Hearing protection required while using this equipment.

WARNINGS - Must be understood to avoid severe personal injury.

CAUTIONS - *show conditions that will damage equipment and or structure.*
Notes - are reminders of required procedures.
Bold, Italic type and underlining - emphasizes a specific instruction.

2. Huck equipment must be maintained in a safe working condition at all times and inspected on a regular basis for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.

3. Repairman and Operator must read manual prior to using equipment and understand any Warning and Caution stickers/labels supplied with equipment before connecting equipment to any primary power supply. As applicable, each of the sections in this manual have specific safety and other information.

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

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

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

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

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

9. Never remove any safety guards or pintail deflector.

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

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

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

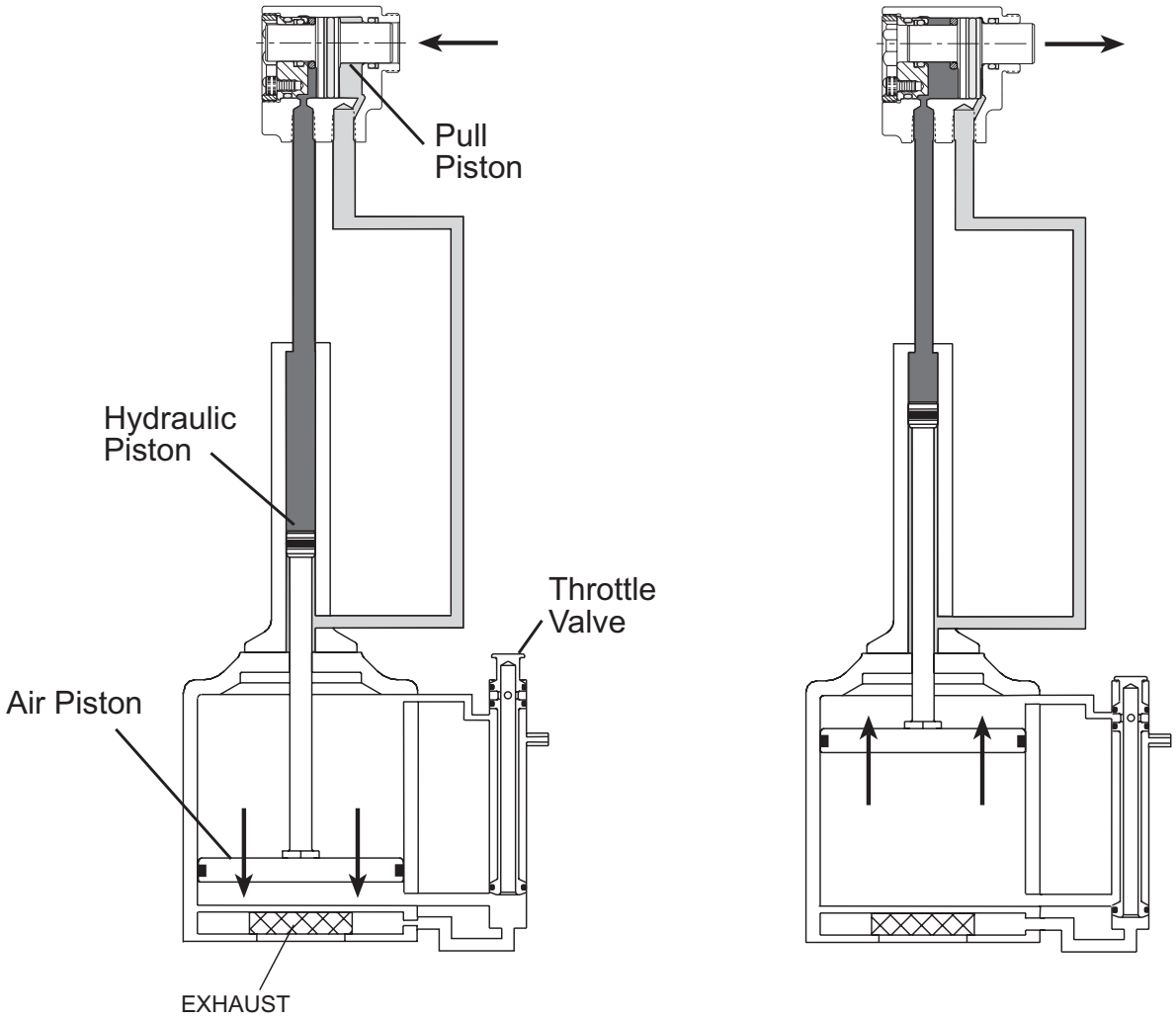
13. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency, eliminating downtime, and in preventing an accident which may cause severe personal injury.

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

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

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

Principle of Operation



PULL

When the trigger is depressed the throttle valve moves to up position, pressurized air is directed to the top of the air piston, causing the piston to move downward. The air below the piston is exhausted and directed through the center of the throttle valve and out the bottom of the tool . The air piston has a rod and a hydraulic piston attached. When the air piston rod moves downward, a column of pressurized fluid is forced into the tool, which moves the pull piston back. The attached nose assembly moves with the pull piston to start fastener installation.

RETURN

When fastener installation is completed, the trigger is released. Air pressure, with the assistance of an air valve, causes the throttle valve to return to its down position. Pressurized air is re-directed to the bottom of the air piston, causing the piston to move upward. The air from below the piston is exhausted through bottom of tool. The rod and hydraulic piston move upward; hydraulic pressure is reversed and the pull piston is returned forward.

Preparation for Use

The Model 206-375RI Installation Tool is shipped with a plastic plug in the air swivel connector. The swivel has 1/4-18 female pipe threads to accept the air hose fitting. Quick disconnect fittings and 1/4" inside diameter air hose are - recommended. An air supply of 90-100 psi capable of 11.5 CFM must be available. Air supply should be equipped with a filter-regulator-lubricator unit.

1. Remove plastic shipping plug from Air Inlet Connector and screw quick disconnect fitting into Air Inlet Connector.

2. Set air pressure on regulator to 90-100 psi.

3. Connect air hose to tool.

4. Cycle tool a few times by depressing and releasing trigger.

5. Select proper Nose Assembly from **SELECTION CHART** for fastener to be installed.

6. Attach nose assembly to tool per step 3, "Attaching to tool:", in "Nose Assembly Maintenance" section on nose assembly Data Sheet.

