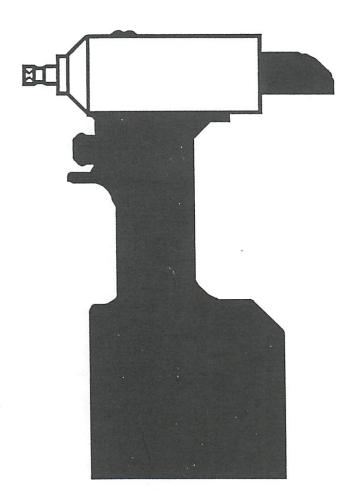
# Instruction Manual Model 227 Pneudraulic Installation Tool



®Huck International, Inc. 9-88Form HK738 - - Rev. 1-94U. S. Patent 4,580,435



# An important notice:

Operator must read and understand any WARNING and Caution stickers/labels supplied with equipment before connecting equipment to any primary power supply - - as applicable, the following sections each have specific safety, and other, information:

- WARNINGS and CAUTIONS
- DESCRIPTION
- SPECIFICATIONS
- PRINCIPLE OF OPERATION
- PREPARATION FOR USE
- PREVENTIVE MAINTENANCE
- OPERATION AND TOOL HANDLING

As applicable, the disassembly and assembly sections contain specific overhaul and safety procedures.

Only persons who have read and understood all applicable manuals or received training approved by Huck International, Inc. will be able to use Huck equipment with personal safety and efficiency.

If you require additional information, contact your local Huck representative or the nearest office listed on the back cover.

#### SAFETY GLOSSARY

**WARNINGS** must be understood to avoid severe personal injury.

**Cautions** show conditions that will damage equipment and/or structure.

Notes are reminders of required preocedures.

<u>Italic type and underlining strengthens a</u> <u>specific instruction.</u>

## **WARNINGS**

When operating Huck installation equipment always wear approved eye protection.
Whenever within the working environment, wear approved eye protection, with side shields, to protect from anything that breaks on the fastening system including: Erupting fluid lines, flying fastener particles or any other dirt/debris that could cause eye injury. Where applicable, refer to ANSI Z87.1 - 1989.

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

- For electrically operated POWERIG®
   Hydraulic Units, unplug the power cord
   from the socket. If there is no plug, turn
   off the power at the disconnect switch.
   Fellow lockout/tagout procedures in
   force by your employer.
- For equipment powered by compressed air, disconnect the air hose before doing any maintenance.
- For hydraulic tools, or other hydraulic equipment, disconnect the hydraulic hoses from the hydraulic unit before doing any maintenance.

If any equipment shows signs of damage or leakage, **DO NOT** connect it to the primary power supply (either electrical or compressed air) - - and do not continue to use equipment that develops erratic symptoms. If equipment is damaged, or there are other serious discrepancies, affected equipment may rupture violently - - parts may strike the operator, and/or other personnel, and cause severe personal injury. Ensure that ALL air and/or hydraulic hose and/or electrical plugs/connectors are correctly connected before switching on power supply to equipment. If incorrectly connected, the tool may respond erratically and cause severe personal injury.

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# Description

The Huck Model 227 is a lightweight -- only 4 lbs. -- high speed production tool designed to install up to 3/16" dia. HUCK-CLINCH mand CherryMAX® fasteners. Pulling action of the pull piston is provided by a pneumatic-hydraulic (pneudraulic) intensifier system powered by 90-100 psi (620-690 kPa) with an air consumption of 3.9 CFM (.002 M3/s) based on 20 fasteners per min. After pin break air pressure returns the pull piston. Noise level is 85 dbA max. at 90 psi.

Features incorporated in the Model 227 include; a one piece, high impact polymer handle/cylinder design; an in-line piston extending the life of cylinder and O-ring seals; a pull piston wiper preventing abrasive particles from damaging seals; an oil damper in hydraulic system softens pinbreak shock; air porting and muffler exhausts air from bottom of tool.

A nose assembly is required for each fastener type and size. Nose assemblies must be ordered separately.

The Model 227 hydraulic system is recharged by removing bleed plug located at top of cylinder -- fill to top of bleed port (see page 5 for filling instructions). Hydraulic fluid is automatic transmission fluid, DEXRON II, or equivalent.

