

Alcoa
Fastening
Systems & Rings



INSTRUCTION MANUAL
2025 SERIES
PNEUDRAULIC INSTALLATION TOOLS



Standard 2025 shown with Nose Assembly (not included)

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

May 26, 2015
HK1006





EC Declaration of Conformity

Manufacturer:

Huck International, LLC, Industrial Products Group, 1 Corporate Drive, Kingston, NY, 12401, USA

Description of Machinery:

Models 202, 202#, ERT9, & ERT9# series pneudraulic installation tools and specials based on their design (e.g. PR####).

Relevant provisions complied with:

Council Directive related to Machinery (2006/42/EC)
 British Standard related to hand held, non-electric power tools (ISO 11148-1:2011)

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: Robert B. Wilcox

Position: Engineering Manager

Location: Huck International, LLC d/b/a Alcoa Fastening Systems
 Kingston, New York, USA

Date: 27/02/2013



Declared dual number noise emission values in accordance with ISO 4871	
A weighted sound power level, LWA: 81 dB (reference 1 pW) Uncertainty, KWA: 3 dB	
A weighted emission sound pressure level at the work station, LpA: 70 dB (reference 20 µPa) Uncertainty, KpA: 3 dB	
C-weighted peak emission sound pressure level, LpC, peak: 115 dB (reference 20 µPa) Uncertainty, KpC: 3 dB	
Values determined according to noise test code ISO 15744, using as basic standards ISO 3744 and ISO 11203. The sum of a measured noise emission value and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements.	

Declared vibration emission values in accordance with EN 12096	
Measured Vibrations emission value, a:	.57 m/s ²
Uncertainty, K:	.28 m/s ²
Values measured and determined according to ISO 28662-1, ISO 5349-2, and EN 1033	

Test data to support the above information is on file at Alcoa Fastening Systems, Industrial Products Group, Kingston Operations, Kingston, NY, USA.



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SAFETY INSTRUCTIONS

GLOSSARY OF TERMS AND SYMBOLS:



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



- **READ MANUAL** prior to using this equipment.



- **EYE PROTECTION IS REQUIRED** while using this equipment.



- **HEARING PROTECTION IS 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.

I. GENERAL SAFETY RULES:

1. A half hour long hands-on training session with qualified personnel is recommended before using Huck equipment.
2. Huck equipment must be maintained in a safe working condition at all times. Tools and hoses should be inspected at the beginning of each shift/day for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.
3. For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the assembly power tool. Failure to do so can result in serious bodily injury.
4. Only qualified and trained operators should install, adjust or use the assembly power tool.
5. Do not modify this assembly power tool. This can reduce effectiveness of safety measures and increase operator risk.
6. Do not discard safety instructions; give them to the operator.
7. Do not use assembly power tool if it has been damaged.
8. Tools shall be inspected periodically to verify all ratings and markings required, and listed in the manual, are legibly marked on the tool. The employer/operator shall contact the manufacturer to obtain replacement marking labels when necessary. Refer to assembly drawing and parts list for replacement.
9. Tool is only to be used as stated in this manual. Any other use is prohibited.
10. Read MSDS Specifications before servicing the tool. MSDS specifications are available from the product manufacturer or your Huck representative.
11. Only genuine Huck parts shall be used for replacements or spares. Use of any other parts can result in tooling damage or personal injury.
12. Never remove any safety guards or pintail deflectors.
13. Never install a fastener in free air. Personal injury from fastener ejecting may occur.
14. Where applicable, always clear spent pintail out of nose assembly before installing the next fastener.
15. Check clearance between trigger and work piece to ensure there is no pinch point when tool is activated. Remote triggers are available for hydraulic tooling if pinch point is unavoidable.
16. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle or to bend or pry the tool. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency, eliminating downtime, and preventing an accident which may cause severe personal injury.
17. Never place hands between nose assembly and work piece. Keep hands clear from front of tool.
18. Tools with ejector rods should never be cycled with out nose assembly installed.
19. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet for correct positioning.

II. PROJECTILE HAZARDS:

1. Risk of whipping compressed air hose if tool is pneudraulic or pneumatic.
2. Disconnect the assembly power tool from energy source when changing inserted tools or accessories.
3. Be aware that failure of the workpiece, accessories, or the inserted tool itself can generate high velocity projectiles.
4. Always wear impact resistant eye protection during tool operation. The grade of protection required should be assessed for each use.
5. The risk of others should also be assessed at this time.
6. Ensure that the workpiece is securely fixed.

7. Check that the means of protection from ejection of fastener or pintail is in place and operative.
8. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.

III. OPERATING HAZARDS:

1. Use of tool can expose the operator's hands to hazards including: crushing, impacts, cuts, abrasions and heat. Wear suitable gloves to protect hands.
2. Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
3. Hold the tool correctly and be ready to counteract normal or sudden movements with both hands available.
4. Maintain a balanced body position and secure footing.
5. Release trigger or stop start device in case of interruption of energy supply.
6. Use only fluids and lubricants recommended by the manufacturer.
7. Avoid unsuitable postures, as it is likely for these not to allow counteracting of normal or unexpected tool movement.
8. If the assembly power tool is fixed to a suspension device, make sure that fixation is secure.
9. Beware of the risk of crushing or pinching if nose equipment is not fitted.