7. Install fastener(s) in test plate of proper thickness with proper size holes and inspect fastener(s).

NOTES:

1 Air quick disconnect fittings and air hoses are not available from Huck International, Inc.

Servicing the Tool

General

1. The efficiency and life of any tool depends upon proper maintenance. Regular inspection and correction of minor problems will keep tool operating efficiently and prevent downtime. The tool should be serviced by personnel who are thoroughly familiar with how it operates.
2. A clean, well-lit area should be available for servicing the tool. Special care must be taken to prevent contamination of pneumatic and hydraulic systems.
3. Proper hand tools, both standard and special, must be available.
4. All parts must be handled carefully and examined for damage or wear. Always replace Seals, when tool is disassembled for any reason. Components should be disassembled and assembled in a straight line without bending, cocking, or undue force. Disassembly and assembly procedures outlined in this manual should be followed.
5. **Service Parts Kits 206-375KIT** and **RIKIT** include consumable parts and should be available on hand at all times. Other components, as experience dictates, should also be available.

WARNING: Inspect tool for damage or wear before each use. Do not operate if damaged or worn, as severe personal injury may occur.

Daily

1. If a Filter-Regulator-Lubricator unit is not being used, uncouple air disconnects and put a few drops of Automatic Transmission Fluid or light oil into the air inlet of the tool. If the tool is in continuous use, put a few drops of oil in every two to three hours.
2. Bleed the air line to clear it of accumulated dirt or water before connecting air hose to the tool.
3. Check all hoses and couplings for damage or air leaks, tighten or replace if necessary.
4. Check the tool for damage or air/hydraulic leaks, tighten or replace if necessary.
5. Check the nose assembly for tightness or damage, tighten or replace if necessary.
6. Check oil level in tool reservoir, replenish if necessary.

Weekly

1. Disassemble and clean nose assemblies and reassemble per applicable NOSE ASSEMBLY DATA SHEET.

2. Check the tool and all connecting parts for damage or oil/air leaks, tighten or replace if necessary.

DISASSEMBLY

NOTE: The following procedure is for complete disassembly of tool. Disassemble only components necessary to replace damaged O-rings, Quad rings, Back-up rings, and worn or damaged components. Always use soft jaw vice to avoid damage to tool.

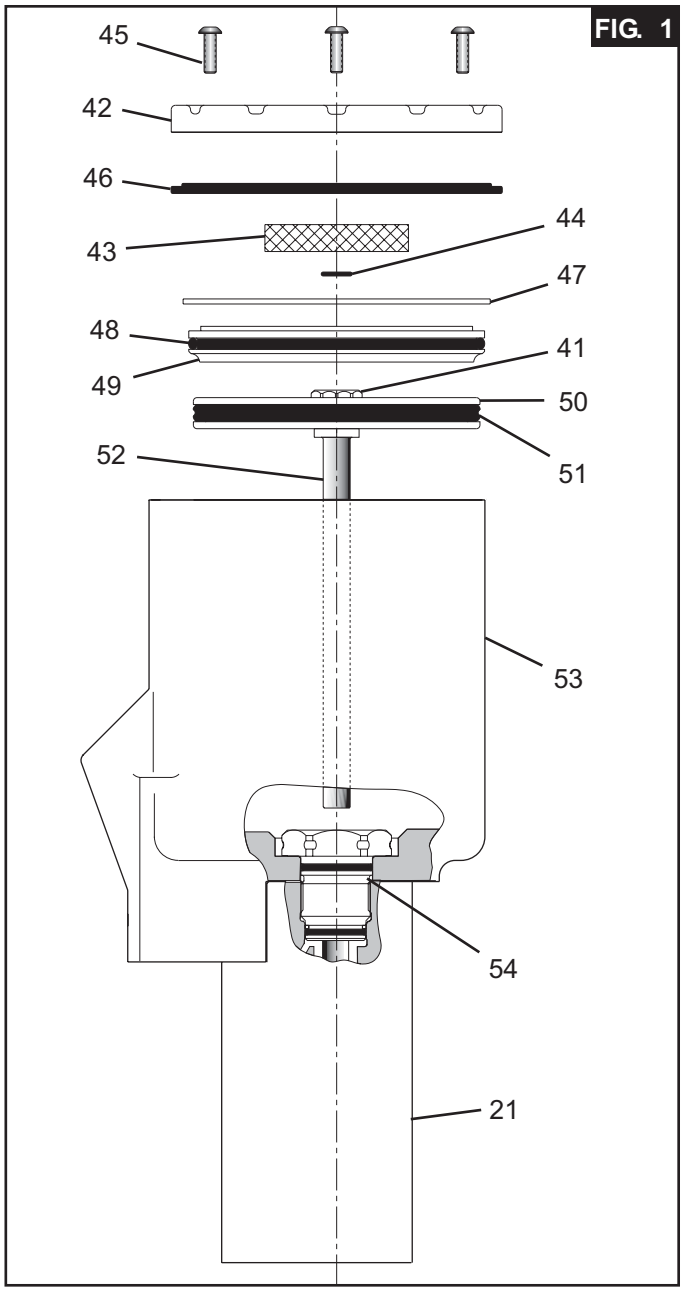
WARNING: Be sure air hose is disconnected from tool before cleaning, or performing maintenance. Severe personal injury may occur if air hose is not disconnected.

DISASSEMBLY OF HEAD *(Figure 9)*

1. Disconnect air hose from base of tool.
2. Remove Top Guard (95) from Manifold Block (68) by unfastening two Screws (96).
3. Disconnect Air Fitting (64) from Manifold Block.
4. Unscrew both Swivel Assemblies (17) from Cylinder (1) and drain fluid from Hydraulic Hoses (63) and Cylinder (1) into container.
5. Unscrew Socket Head Cap Screw (13) using 5/32 hex key. Remove Retaining Ring (12).
6. Press Piston (4) and Gland (8) from Cylinder (1) in two steps as follows:
   STEP 1. Press against Piston (4) face with a wood block until block contacts front of Cylinder (1). (Block not shown).
   STEP 2. Using a brass drift/rod, resume pressing on Piston face until Piston and Gland emerge from rear of Cylinder.
7. Slide Gland (8) from rear of Piston.
8. Remove Stroke Limiter (7) from Piston.
9. Use a small, dull-pointed rod to remove all O-rings and Back-up Rings from parts.