Millimeters in parenthesis

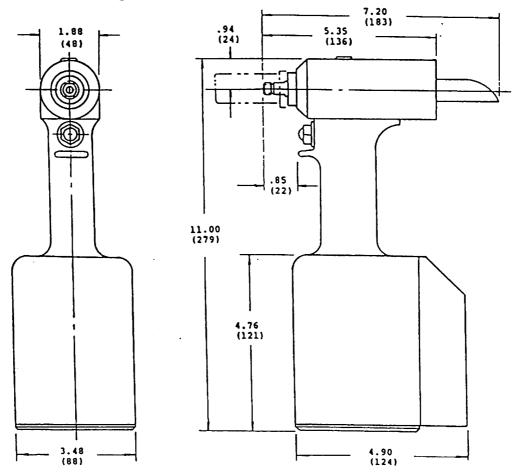


Figure 1. Outline Dimensions

# Principle of Operation

When tool is connected to air supply, air pressure holds air trigger closed and pull piston to the front. Air valve directs air pressure to top of air piston keeping it down. Air trigger is depressed and air valve spool shifts directing air to bottom of air piston. As piston moves upward, air from above piston is exhausted through muffler at bottom of air valve.

The piston rod connected to air piston functions as the hydraulic rod. This hydraulic rod forces pressurized fluid into the hydraulic cylinder moving pull piston (47) to rear. The collet portion of nose assembly attached to pull piston moves rearward to start fastener installation.

When fastener installation is completed, trigger is released. Air valve spool in air valve shifts. Reversed air flow moves air piston and rod down to its starting position -- exhausting air from below piston through bottom of air valve. As rod moves downward and hydraulic pressure is released from pull piston, air pressure returns the pull piston to its starting position.

# Preparation for Use

The Model 227 Installation Tool is shipped with a plastic plug in the air inlet. This connector has 1/4-18 female pipe threads. A quick connect fitting and 1/4 inch inside diameter air hose are recommended. An air supply of 90-100 psi capable of 4 CFM must be available. The air supply should be equipped with a filter-regulator unit that provides clean dry air.

- 1. Remove plastic plug from air inlet and drop in a few drops of Automatic Transmission Fluid, Dexron II, or equivalent.
- 2. Using TEFLON\* thread compound, screw quick disconnect fitting into air inlet and tighten to 6 ft./lbs.
- 3. Set air pressure on regulator to 90-100 psi.
- 4. Connect air hose to tool.
- 5. Cycle tool a few times by depressing and releasing trigger.
- 6. Disconnect air hose from tool.
- 7. Install proper nose assembly on tool per applicable Nose Assembly Data Sheet.
- 8. Connect air hose to tool and install fastener in test plate of proper thickness with proper size holes. Inspect installed fastener.

# Operating Instructions

# WARNING

If deflectors are removed or damaged, broken pintails may eject forcibly from rear of tool and severe personal injury may result.

Be sure there is adequate clearance for tool and operator's hands before proceeding as severe personal injury may result without clearance.

# CAUTION

Do not abuse tool by dropping it, using it as a hammer, or otherwise causing unnecessary wear and tear. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency and in reducing downtime.

# HUCK-CLINCH and CherryMAX fastener installation:

The fastener may be placed in the work hole or in the end of the nose assembly. In either case, tool and nose assembly must be held against work and at right angles to it. Depress trigger and hold it depressed until fastener is installed and pintail breaks.

Table 1. Standard Tools Available from Huck

Part No.	Description	Used on Ref. No.	Part No.
502296	Hex Key, 3/16 across flats	6	502373
502293	Hex Key, 3/32 across flats	20	502472
502450	Hex Key, 5/32 across flats	24	115502
502865	Truarc Pliers - 0200	29	505406

## Maintenance

#### Preventive Maintenance

The Model 227 Huck Installation Tool requires a minimum amount of maintenance. Regular inspection and correction of minor problems will keep the tool operating efficiently and prevent downtime.

If a filter-regulator-lubricator unit is not being used: (1) remove hose fitting from air inlet and drop in a few drops of Automatic Transmission Fluid or light oil (2) blow out air line to remove dirt and water before connecting air hose to tool.

Remove and clean nose assemblies at regular intervals -- nose collet and tool spindle must be cleaned of oil and abrasive particles. Cleaning prevents spindle seal failure. Particles of black phosphate finish from installed fasteners mix with residual oil on spindle -- the abrasive paste formed causes excessive seal and wiper wear. To prevent seal wear and fluid loss, clean wiper at regular intervals. Wiper should be changed before it becomes too worn and no longer effective.