IV. REPETITIVE MOTION HAZARDS:

1. When using assembly power tool, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
2. When using tool, the operator should adopt a comfortable posture while maintaining a secure footing and avoid awkward or off balanced postures.
3. The operator should change posture during extended tasks to help avoid discomfort and fatigue.
4. If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warnings should not be ignored. The operator should tell the employer and consult a qualified health professional.

V. ACCESSORIES HAZARDS:

1. Disconnect tool from energy supply before changing inserted tool or accessory.
2. Use only sizes and types of accessories and consumables that are recommended. Do not use other types or sizes of accessories or consumables.

VI. WORKPLACE HAZARDS:

1. Be aware of slippery surfaces caused by use of the tool and of trip hazards caused by the air line or hydraulic hose.
2. Proceed with caution while in unfamiliar surroundings; there could be hidden hazards such as electricity or other utility lines.
3. The assembly power tool is not intended for use in potentially explosive environments.
4. Tool is not insulated against contact with electrical power.
5. Ensure there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by use of the tool.

VII. NOISE HAZARDS:

1. Exposure to high noise levels can cause permanent, disabling hearing loss and other problems such as tinnitus, therefore risk assessment and the implementation of proper controls is essential.
2. Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpiece from 'ringing'.
3. Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations.
4. Operate and maintain tool as recommended in the instruction handbook to prevent an unnecessary increase in the noise level.
5. Select, maintain and replace the consumable / inserted tool as recommended to prevent an unnecessary increase in noise.
6. If the power tool has a silencer, always ensure that it is in place and in good working order when the tool is being operated.

VIII. VIBRATION HAZARDS:

1. Exposure to vibration can cause disabling damage to the nerves and blood supply to the hands and arms.
2. Wear warm clothing when working in cold conditions and keep hands warm and dry.
3. If numbness, tingling, pain or whitening of the skin in the fingers or hands, stop using the tool, tell your employer and consult a physician.
4. Support the weight of the tool in a stand, tensioner or balancer in order to have a lighter grip on the tool.

IX. PNEUMATIC / PNEUDRAULIC TOOL SAFETY INSTRUCTIONS:

1. Air under pressure can cause severe injury.
2. Always shut off air supply, drain hose of air pressure and disconnect tool from air supply when not in use, before changing accessories or when making repairs.
3. Never direct air at yourself or anyone else.
4. Whipping hoses can cause severe injury, always check for damaged or loose hoses and fittings.
5. Cold air should be directed away from hands.
6. Whenever universal twist couplings (claw couplings) are used, lock pins shall be installed and whipcheck safety cables shall be used to safeguard against possible hose to hose or hose to tool connection failure.
7. Do not exceed maximum air pressure stated on tool.
8. Never carry an air tool by the hose.



SPECIFICATIONS

Models 2025, 2025L, 2025S & 2025SL

STROKE: 0.675 in. (1.715 cm)

WEIGHT:

2025 & 2025L: 5 lbs 12oz (2.608 kg)

2025S & 2025SL: 7 lbs 4 ozs. (3.289 kg)

MAX AIR PRESSURE: 90 psi (6.2 BAR)

MAX FLOW RATE: 8.5 scfm (241 l/m)

POWER SOURCE: 90 psi (6.2 BAR) MAX shop air

MAX OPERATING TEMP: 125° F (51.7° C)

PULL CAPACITY:

