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• **Stroke:** .437

• **Air Pressure:** 90 psi

• **Capacity:** 10,844 lbs @ 90 psi
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.

**WARNING** - Must be understood to avoid severe personal injury.

**CAUTION** - 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.
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.

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.
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.
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.

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 208-437KIT and RIKIT include consumable parts and should be available on hand at all times. Other components, as experience dictates, should also be available.

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.

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


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.
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).


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 setup, 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.

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**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.

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.
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<td>1/4 OD Plastic Tube (fig 5)</td>
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<td>Fill Bottle (fig 5)</td>
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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.............. 208-437KIT
Remote Intensifier Service Kit........ RIKIT
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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.

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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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Alcoa Fastening Systems
Commercial Products
Canada Operations
6150 Kennedy Road, Unit 10
Mississauga, Ontario L5T2J4
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905-564-4825
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Alcoa Fastening Systems
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TELEX: 1173530 LUKSME

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Alcoa Fastening Systems
Commercial Products
Australia Operations
14 Viewtech Place
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03-764-5500
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Alcoa Fastening Systems
Commercial Products
United Kingdom Operations
Unit C, Stafford Park 7
Telford, Shropshire
England TF3 3BQ
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