# Good Service Practices

The efficiency and life of any tool depends upon proper maintenance and good service practices. The tool should be serviced by personnel who are thoroughly familiar with it and how it operates.

A clean, well-lighted area should be available for servicing the tool. Special care must be taken to prevent contamination of the pneumatic and hydraulic systems.

Proper hand tools, both standard and special, must be available.

All parts must be handled carefully and examined for damage or wear. ALWAYS REPLACE O-RINGS, BACK-UP RINGS, POLYSEALS, WIPER AND GASKETS WHEN TOOL IS DISASSEMBLED FOR ANY PURPOSE.

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.

LUBRIPLATE 130AA, or equivalent lubricant should be used to facilitate assembly of O-rings, QUAD Rings, Poly Seals, Back-up Rings, Wipers and other components. (LUBRIPLATE 130AA is available from Huck Manufacturing Co. in a tube as P/N 502723.

Use TEFLON\* thread compound on threads of pipe plug and quick disconnect fitting. (Teflon thread compound is available from Huck Manufacturing Company in stick form as P/N 503237.)

Service Parts Kit No. 227KIT includes perishable parts and should be available at all times. Other components, as experience dictates, should also be available.

- \* LUBRIPLATE is a trademark of Fiske Brothers Refining Co.
- \* TEFLON is a trademark of E.T. duPont de Nemours & Co.

# Filling the Tool

# CAUTION

Before filling tool air piston must be all the way down and hydraulic pull piston must be in full forward position. Tool will not deliver full fastening stroke if pistons are not positioned properly.

- 1. Connect air supply to tool air piston will be pulled down.
  Distonnect air supply.
- 2. Thread collet from nose assembly onto pull piston. Use collet to move pull piston all the way forward.

#### WARNING

Do not cycle tool without fill plug installed in tool head. Severe personal injury may occur if tool is cycled without fill plug installed in tool head.

- 3. Remove fill plug from head of tool -- see Figure 2.
- 4. Pour in automatic transmission fluid until fluid reaches fill plug port. Screw in fill plug -- use TEFLON thread compound. See note on page 13.

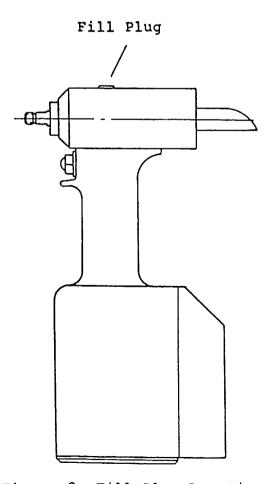


Figure 2. Fill Plug Location

# Troubleshooting

Always check out the simplest possible cause of a malfunction first. For examble, an air hose not connected. Then proceed logically eliminating each possible cause until the defective part is located. Where possible, substitute known good parts for suspected bad parts. Use Troubleshooting chart as an aid in locating and correcting malfunction. Reference numbers are included in Fig. 3.

- Tool fails to operate when trigger is depressed.
  - a. Air hose not connected.
    - b. Spool Valve not shifting. Clean mating surfaces.
    - c. Damaged Gasket (46).
    - d. Air Restrictor (24) backed out.
- 2. Tool does not complete fastener installation or break pintail.
  - a. Hydraulic fluid low causing short stroke.
  - b. Nose Assembly improperly adjusted.
  - c. Air pressure too low.
  - d. 1.c.
- 3. Hydraulic fluid leaks out Pull Piston Rod (47).
  - a. Damaged O-ring (5) and/or Back-up Ring (4).
  - b. Scored or damaged Pull Piston Rod (47).
  - c. Scored or damaged Head (3) at O-ring (5) groove area.
- 4. Pull Piston (47) will not return to forward position.
  - a. Damaged Air Trigger Sealing Washer (44).
  - b. Damaged Gasket (46) or Gasket not positioned properly.
  - c. Hydraulic fluid reservoir overfilled causing short or no stroke.
  - d. 1.b.
  - e. Plugged Orifice in Air Restrictor (24).
- 5. Oil leaks out through I.D. of Pull Piston (47).
  - a. Damaged O-rings (7) and Back-up Ring (8).
- 6. Air exhausts out through I.D. of Pull Piston (47).
  - a. Damaged rear O-ring (7).
- 7. Oil leaks out vent hole at base of handle.
  - a. Damaged Seal (41).
  - b. Damaged or scored Piston Rod (36).
  - c. Damaged Gland (38).
- 8. Air exhausts out vent hole at base of handle.
  - a. Damaged Seals (39) and/or (40).
  - b. 7.b.
  - c. 7.c.
- 9. Air leaks where Head (3) and Handle (42) join.
  - a. 1.c.