DISASSEMBLY OF BASE *(Figures 1 and 9)*

1. Remove Lower Guard (97) from Cylinder Assy (53) by unfastening two Screws (98).
2. Remove Retaining Ring (76) from Cylinder.
3. Remove End Cap (77) from Cylinder.
4. Remove Throttle Valve (36) from Cylinder.
5. Remove four Socket Head Screws (69) from Manifold Block (68) at top of Handle (21), and *carefully* lift Manifold Block straight up from Handle.
6. Remove two Reservoir Plugs (75) from top of Handle.
7. Remove Pull Gland Assembly (90) and Return Gland Assembly (22) from the separated Handle and Manifold Block, and remove seals from glands.
8. Hold remaining Handle and Cylinder Assembly inverted in a vice and unscrew three Button Head Screws (45) with 1/8 hex key. (Fig. 1)
9. Remove Muffler End Cap (42), Bottom Exhaust Gasket (46), Muffler (43) and O-ring (44) (Fig 1).



DISASSEMBLY

DISASSEMBLY OF BASE *(continued)*

9. Remove Retaining Ring (47) from Cylinder Assembly (53). (Fig 1)

10. Screw Button Head Screws (45) into Cylinder Head (49). Carefully pry under screws to remove Cylinder Head.

11. Push Air Piston (51) all the way down in Cylinder. Lay the tool on its side. Hold Nut (41) with a 9/16 socket and extension, and with 7/64 hex key, remove piston Screw (32). (Figs. 4 & 7)

12. Turn Cylinder and Handle upside down again and secure in a vise.

13. Grip Self-locking Nut (41) under Air Piston with pliers and pull piston and rod assembly from handle and cylinder assembly (Fig 1).
CAUTION: ***Care must be taken not to scratch piston rod or cylinder during removal.***

14. With a 1 3/8 socket and extension, remove Gland Assembly (54). Handle and cylinder will now separate.

15. Remove Plug (78).

16. Push hydraulic Piston Assembly (31) out of handle. Push out from top to bottom.
CAUTION: ***A plastic or wooden drift must be used to avoid damaging the handle bore.***

17. To remove Polyseal (61) from Gland Assembly (54), remove Retaining Ring (59) and Spacer (60). (Fig. 9)

DISASSEMBLY OF HOSES AND TRIGGER

(Figures 2 and 9)

NOTE: Disassemble control trigger systems only when necessary to replace Air Trigger (85) or Air Hose (87).

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

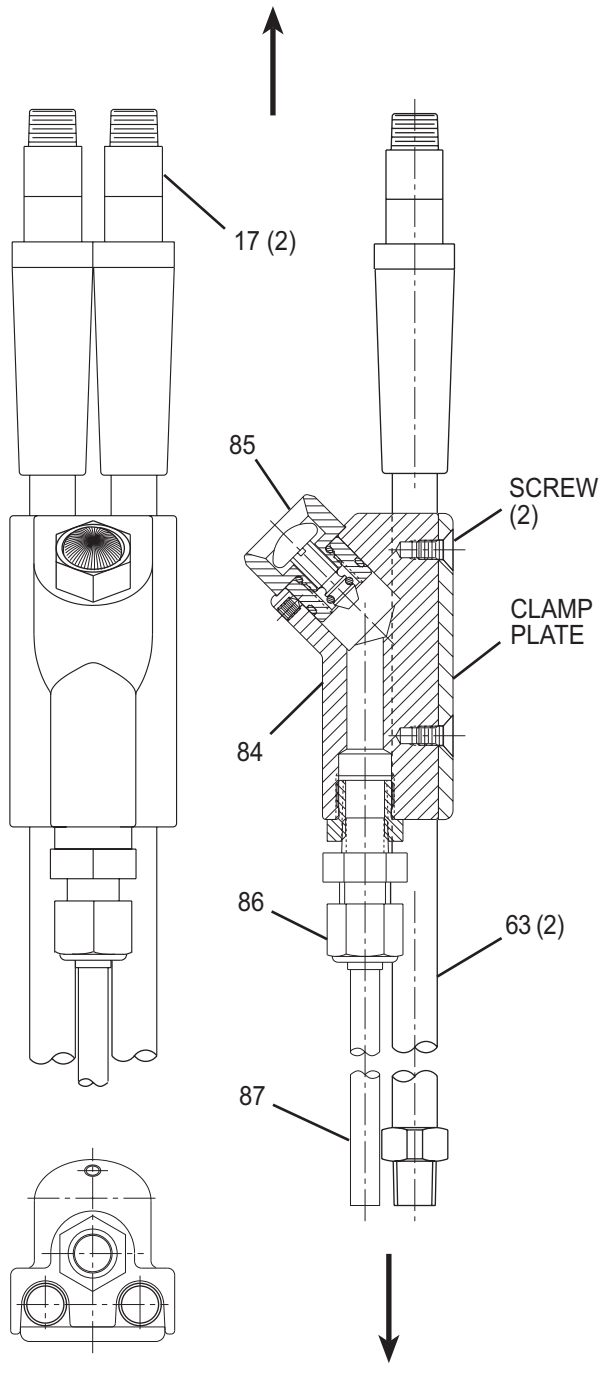
2. Remove Trigger & Housing Assembly (84) from Hydraulic Hoses (63). (Fig. 2)

3. Unscrew both Swivel Assemblies (17) from Manifold Block (68).

4. Drain any remaining fluid from Hydraulic Hoses (63) into container.

5. Unscrew Air Fitting (64) from Manifold Block (68). (Fig. 9)

FIG. 2



ASSEMBLY

GENERAL ASSEMBLY GUIDELINES

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 KITS *206-375KIT and RIKIT*. 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.

ASSEMBLY OF HEAD *(Figures 2, 3 and 9)*

NOTE: Be sure that all seals are in place and oriented correctly in the Cylinder (1) and on the Piston (4) and Gland (8) prior to assembling.

1. Set Cylinder (1) on a protective support such as a pipe coupling or a hollow wood block that will protect the front extension's threads. The Piston (4) can then slide through the rear opening of the Cylinder (1). (Fig. 3)

2. Position Piston (4) in Cylinder (1) so that piston rod is aligned with front opening of cylinder. Push down on piston. (Fig. 3a) Continue to push until piston stops at bottom of Cylinder. Piston rod now extends through front opening. (Fig. 3b)

3. Slide Stroke Limiter (7) onto rear of Piston.

4. Place Gland (8) in Cylinder (1) so that opening aligns with Piston (4). Press Gland into Cylinder until it stops against Cylinder shoulder.