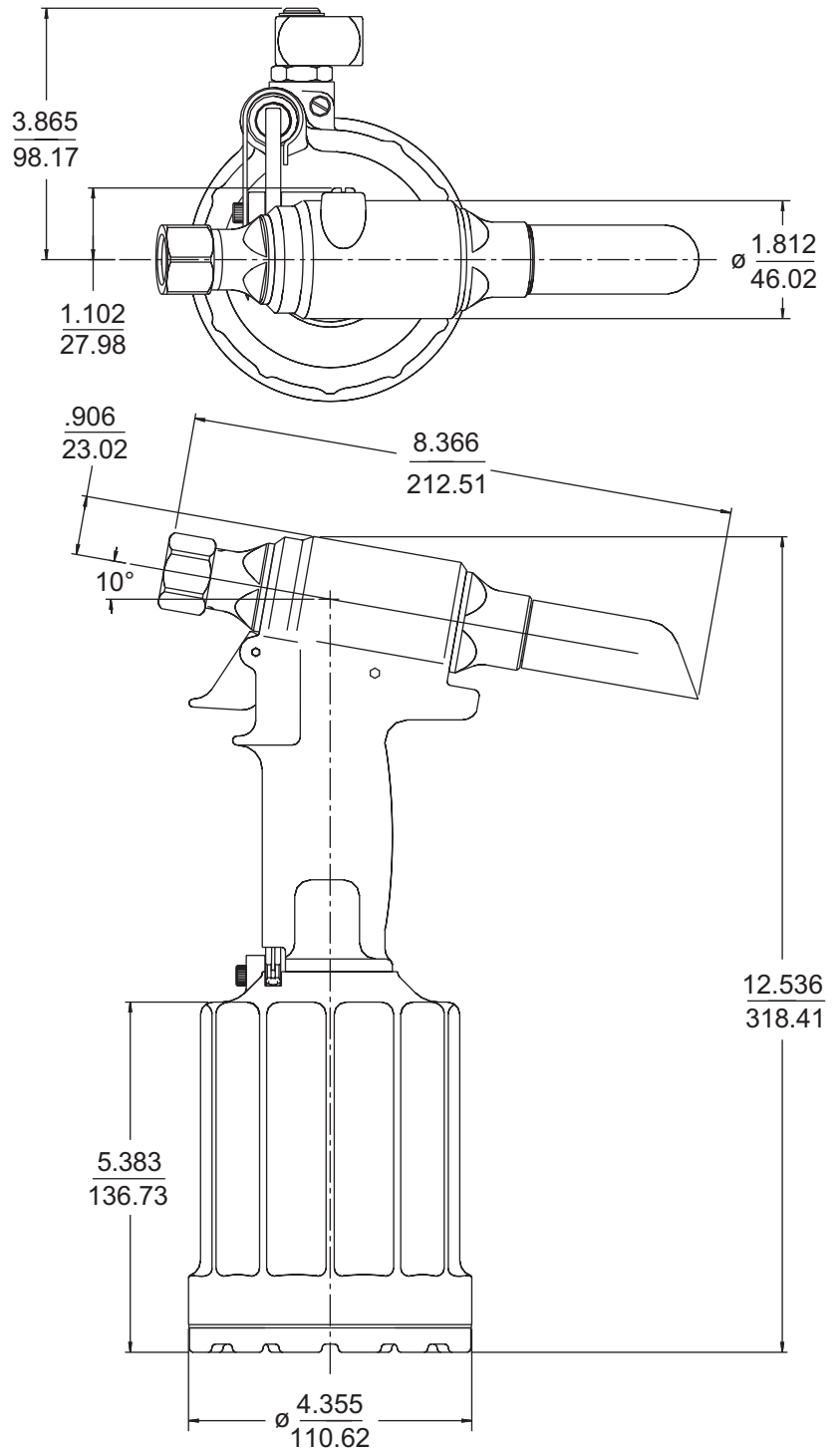
5290 lbs @ 90 psi (23.531 kN @ 6.2 BAR)

SPEED / CYCLES: 30 per minute

HOSE KITS: Use only genuine HUCK Hose Kits rated @ 10,000 (689.5 BAR) psi working pressure.

HYDRAULIC FLUID:

Hydraulic fluid shall meet DEXRON III, DEXRON VI, MERCON, Allison C-4 or equivalent ATF specifications. Fire-resistant fluid may be used if it is an ester-based fluid such as Quintolubric HFD or equivalent. Water-based fluid shall NOT be used as serious damage to equipment will occur.





SPECIFICATIONS

Models 2025B & 2025LB

STROKE: 0.675 in. (1.715 cm)

WEIGHT: 5 lbs 12oz (2.608 kg)

MAX AIR PRESSURE: 90 psi (6.2 BAR)

MAX FLOW RATE: 8.5 scfm (241 l/m)