- 10. Excessive air exhausts from muffler in idle position.
  - a. Damaged O-rings (22) and (25) on Spool (21).
  - b. Damaged Gasket (19).
  - c. Damaged O-ring (31).
  - d. Damaged O-ring (34).
  - e. Damaged O-ring (25) on Cap (26).
  - f. 1.b.
- 11. Oil leaks where Head (3) and Handle (42) join.
  - a. Damaged O-ring (13).
- 12. Air exhausts from Back Cap (11).
  - a. Damaged G-ring (9) and/or (10).

# Spare Parts and Service Parts Kit

The quantity of spare parts that should be kept on hand varies with application and number of tools in service. Service Parts kit containing perishable parts such as O-rings, back-up rings, etc., should be kept on hand at all times. Parts are included in Service Parts 227KIT.

# Disassembly

Refer to Figure 3.

For component identification, refer to Figure 3. and Table 2. Parts List. Numbers in parenthesis () are reference numbers shown in Figure 3.

#### WARNING

Be sure air hose is disconnected before cleaning, or when replacing worn or damaged components. Severe personal injury may occur if air hose is not disconnected.

The following procedure is for complete disassembly of tool to replace O-rings, QUAD Rings, Poly Seal, Back-up Rings and Wipers, and worn and/or damaged components.

- 1. Disconnect shop air hose from tool Air Hose Assembly.
- Unscrew Fill Plug (6) from Cylinder (3) and drain hydraulic fluid into container. Reinstall plug.
- 3. Unscrew six Button Head Screws (20) attaching Air Valve Housing Assembly (18) to Cylinder (42). Use 3/32 hex key. Remove Housing Gasket (19).

- 4. With small diameter rod and hammer, tap out Dowell Pin (27) from air valve housing.
- 5. Remove Muffler (28). Screw 5/16-18 bolt into Air Valve Cap (26) and pull from housing.



6. Screw 5/16-18 bolt into Air Valve Spool (21) and pull spool from housing. Unscrew Air Restrictor (24) from spool. Use 5/32 hex key. Push Air Filter (23) out of spool -- push from other end.

#### NOTE

Air Valve Sleeve is pressed into Air Valve Housing (18) and cannot be removed.

- 7. Unscrew Wiper Housing (1) from Cylinder (3).
- 8. Pull Deflector (12) out of Hydraulic Cap (11).
- 9. Hold Cylinder (3) in vise. With wrench unscrew cap (11).
- 10. With non-metallic hammer, tap end of Piston (47) until piston can be removed from cylinder.
- 11. Hold Cylinder (3) in vise with bottom of tool facing up. With 1 1/8" socket wrench unscrew Air Cap (30).
- 12. Screw 1/4-20 bolt into Hydraulic Rod (36) and pull air Piston Assembly from Cylinder (42).
- 13. With 0200 Truarc Pliers remove Retaining Ring (29) from rod. Slide Piston (33) from rod. Remove Washer (35) and O-ring (31).
- 14. Unscrew Gland (38) with 1 1/8" socket wrench. Remove upper Bumper (37). Slide Polyseal (41) from Hydraulic Tube (16).
- 15. Pull Air Cylinder (42) from hydraulic cylinder/hydraulic tube assembly. Remove Head Gasket (46).
- 16. Remove cylinder/tube from vise and drain remaining fluid from tube.
- 17. Hold cylinder/tube in vise with tube pointing up. Unscrew Hydraulic Tube (16) from Hydraulic Cylinder (3) -- use tube wrench flats.
- 18. Pull O-ring (13) Oil Damper Cap (14) and Oil Damper Valve (15) out of tube.
- 19. Unscrew Air Trigger Assembly. Remove O-ring (44) and Sealing Washer (45) from air trigger body and stem.

# Assembly

Refer to Figure 1.

Clean all components with mineral spirits, and inspect for wear or damage, Replace as necessary. Replace all seals on/in disassembled components. Use O-rings, QUAD Rings, Poly Seals, Back-up Rings and Wipers supplied in Service Parts Kit 227KIT -- see Notes. Smear LUBRIPLATE 130AA or PARKER-O-LUBE on O-rings, QUAD Rings, Poly Seals, Wipers and mating components to facilitate assembly. Assemble tool taking care not to damage O-rings, QUAD Rings, Poly Seal, Back-up Rings, or Wipers.