5. Screw Retaining Ring (12) into Cylinder until it stops. Back Retaining Ring out 1/4 turn, or less, until Socket Head Cap Screw (13) can be screwed into Gland at nearest Retaining Ring scallop. Tighten with 5/32 hex key.

6. Screw Swivel Assemblies (17) into Cylinder (1). Using Teflon Tape. (Fig. 9)

7. Assemble Hydraulic Hoses (63) in Air Trigger & Housing Assembly (84). (Fig. 2)

8. Install new cable ties. Six (6) ties are spaced approximately 18" apart.

FIG. 3

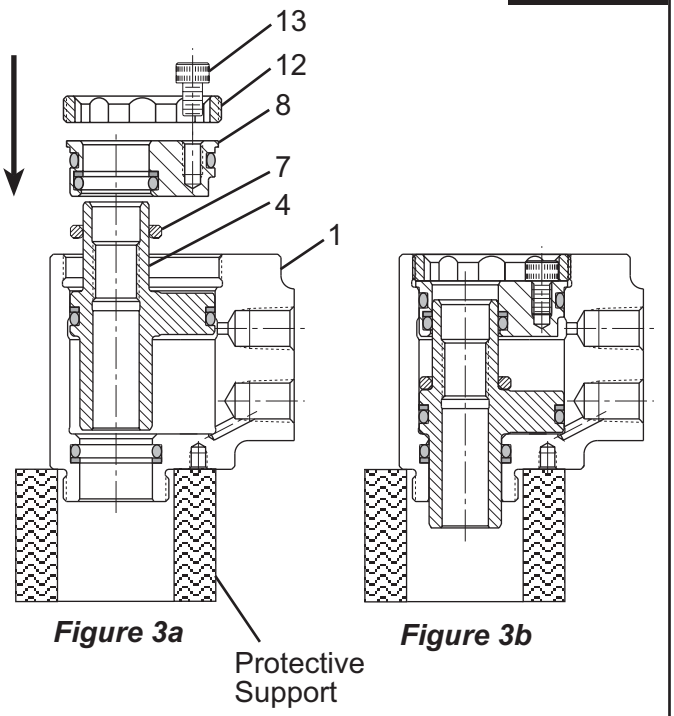
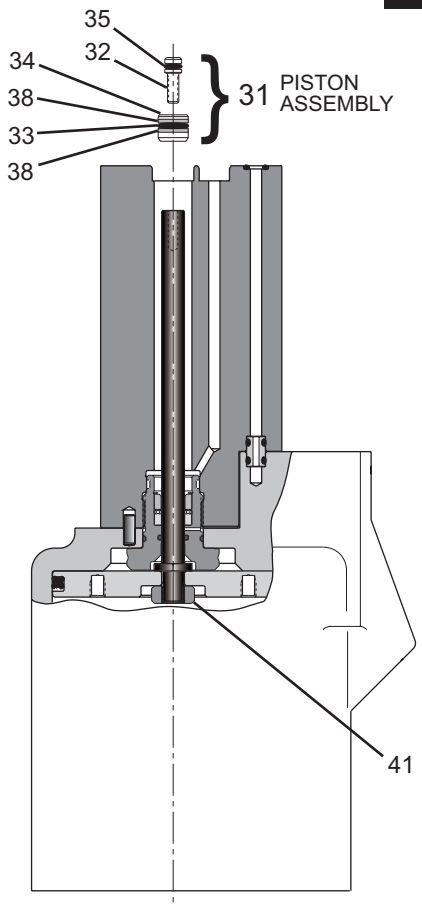


Figure 3a *Figure 3b*

FIG. 4



ASSEMBLY

ASSEMBLY OF BASE *(Figures 1, 3, 4, 5, 6 & 9)*

NOTE: See FILL AND BLEED PROCEDURE FOR DISASSEMBLED TOOLS before proceeding.

1. Insert Plug (78).

2. Holding handle inverted in a vice, Place Cylinder (53) on Handle (21) with Timing Pin positioned in matching hole.

3. Assemble Gland Assembly (54) with Vibratite 505125. (*Fig.9*). Screw complete Gland Assembly into Handle. Torque to 100-120 ft. lbs. using 1-3/8 socket wrench.

4. Push Air Piston/Rod assembly with Quad Ring (50) in place into Air Cylinder (51) until it bottoms at top of Cylinder (53). (Figs. 1 & 4)

5. Turn tool upright. Install Hydraulic Piston (34) *(with O-ring (33) and Back-up rings (38) in place)* in handle. Press in from top of handle taking care not to damage seals. (Fig.4).

6. Push Screw (32) with O-ring (35) in place through Hydraulic Piston (34) and screw into top of piston rod. Hold Nut (41) with 9/16 socket and extension and torque Screw (32) using 7/64 hex key to 55-60 in. lbs. (Fig. 4) Torque Nut (41) to 28-32 ft. lbs.

7. Hold handle in vise with bottom facing up. Push Cylinder Head (49) with O-ring (48) in place squarely into cylinder. Install Retaining Ring (47). (Fig. 1 & 9)

8. Position O-ring (44) and Muffler (43) on center of Cylinder Head (49). Place Gasket (46) on Cylinder Assembly (53). **NOTE: *Lip must face Bottom Plate (42).*** Place Muffler End Cap (42) on top of Gasket (46) and secure with 3 Button Head Screws (45) using 1/8 hex key. (Fig. 3)

9. Turn tool upright. Install O-ring (74) at top of Handle (21).

10. Install O-rings (24 & 30) & Back-up Rings (25 & 29) on Pull Gland (28) Install O-rings (24 & 26) & Back-up Rings (25 & 27) on Return Gland (23). Push Gland Assemblies into Manifold Block (68). **NOTE: Be sure that all O-rings and Back-up Rings are in place and oriented correctly on the Glands prior to assembling.**

11. Push Manifold Block down on Handle (21). Place tool in a vise Head down and install 4 Screws (69) and torque to 170 inch pounds. (Fig. 9)

12. Install two Cutoff Valves (70) with O-Rings (71) in place, Relief Valve (72) with O-Ring (71) in place, and Bleed Plug Assembly (73).