POWER SOURCE: 90 psi (6.2 BAR) MAX shop air

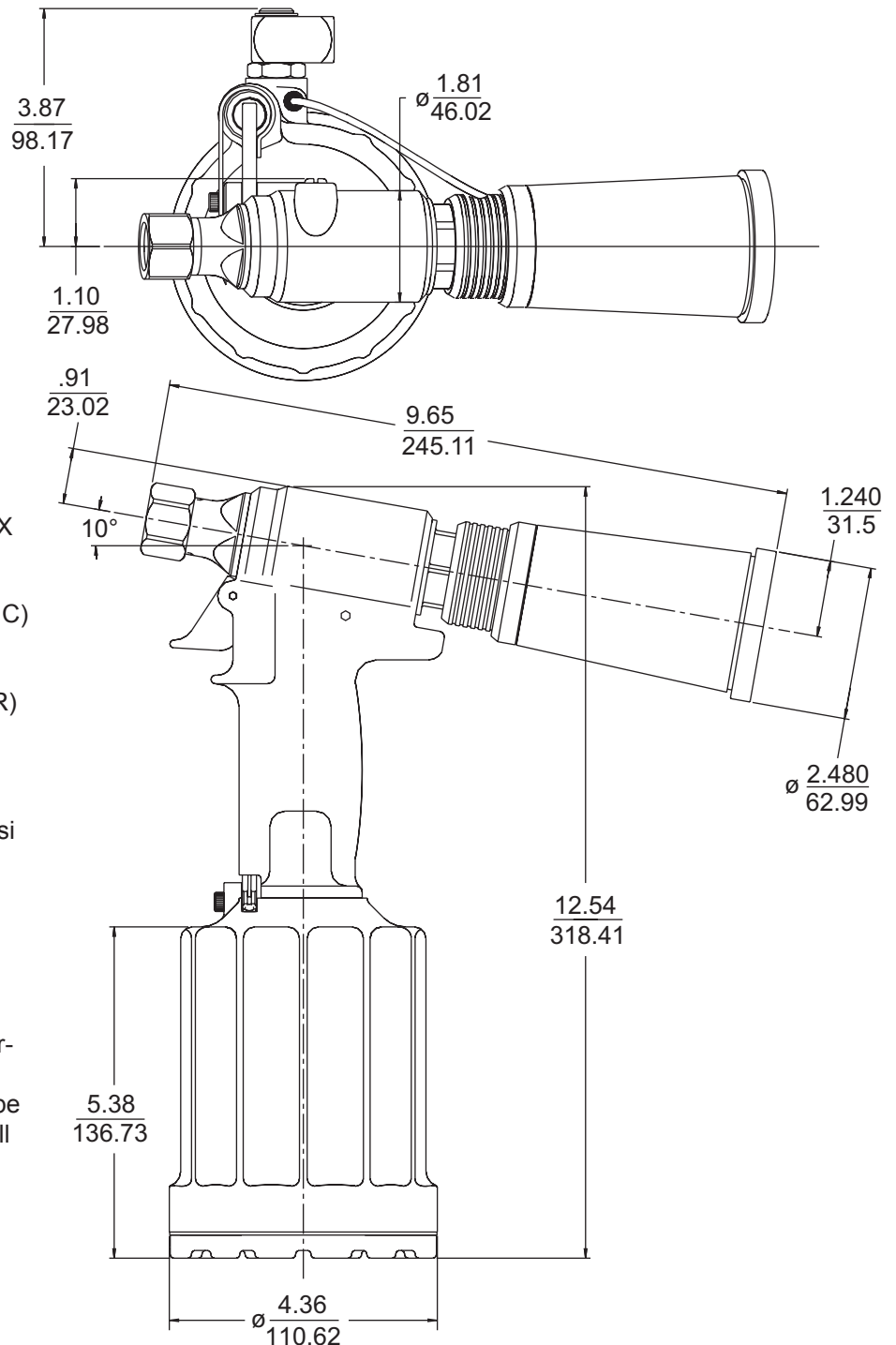
MAX OPERATING TEMP: 125° F (51.7° C)

PULL CAPACITY:
5290 lbs @ 90 psi (23.531 kN @ 6.2 BAR)

SPEED / CYCLES: 30 per minute

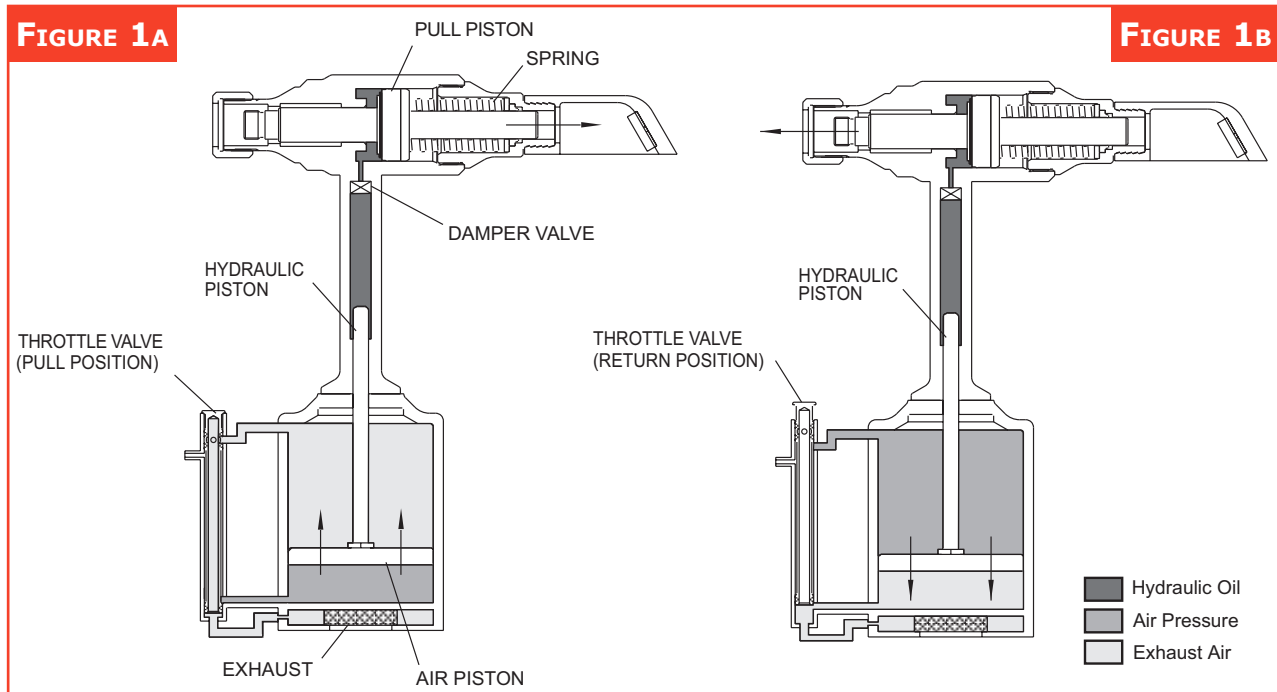
HOSE KITS: Use only genuine HUCK Hose Kits rated @ 10,000 (689.5 BAR) psi working pressure.