- With rubber surface toward Cylinder (42) push Sealing Washer (44) over air Trigger body and stem. Slip O-ring (45) into groove on stem. Screw in assembled air trigger -- tighten to 15 in. lbs.--use inch lb. torque wrench.
- 2. Push Oil Damper Valve (15) into Hydraulic Tube (16); push Oil Damper Cap (14) into tube. Slide Polyseal (41) into tube -- cup faces inward.
- 3. Hold Hydraulic Cylinder (3) upside down in vise and insert O-ring (13) into Cylinder. Screw Hydraulic Tube (16) into Hydraulic Cylinder (3) -- use wrench flats on tube. Tighten to 300 in. lbs.--use inch lb. torque wrench.
- 4. Place Head Gasket (46) in Cylinder (42). Slide Hydraulic Tube into Cylinder (42) until seated.
- 5. Place Upper Bumper (37) in position in Cylinder (42). Screw Gland (38) into Hydraulic Tube (16) with 1 1/8" socket wrench. Tighten to 210 in. lbs.--use inch lb. torque wrench.
- 6. Place O-ring (31) into recess in Piston (33). Place Washer (35) over O-ring (31) in recess. Push piston onto Hydraulic Rod (33). Install Retaining Ring (29) in rod with Truarc Pliers 0200. Push assembled air piston and rod into air cylinder. Push piston approximately two inches into cylinder.

#### CAUTION

Position Air Cylinder Cap (30) squarely in Cylinder (42) so that cap does not become cross-threaded when screwed in. Metal cap threads may cut new threads in plastic cylinder if extreme care is not taken -- if any resistance is felt check thread engagement.

- 7. Screw Cap into air cylinder -- tighten with 1 1/8" socket wrench to 150 in. lbs.
- 8. Screw Wiper Housing (1) into Cylinder (3), -- wrench-tight.
- Push Air Filter (23) into Air Valve Spool (21); screw Air Restrictor (24) into spool - use 5/32 hex key.

#### NOTE

Air Valve Sleeve is pressed into Air Valve Housing (18) and cannot be removed.

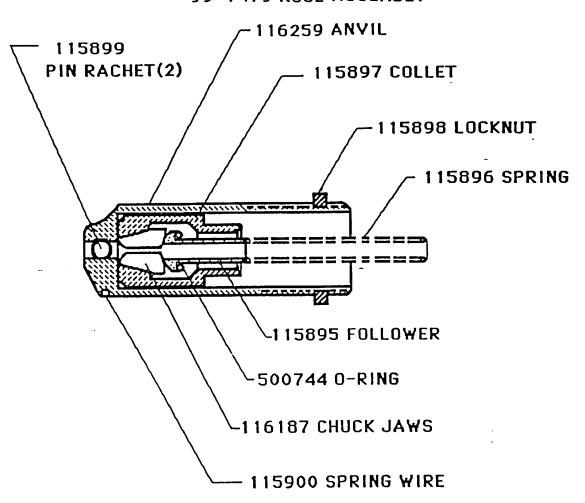
- 10. Push assembled Air Valve Spool (21) into Air Valve Housing (18). Push Air Valve Cap (26) into air valve housing. Push Muffler (28) into housing.
- 11. With soft mallet, tap Dowell Pin (27) into housing.
- 12. Place Air Valve Housing Gasket (19) in place. Attach Air Valve Housing (18) to Cylinder (42) using six Button Head Screws (20). Use 3/32 hex key and tighten to 10 in. lbs.
- 13. Fill tool with hydraulic fluid. See Filling the Tool.
- 14. Screw Pipe Plug (6) into cylinder. Tighten to 90 in. lbs.
- 15. Connect shop air hose to tool.

# Notes

## Specifications for Tables

- All part numbers shown are available from Huck. The 500000 series part numbers are standard parts which can generally be purchased locally.
- Asterisks (\*) indicate parts in Service Parts Kit, 227KIT.
- 3. O-ring sizes are specified AS 568 dash numbers. (AS 568 is an AEROSPACE SIZE STANDARD FOR O-RINGS and formerly was known as ARP).
- 4. QUAD ring sizes are specified Q4 plus 3 digits. The last 3 digits correspond to O-ring dash numbers. Quad rings are manufactured by Minnesota Rubber Co.
- 5. Back-up rings are W.S. Shamban & Co. series S-11248, single turn Teflon (MS-28774), or equivalent. The dash nos. correspond to O-ring AS 568 dash nos.