13. Drop Spring (40) into Throttle valve hole in cylinder. Push Throttle Valve (36) with O-rings (37 & 39) in place into Cylinder. (Fig. 9)

14. Carefully press Throttle Valve (79) with O-rings (37, 39 and 55) in place into Cylinder until seated.

15. Push End Cap (77) with O-ring (81) in place into Cylinder and secure with Retaining Ring (76).

16. Attach Lower Guard (97) with two screws (98).

17. Slide Top Guard (95) over ends of Swivel Assemblies (17) and Air Fitting (64), and screw Swivel Assemblies and Air Fitting into Manifold Block (68). Secure Top Guard in place with two Screws (96). *(Figure 9a)*

18. Install two Reservoirs (66) with O-Rings (91) in place into Manifold Block. (Fig. 6)

19. NOTE: See SERVICING THE TOOL section of this manual for WARNINGS, CAUTIONS, procedure for tool set-up, reference to nose assembly, and checking installed fasteners. See OPERATING INSTRUCTIONS for safe fastener installing procedure.

20. Tool is now completely assembled and ready for Fill & Bleed.

Fill and Bleed Procedure

Equipment Required:
- Shop airline with 90 - 100 psi max.
- Air regulator
- Fill Bottle (94), Tube (93), and Connector (92) (supplied with tool).
- Large flat blade screwdriver
- Nose assembly
- Fasteners (Optional)

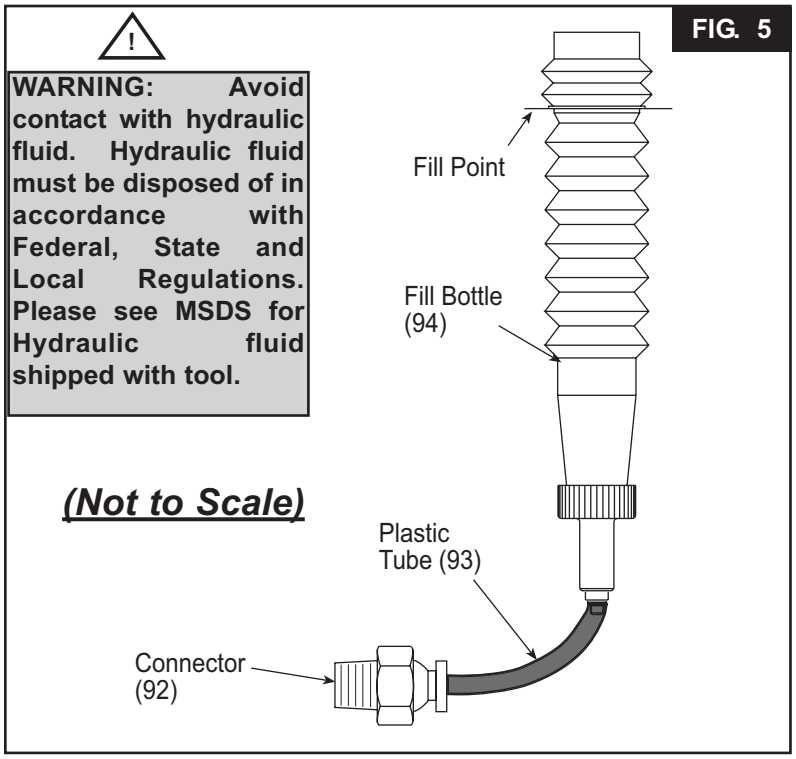
Preparation:
1. Install air regulator in airline and set pressure to 20-40 psi.

2. Fill bleed Bottle (94) almost full of DEXRON III ATF or equivalent and secure Bottle cap. (Fig.5)

3. Install Plastic Tube (93) and Connector (92) on tip of Bottle Cap.

USE AUTOMATIC TRANSMISSION FLUID DEXRON III, OR EQUIVALENT.

WARNING: Avoid contact with hydraulic fluid. Hydraulic fluid must be disposed of in accordance with Federal, State and Local Regulations. Please see MSDS for Hydraulic fluid shipped with tool.



FILL AND BLEED PROCEDURE FOR ASSEMBLED TOOLS THAT NEED RE-BLEEDING (Figure 6)

If the tool is not developing full stroke or is not developing enough force to either install a fastener or eject off an installed fastener, it may be necessary to add oil to the pull and return system of the tool.

1. To add fluid to the PULL or RETURN side ports, first make sure Cutoff Valves (70) are in the fully closed position.

2. Remove Reservoir Plugs (75) and thread two Reservoirs (66) with O-Rings (91) in place into the ports of the Manifold Block (68).

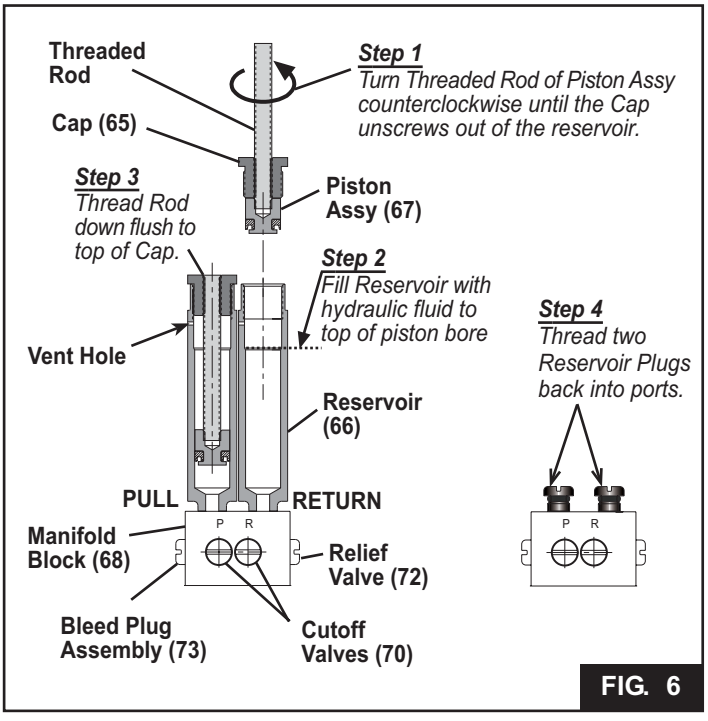
3. Remove the Caps (65) and Piston Assys (67) from the Reservoirs, and add fluid to the Reservoirs. **NOTE: Do not fill past the inside shoulder of the Reservoirs *(NO higher than Vent Hole)*. See Step 2 of figure 6**

4. Replace Piston Assemblies and Caps on Reservoirs.

5. Open the Cutoff Valves 1/4 turn counterclockwise. Thread Piston Assemblies down to force fluid into the system, and until Piston Assemblies cannot be turned further.