HYDRAULIC FLUID:
Hydraulic fluid shall meet DEXRON III, DEXRON VI, MERCON, Allison C-4 or equivalent ATF specifications. Fire-resistant fluid may be used if it is an ester-based fluid such as Quintolubric HFD or equivalent. Water-based fluid shall NOT be used as serious damage to equipment will occur.





PRINCIPLES OF OPERATION



When the trigger is pressed, the throttle valve moves downward to the PULL position, and pressurized air is directed to the bottom of the air piston, causing it to move upward (Figure 1A). The air above the air piston is exhausted and directed through the center of the throttle valve and out the bottom of the tool.

As the hydraulic rod moves upward, a column of fluid is forced into head, which moves the pull piston backward. 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 a spring, sends the throttle valve to the up (RETURN) position. Pressurized air is re-directed to the top of the air piston (Figure 1B), causing the air piston and hydraulic rod to move downward.

The air from below the piston is exhausted through the bottom of the tool, and springs force the pull piston to return to its home position. The damper valve (Figure 1A) impedes oil flow at pinbreak to prevent “tool kick.”

PREPARATION FOR USE

The 2025 series of tools ship with a plug in the air inlet connector. The connector has 1/4-18 female pipe threads to accept the air hose fitting. Huck recommends quick-disconnect fittings and a 1/4" inside-diameter air hose. The air supply should be equipped with a filter-regulator-lubricator unit, and access to a 90 psi (6.2 BAR) air supply capable of 20 ft³/s (.57 m³/s).

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

1. Remove the shipping plug from air inlet connector and add a few drops of an approved hydraulic fluid.
2. Screw the quick-disconnect fitting into the air inlet connector.

CAUTION: Do not use Teflon[®] tape on pipe threads. Tape can shred, resulting in malfunctions. Threadmate[®] is available in a 4oz. tube from Huck (P/N 508517).

3. Set the air pressure on the regulator to 90–100 psi, and connect the air hose to the tool.
4. Press and release the trigger a few times to cycle

the tool. Disconnect the air hose from the tool, and remove the retaining nut.

5. Select the proper nose assembly for the fastener being installed.
6. Screw the collet assembly (including the lock collar and shim if applicable) onto the spindle and tighten with a wrench.
7. Slide the anvil over the collet assembly and into the counterbore. Slide the retaining nut over the anvil, and screw the nut onto the head.
8. Connect the air hose to the tool and install fasteners in a test plate of proper thickness with proper size holes. Inspect the fasteners.

If fasteners do not pass inspection, see TROUBLESHOOTING to investigate possible causes.

NOTE: On older nose assemblies with lock collars, use Loctite[®] 243™ on collet threads, because the 2025 pull piston does not have staking holes. Refer to the nose assembly drawings that shipped with nose assemblies.

Teflon is a registered trademark of du Pont de Nemours and Company. *Threadmate* is a registered trademark of Parker Intangibles, LLC. *Loctite* is a registered trademark of Henkel Corporation, U.S.A.



OPERATING INSTRUCTIONS

BLIND FASTENER INSTALLATION

The fastener can be placed in either the work hole or the end of the nose assembly. For both methods, the tool and nose assembly must be held against the work and at a right angle (90-degrees) to it. Press and hold the trigger until the fastener is installed and the pintail breaks. Release the trigger.

MAGNA-GRIP® FASTENER INSTALLATION

Place the pin in the work-hole and place the collar over the pin. See WARNINGS. (If the collar has only one tapered end, that end **must** be out toward tool.) Hold the pin in the hole. Push the nose assembly onto the pin protruding from the collar until the anvil touches the collar. Press and hold the trigger until the collar is swaged and the pintail breaks. Release the trigger.



CAUTION: Remove excess gap from between sheets so that enough of the pintail protrudes from the collar that all of the jaw teeth can grip the pintail grooves. Jaws that are not fully gripping pintail grooves will be stripped or broken.



WARNINGS:

Inspect tools for damage and wear before using. Do not use if damaged or worn; serious personal injury may occur.

Pulling a pin without a collar, or with collar chamfer against workpiece, may result in the pin becoming a high-speed projectile when the pin grooves are stripped or the pintail breaks off. Serious personal injury may occur to anyone in the pin's "flight path." This includes pins that ricochet.

Broken pintails eject from the deflector with speed and force. Be sure the pintail deflector is directed safely away from all personnel. Ejecting pintails striking anyone may cause serious personal injury. Always use pintail bottles with models 2025B and 2025V. Replace damaged pintail deflectors and bottles to avoid serious personal injury.