# 99-1479 NOSE ASSEMBLY



Nose Assembly used on Model 227 is Model 99-1479 to install HUCK- CLINCH™ and CherryMAX® Fasteners.

#### INSTALLATION INSTRUCTIONS

- 1. Assemble collet, follower, 0-ring and chuck jaws as shown above.
- 2.Place spring in recess in front of tool piston.
- 3. Slide assembled collet into anvil while holding anvil down to keep jaw set in phase.
- 4. Hold tool with one hand and anvil assembly in the other, tip tool down and engage the follower in the front of piston to contact spring.
- 5. Thread anvil into wiper housing of tool. Be sure the chuck jaw set is in phase.
- 6. Thread anvil into wiper housing, test the adjustment of nose assembly. When a pintail of a fastener is inserted into the anvil it should just contact jaw set and ratchet over teeth of jaw set (use a pintail only to check this adjustment).
- 7. Once nose is adjusted to these requirements, screw the locknut down to wiper housing to secure the adjustment.
- 8. After adjustment has been made, install a few fasteners in a test plate of the proper thickness.

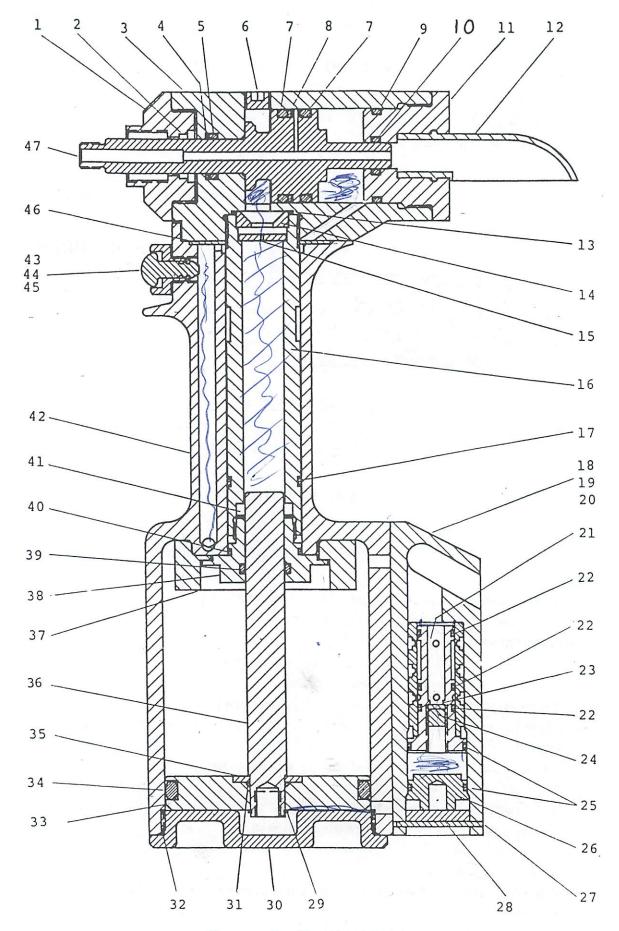


Figure 3. Sectional View

Parts List Table 2. Model 227 Installation Tool

Ref. No.	Part No.	Qty. Req.	Description
1	116217	1	Housing-Wiper
2*	505451	1	Wiper
3	116208	1	Cylinder-Hydraulic
4*	501103	1	Back-up Ring S-11248-112
5*	504439	1	O-ring AS 568-112
6	104293	1	Bleed Plug and O-ring Assembly ####
7*	503637	2	O-ring AS 568-216
8*	501143	1	Back-up Ring S-11248-216
9*	500820	1	O-ring AS 568-123
10*	500807	1	O-ring AS 568-110
11	115301	1	Cap-Hydraulic Cylinder
12*	100378	1	Deflector
13*	500784	1	O-ring AS 568-018
14	115483	1	Cap-Oil Damper
15	115482	1	Valve-Oil Damper
16	116216	1	Tube-Hydraulic
17*	500816	1	O-ring AS 568-119
18	116222	1	Housing-Air Valve Assembly
19*	116221	1	Gasket-Housing (not shown)
20	502472	6	Screw-Butt. Hd. Cap #8-32 x 3/8 (not shown) .
21	115217	1	Spool-Air Valve
22*	500779	3	O-ring AS 568-013
23	115498	1	Filter-Air
24	115502	1	Restrictor-Air
25*	500784	2	O-ring AS 568-018