6. Close Cutoff Valves tightly, and check tool stroke. Repeat Steps 3 through 5 if necessary. If stroke is correct, install a test fastener.

7. Remove the Reservoir Assemblies and replace the two Reservoir Plugs (75) and tighten. **CAUTION: Oil may be present in Reservoir tubes. Remove with care.**



FILL AND BLEED PROCEDURE FOR DISASSEMBLED TOOLS

(Figures 6, 7, & 9)

1. Before assembling Manifold Block onto Cylinder and Handle assembly, push Air Piston (51) and intensifier Piston Rod (52) assembly down to its full bottom position. Use a nonmetallic rod to prevent damage to handle bores and intensifier rods.

2. Fill handle pull and return ports with hydraulic fluid.

3. Install hose sleeves onto hoses and airline. **NOTE: Identify each end of one hose before assembly.** Assemble the Manifold Block with Hoses and Reservoirs onto the Handle.

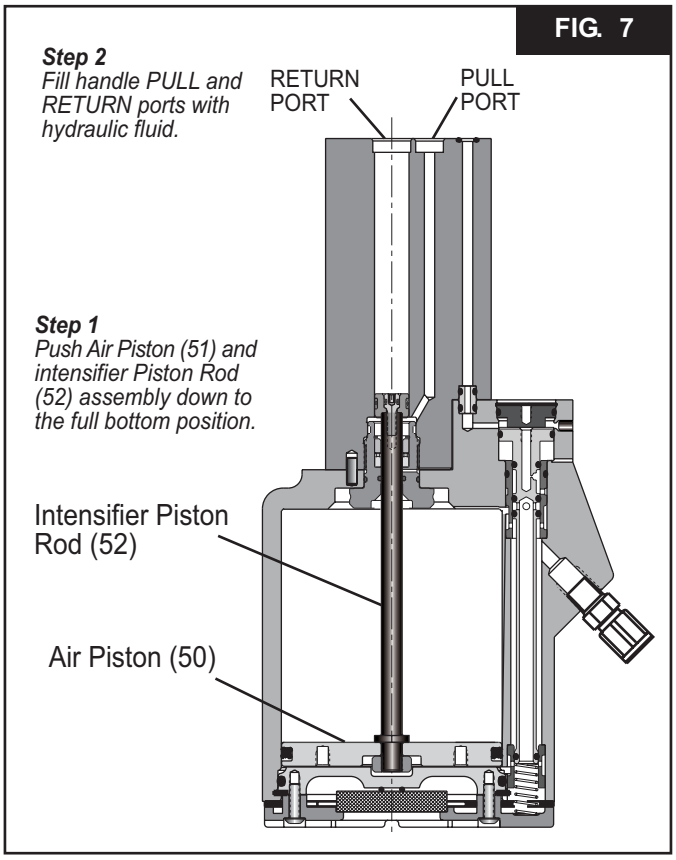
4. Push Tool Piston (4) into the full-forward position and attach end of each hose to base of Tool Cylinder (1). Be sure to connect PULL hose to PULL port, and RETURN hose to RETURN port.

5. Place tool head nose-side-down into a protective support (See figure 3b), and place Intensifier unit in a lower position than the tool head.

6. Attach fill bottles, with Tubes and Connectors in place, to PULL and RETURN ports in back of tool Cylinder.

7. Hold bottles in a vertical position. With compressed air attached to tool, with air trigger assembly attached to the intensifier, cycle the tool until air is removed from the system. *(In order to determine that air is removed from the system, air bubbles will cease to surface during tool cycling.)* Refill bottles, if necessary, during this process.

FIG. 7



8. Connect 60 psi air to the Cylinder and cycle the tool and measure the specified stroke.

9. To properly pressurize the system follow all instructions in the FILL AND BLEED PROCEDURE FOR ASSEMBLED TOOLS THAT NEED RE-BLEEDING section of this manual.

NOTES

FIG. 9

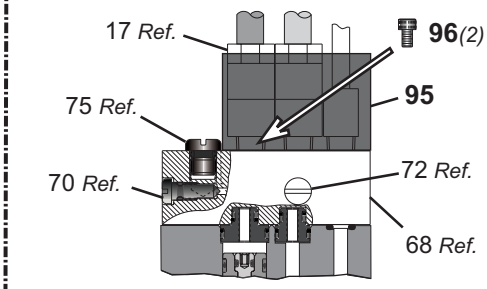
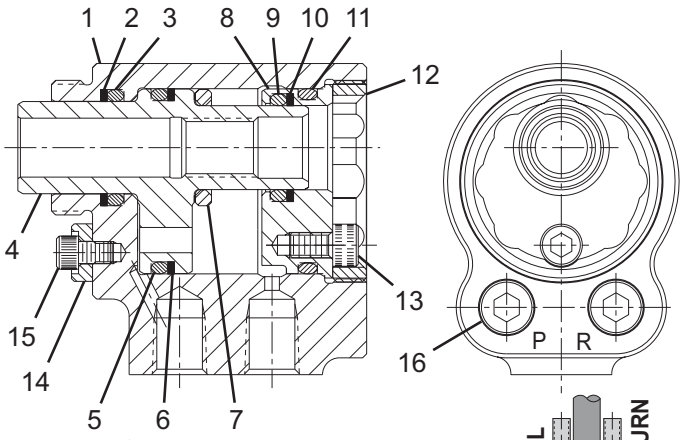
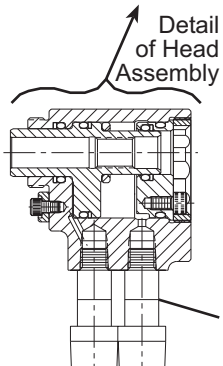
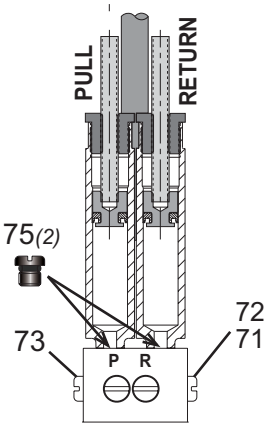


Figure 9a - View of Intensifier top with Top Guard in Place

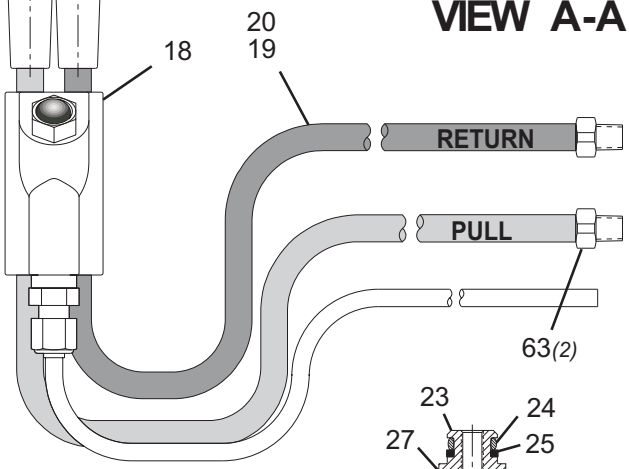


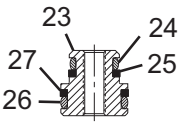


View is shown with two Reservoirs (66) in place. When removed, Reservoirs are replaced by two Reservoir Plugs (75) as shown in figure 9a (above).