MAINTENANCE

GENERAL

The operating efficiency of your tool is directly related to the performance of the entire system. Regular inspection and the immediate correction of minor problems will keep the tool operating efficiently, and prevent downtime. A schedule of "preventive" maintenance of the tool, nose assembly, hoses, trigger and control cord, and POWERIG will ensure your tool's proper operation and extend its life.

NOTE: Huck tools should be serviced only by personnel who are thoroughly familiar with its operation.

- ✓ Service the tool in a clean, well-lighted area. Take special care to prevent contamination of pneumatic and hydraulic systems.
- ✓ Have available all necessary hand tools—standard and special.
- ✓ Carefully handle all parts. Before reassembly, examine them for damage and wear. Always replace seals when a tool is disassembled.
- ✓ Disassemble and assemble tool components in a straight line. Do NOT bend, cock, twist, or apply undue force. Follow the **DISASSEMBLY** and **ASSEMBLY** procedures in this manual.
- ✓ Have **Service Parts Kit 2025KIT** available when servicing the tool; it includes important consumable parts. Other components, as experience dictates, should also be available.

For supplementary information, refer to **TROUBLESHOOTING**, **PARTS LISTS**, and the **DISASSEMBLY** and **ASSEMBLY** procedures in this manual.

DAILY

- ✓ If a Filter-Regulator-Lubricator unit is not being used, uncouple the air disconnects and add a few drops of hydraulic fluid or a light-weight oil to the air inlet of the tool.

NOTE: If the tool is in continuous use, add a few drops of oil in every 2–3 hours.

- ✓ Before connecting an air hose to the tool, bleed the air lines to clear dirt or water.
- ✓ Check all hoses and couplings for damage and air leaks; tighten or replace if necessary.
- ✓ Check the tool for damage and air or hydraulic leaks; tighten, repair, or replace if necessary.
- ✓ Check the nose assembly for tightness and damage; tighten or replace if necessary.
- ✓ Periodically, check the tool stroke. If the stroke is short, add fluid. For more information, see **MEASURING TOOL STROKE** on page 15.

WEEKLY

- ✓ Disassemble, clean, and reassemble nose assembly in accordance with applicable instructions.
- ✓ Check the tool and all connecting parts for damage and fluid/air leaks; tighten or replace if necessary.



DISASSEMBLY



WARNING: Disconnect the air hose from the tool before performing any maintenance. Serious personal injury could result if the air hose is connected.

This procedure is for complete disassembly of the tool. Disassemble only those components necessary to replace damaged O-rings, Quad-rings, Back-up rings, and worn or damaged components. For component identification, see Figures 2, 14, & 15.



CAUTION: Always use a soft-jaw vise to avoid damaging the tool.

GENERAL

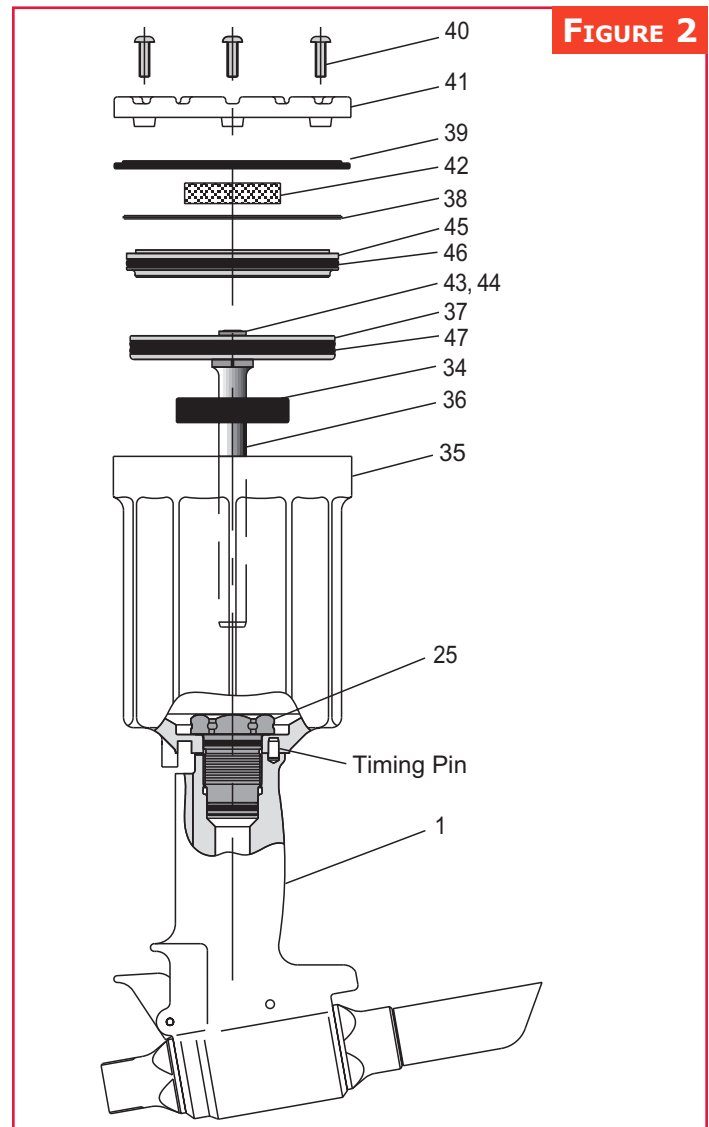
NOTE: For models **2025S** & **2025SL**, follow the procedures for models **2025** & **2025L**.