#### Contains P/N 100309 Plug and P/N 505438 O-ring \* NOTE EARLY TOOLS USED PIPE PLUG P/N 502373
13

Ref. No.	Part No.	Qty. Req.	Description
26	115218	1	Cap-Air Valve
27	505375	1	Pin-Dowel
28	115497	1	Muffler
29	505406	1	Ring-RetainingTruarc 5100-50
30	115940	1	Cap-Air Cylinder
31	500807	1	O-ringAS 568-110
32*	500806	1	O-ringAS 568-040
33	116214	_1 .	Piston-Air
34*	500887	1	O-ringAS 568-344
35	115494	1 _	Washer
36	116215	1	Rod-Hydraulic
37*	115304	1	Bumper
38	116541	1	Gland-Hydraulic Cylinder
39 <b>*</b>	505452	1	QUAD Ring MR-Q4113
40*	500816	1	O-ring AS 568-137
41*	505440	1	Polyseal
42	115939	1	Cylinder-Machined
43	115928	1	Air Trigger Assembly (incl. 44 & 45)
44	505427	1	Sealing Washer
45*	500772	1	O-ring AS 568-006
46*	116223	. 1	Gasket-Head
47	116213	1	Piston-Hydraulic

#### **Warranties**

# Warranty

THE NINETY DAY WARRANTY HEREIN EXPRESSED SHALL BE THE EXCLUSIVE WARRANTY ON ITEMS MANUFACTURED BY SELLER AND SHALL BE IN THE PLACE AND STEAD OF ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Seller 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 Seller or its suppliers.

All warranty claims must be submitted to the Seller in writing within 90 days from the date of shipment, and no returns will be accepted without written permission.

Other provisions hereof notwithstanding, Seller shall not be liable for any loss of business, profits or any incidental or consequential damages incurred by Buyer or any third person in connection with the items or use thereof, however caused.

#### **Tool Warranty**

Seller expressly disclaims any warranty expressed or implied, as to the condition, design, operation, merchantability or fitness for use of any tool or part(s) thereof not manufactured by Seller. The only warranties made with respect to such tool or part(s) thereof are those made by the manufacturer thereof and Seller agrees to cooperate with Buyer in enforcing such warranties when such action is necessary. Seller agrees to repair or replace F.O.B. Seller's plant, any tool or part(s) thereof manufactured by it and proved to Seller to be defective due to faulty workmanship or material.

Warranty on "Other Items"
With regard to items other than FASTENERS and TOOLS ("OTHER ITEMS"), Seller expressly disclaims any warranty, expressed or implied, as to the condition, design, operation, merchantability or fitness for use of any "OTHER ITEMS," or part(s)

thereof not manufactured by Seller. The only warranties made with respect to such "OTHER

ITEMS" or part(s) thereof are those made by the manufacturer thereof and Seller agrees to cooperate with Buyer in enforcing such warranties when such action is necessary.

Seller agrees to repair or replace F.O.B. Seller's plant, any "OTHER ITEMS" or part(s) thereof manufactured by it and proved to Seller to be defective due to faulty workmanship or material.

## **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 (914) 331-7300 FAX (914) 334-7333

#### Canada

326 Humber College Boulevard, Rexdale, Ontario M9W 5P4, Canada.
Telephone (416) 675-3400 FAX (416) 675-5917

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.

# Huck Acceptance is Worldwide

Huck International, Inc. maintains company offices throughout the United States and Canada with subsidiary offices in many foreign countries. Sales engineers and systems specialists located in your area can help you in solving your fastener problems.

#### Huck International. Inc. worldwide locations:

#### **Americas**

Huck International, Inc. Installation Systems
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One Corporate Drive
Kingston, NY 12401
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Huck International, Inc. World Headquarters 3724 East Columbia Tucson, AZ 85714 (800) 234-4825 (602) 747-9898 FAX (602) 748-2142 Huck International, Inc. Aerospace Fastener Division
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900 Watsoncenter Road Carson, CA 90749
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(310) 830-8200
FAX (310) 830-1436

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