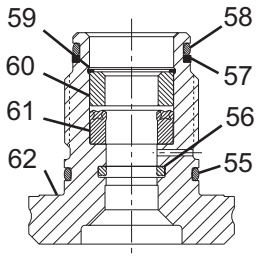


VIEW A-A

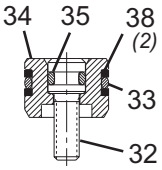




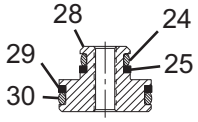
22 - (Return Gland Assembly)



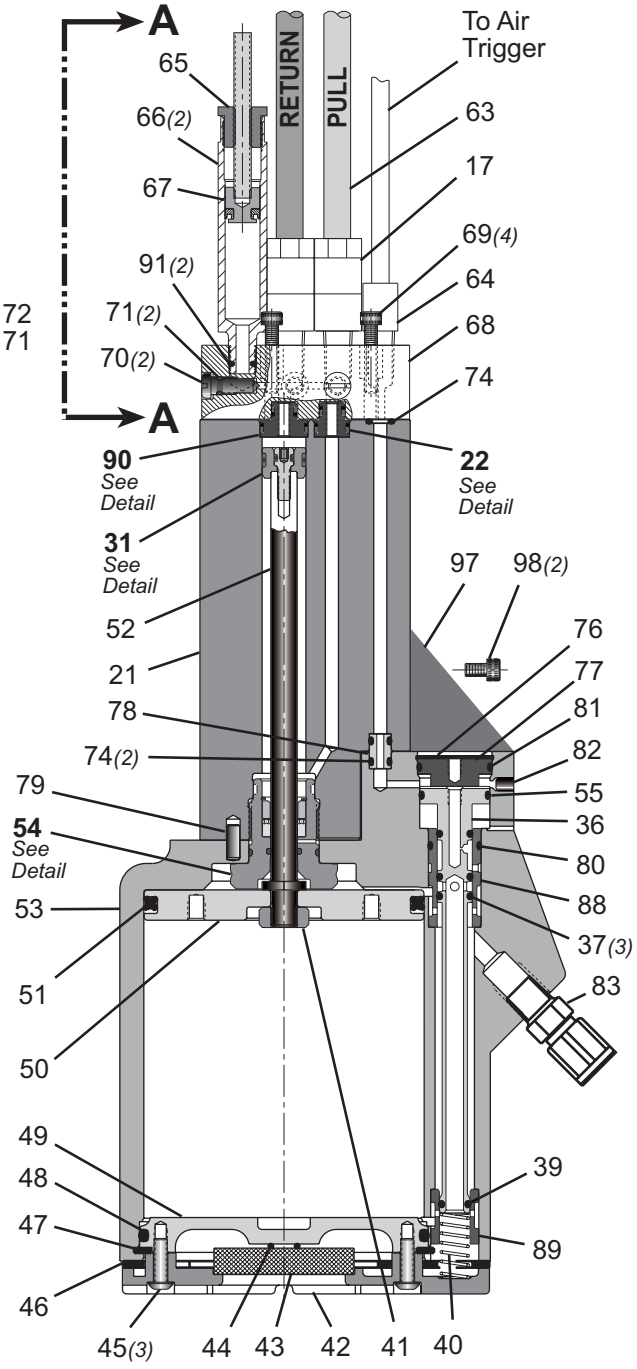
54 - (Gland Assembly)



31 - (Piston Assembly)



90 - (Pull Gland Assembly)



ITEM	DESCRIPTION	206-375RI	206-375RI-10	QTY
1	Cylinder	119418	119418	1
2	Back-up Ring	501106	501106	1
3	O-Ring	503802	503802	1
4	Piston	125837	125837	1
5	O-Ring	503810	503810	1
6	Back-up Ring	501114	501114	1
7	Stroke Limiter	119847	119847	1
8	Gland	122593	122593	1
9	O-Ring	505758	505758	1
10	Back-up Ring	501105	501105	1
11	O-Ring	500820	500820	1
12	Retaining Ring	119421	119421	1
13	Socket Head Cap Screw	118472	118472	1
14	Stop	119423	119423	1
15	Socket Head Cap Screw	501205	501205	1
16	Pipe Plug	503704	503704	2
17	Swivel Assembly	127426	127426	4
18	Air Trigger, Hose, & Housing Assembly	125838	125838-10	1
19	Hose Sleeve	120770-4	120770-4	1
20	Hose Sleeve	120770-3	120770-3	1
21	Handle	127474	127474	1
22	Return Gland Assembly	112502	112502	1
23	Gland	112427	112427	1
24	O-Ring	500776	500776	3
25	Back-up Ring	501082	501082	2
26	O-Ring	500778	500778	1
27	Back-up Ring	501084	501084	1
28	Gland	112426	112426	1
29	Back-up Ring	501087	501087	1
30	O-Ring	500781	500781	1
31	Piston Assembly	126037	126037	1
32	Screw	117773	117773	1
33	O-Ring	503770	503770	1
34	Piston	126031	126031	1
35	O-Ring	500773	500773	1
36	Throttle Valve	127473	127473	1
37	O-Ring	504408	504408	3
38	Back-up Ring	503167	503167	2
39	O-Ring	504407	504407	1
40	Spring	508131	508131	1
41	Self-Locking Nut	121241	121241	1
42	Muffler End Cap	116585	116585	1
43	Muffler	115554	115554	1
44	O-Ring	500777	500777	1
45	Screw	504127	504127	3