1. Disconnect the tool from the air source.
2. Unscrew the retaining nut (7), and remove the nose assembly.
3. Unscrew the bleed plug (55) from top of the handle/head. Turn over the tool and drain the fluid into a container. (Figures 10 & 14)
4. **Models 2025 & 2025L:** Pull the pintail deflector (24) off the end cap (21).
Models 2025B & 2025LB: Reach in the window of the pintail bottle (24) and remove the retaining ring (62) and washer (63); then remove the pintail bottle (24) and adapter (64). (Figures 14 & 15)
Models 2025V & 2025LV: See **PINTAIL BOTTLE/VACUUM SYSTEM** on page 11.
5. Remove the throttle arm pivot screw (48) and the lever guard (73). Lift out the throttle arm (53), and disconnect ball end of the cable assembly (2) from it.
6. Secure the tool in a vise, upside-down. (Figure 2) Remove the button head screws (40) with 1/8" hex key. Remove the end cap (41) and gasket (39), and remove the muffler (42) from the end cap. Remove the spring (49) from the throttle valve. (Figure 14)
7. Tap down the cylinder head (45) with a soft mallet (to take pressure off the ring), and remove the retaining ring (38). (Figure 2)
8. Screw the button head screws (40) into the cylinder head, and carefully pry on the screws to remove the head. Remove the O-ring (46).
9. Pull on lock nut (43) with vise-grips to remove air piston from cylinder. Remove piston Quad-ring (47).



CAUTION: Take care to not scratch the piston rod or cylinder when removing.

10. Remove the bumper (34) from the gland assembly. Unscrew gland assembly (25) with 1-3/8" socket wrench and extension.



11. Remove the Spirolox® Retaining Ring (30) from the gland (26), and then pull out the spacer (29) and Polyseal (28). Remove the O-rings (31 & 27), Quad-ring (33), and Back-up ring (32). (Figure 14)
12. Lift the cylinder (35) from the handle/head (1).
13. Turn over the tool (1) and drain the fluid into a container; discard the fluid.
14. Remove the throttle valve (52) from the air cylinder (35), and remove the O-rings (50). (Figure 14)

Spirolox is a registered trademark of Smalley Steel Ring Company



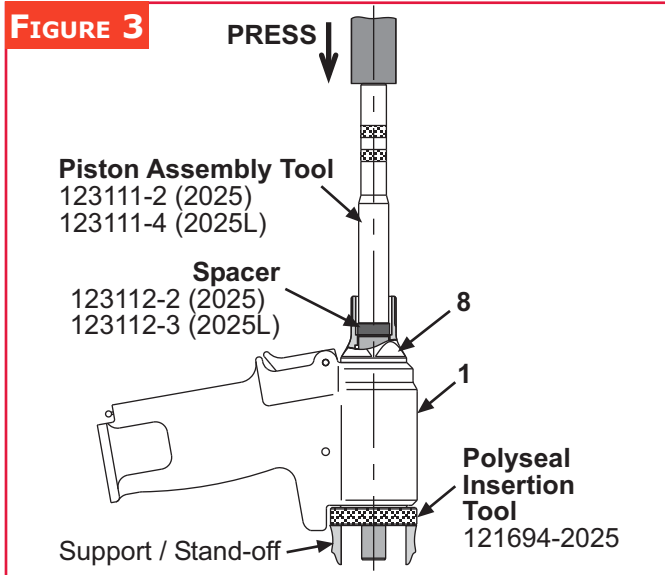
DISASSEMBLY (CONTINUED)

HEAD/HANDLE

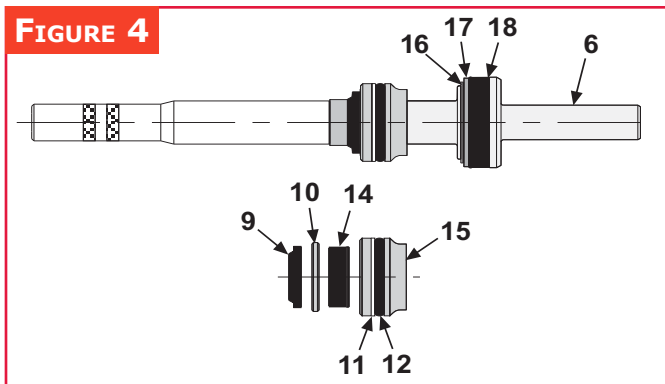
This procedure is applicable to models **2025** and **2025L**. For component identification, see Figures 3, 4, & 14.

NOTE: For **2025V**, see **PINTAIL BOTTLE/VACUUM SYSTEM** on page 11.