ITEM	DESCRIPTION	206-375RI	206-375RI-10	QTY
46	Gasket	126941-2	126941-2	1
47	Retaining Ring	505025	505025	1
48	O-Ring	500873	500873	1
49	Cylinder Head	111959	111959	1
50	Air Piston	100315	100315	1
51	QUAD Ring	501460	501460	1
52	Piston Rod	112414	112414	1
53	Cylinder Assembly	127467	127467	1
54	Gland Assembly	116173	116173	1
55	O-Ring	500786	500786	3
56	QUAD Ring	501074	501074	1
57	Back-up Ring	501090	501090	1
58	O-Ring	500784	500784	1
59	Retaining Ring	505939	505939	1
60	Spacer	123904	123904	1
61	Polyseal	506611	506611	1
62	Gland	123903	123903	1
63	Hydraulic Hose	124881-2	124881-3	2
64	Air Fitting	507575	507575	1
65	Cap	125824	125824	2
66	Reservoir Cylinder	127469	127469	2
67	Piston Assembly	125827	125827	2
68	Manifold Block	127476	127476	1
69	Socket Head Screw	500066	500066	4
70	Cutoff Valve	126030	126030	2
71	O-Ring	505438	505438	3
72	Relief Valve	126036	126036	1
73	Bleed Plug Assembly	104293	104293	1
74	O-Ring	500774	500774	4
75	Reservoir Plug	100309-1	100309-1	2
76	Retaining Ring	502328	502328	1
77	End Cap (Handle)	127470	127470	1
78	Plug	127471	127471	1
79	Dowel Pin	501352	501352	1
80	O-Ring	500782	500782	1
81	O-Ring	500787	500787	1
82	Port Plug	504054	504054	1
83	Two-Way Swivel	114748	114748	1
84	Air Trigger & Housing Asembly	118942	118942	1
85	Air Trigger	119345-1	119345-1	1
86	Air Fitting	503902	503902	1
87	Air Hose	125832	125832	1
88	Upper Bushing	127472	127472	1
89	Lower Bushing	115503	115503	1
90	Pull Gland Assembly	112501	112501	1

ITEM	DESCRIPTION	206-375RI	206-375RI-10	QTY
91	O-Ring	504547	504547	2
92	1/4 NPT - 1/8 Tube Connector (Figure 5)	506268	506268	2
93	1/4 OD Plastic Tube (Figure 5)	T3115HS	T3115HS	2
94	Fill Bottle (Figure 5)	120337	120337	2
95	Top Guard	127663	127663	1
96	Socket Head Cap Screw	500047	500047	2
97	Lower Guard	127664	127664	1
98	Socket Head Cap Screw	500060	500060	2

NOTES

TROUBLESHOOTING

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

NOTE:
Piston Drift is when the air piston is in the down position, but the hydraulic pull piston is not in the full forward position. This causes an out of sequence condition.

1 *Tool fails to operate when trigger is depressed.*

a) Air line not connected.
b) Vent hole in air cylinder (78) is blocked.
c) Vent hole in air valve (79) is blocked.

2 *Tool does not complete fastener installation and break pintail.*

a) Air pressure too low
b) Air Piston Quad-ring (50) worn or damaged.
c) Insufficient fluid on pull side: Refer to Fill and Bleed section.
d) Air in hydraulic system: Refer to Fill and Bleed section.

3 *Pintail stripped and/or swaged collar not ejected.*

a) Check for broken or worn jaws in nose assembly: Refer to nose assembly data sheet.
b) Insufficient fluid on return side: Refer to Fill and Bleed section.

4 *Tool has piston drift.*

a) Worn or damaged Piston Assembly (31): Inspect O-rings (33 & 35), and Back-up Rings (38). Replace if necessary.

5 *Hydraulic fluid exhausts with air or leaks at base of handle.*

a) Worn or damaged Gland Assembly (54): Inspect Polyseal (61), O-rings (55 & 58), Quad-ring (56), and Back-up Ring (57). Replace if necessary.

6. *Hydraulic fluid leaks at rear of Pull Piston (4)*

a) Worn or damaged Rear Gland (8): Inspect O-rings (9 & 11) and Back-up Ring (10). Replace if necessary.

7. *Hydraulic fluid leaks at front of Pull Piston (4).*

a) Worn or damaged front seal: Inspect Back-up Ring (2) and O-ring (3). Replace if necessary.

8. *Pull Piston (4) will not return.*

a) Throttle Valve (36) stuck: Lubricate O-rings (37, 39, 55, & 80).

9. *Air leaks at air Cylinder Head (49).*

a). Worn or damaged O-ring (48): Replace if necessary.

ACCESSORIES

Harness..... **123913**

Tool Head Service Kit..... **206-375KIT**

Remote Intensifier Service Kit..... **RIKIT**

Limited Warranties

Tooling Warranty: Huck warrants that tooling and other items (excluding fasteners, and hereinafter referred as "other items") manufactured by Huck shall be free from defects in workmanship and materials for a period of ninety (90) days from the date of original purchase.

Warranty on "non standard or custom manufactured products": With regard to non-standard products or custom manufactured products to customer's specifications, Huck warrants for a period of ninety (90) days from the date of purchase that such products shall meet Buyer's specifications, be free of defects in workmanship and materials. Such warranty shall not be effective with respect to non-standard or custom products manufactured using buyer-supplied molds, material, tooling and fixtures that are not in good condition or repair and suitable for their intended purpose.

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Huck's sole liability and Buyer's exclusive remedy for any breach of warranty shall be limited, at Huck's option, to replacement or repair, at FOB Huck's plant, of Huck manufactured tooling, other items, nonstandard or custom products found to be defective in specifications, workmanship and materials not otherwise the direct or indirect cause of Buyer supplied molds, material, tooling or fixtures. Buyer shall give Huck written notice of claims for defects within the ninety (90) day warranty period for tooling, other items, nonstandard or custom products described above and Huck shall inspect products for which such claim is made.

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.

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Aerospace Products
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Tucson, AZ 85714
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FAX: 520-748-2142

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Aerospace Products
Carson Operations
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900 Watson Center Rd.
Carson, CA 90749
800-421-1459
310-830-8200
FAX: 310-830-1436

Alcoa Fastening Systems
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Waco Operations
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8001 Imperial Drive
Waco, TX 76714-8117
800-388-4825
254-776-2000
FAX: 254-751-5259

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Kingston Operations
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Kingston, NY 12401
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845-331-7300
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