1. Unscrew end cap (21); remove spring (19), spacer (22), and wiper seal (23).



2. Thread the Polyseal Insertion Tool into the rear of the handle/head. (Figure 3)
3. Slide the spacer (P/N **123112-2** [2025] / **123112-3** [2025L]) onto the piston. Thread the Piston Assembly Tool (P/N **123111-2** [2025] / **123111-4** [2025L]) onto the piston.
4. Push the piston and front gland assemblies out the back of the handle/head (1). Allow clearance, with stand-off, as the piston leaves the tool. (Figure 4)



5. Un-thread the Piston Assembly Tool and remove Spacer from the piston. Re-thread the Piston Assembly Tool onto the piston, then slide the front gland assembly off the piston (6). (Figure 4)
6. Remove the Piston Assembly Tool from the piston (6),

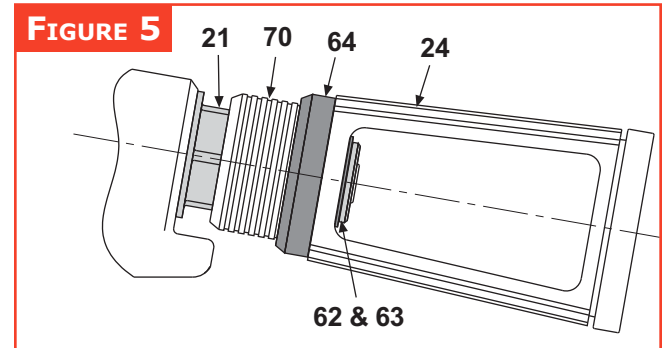
and remove the Polyseal Insertion Tool from the rear of the head/handle (1).

7. Remove the retaining ring (16), washer (17), and Polyseal (18) from the piston.
- NOTE:** Inspect the hydraulic piston for wear, scoring, and damage; replace if necessary.
8. Unscrew the adapter (8). (Figure 14) Inspect all seals and parts.
 9. If trigger cable assembly (2) is damaged, remove it by driving the pin (4) out with punch. Remove dowel pin (3) to disconnect cable from trigger.

PINTAIL BOTTLE/VACUUM SYSTEM

This procedure is applicable to models **2025V** and **2025LV** only; it should be used in conjunction with the previous sections, **GENERAL** and **HEAD/HANDLE**. For component identification, see Figures 5, 6, & 15.

1. Reach through the window of pintail bottle (24) and remove the retaining ring (62) and washer (63). (Figure 5)



2. Remove the pintail bottle (24), and then disconnect the tube from the connector (54). (Figure 15)
3. Remove the adapter (64) and tube/slide assy (70).
4. Remove the end cap (21) and spring (19). (Figure 6)
5. Remove the spacer (22) and O-ring (68) from the spring side of the end cap.
6. Remove the retaining ring (66), wiper housing (67), wiper seal (23), washer (71) and O-ring (69) from the bottle side of the end cap.
7. Remove the O-rings (65) from inside the adapter and tube/slide assembly (70). (Figure 15)

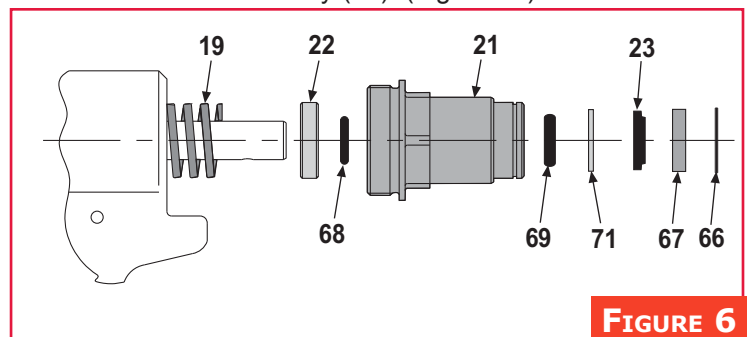


FIGURE 6



ASSEMBLY

HEAD/HANDLE

This procedure is for the assembly of the head/handle of models **2025**, **2025B**, **2025L**, and **2025LB**. For models **2025S** and **2025SL**, follow the procedures for models **2025** and **2025L**. For component identification, see Figures 7, 8, & 14.

Prior to re-assembling the tool:

- Clean components with mineral spirits or a similar solvent. Inspect for wear/damage and replace as necessary.
- Replace all seals of disassembled components.
- Use the O-rings, Quad-rings, and Back-up rings from Huck Service Parts Kits (P/N **2025KIT** or **2025VKIT**).

When assembling the tool, take care not to damage O-rings, Quad-rings, Back-up rings.

Smear LubriPlate® 130-AA (Huck P/N **502723**) or Parker O-Lube® (Huck P/N **505476**) on O-rings, Quad-rings, Back-up rings, and mating parts to ease assembly.

To re-assemble the tool:

1. If removed, position cable assembly (2) in the trigger (5) slot and slide dowel pin (3) through the holes in trigger-and-cable assembly. Position the assembled trigger in the handle and drive the pin (4) through the holes in the handle and trigger. (Figure 14)
2. Screw nose adapter (8) into head (1) and tighten.
3. Thread the Polyseal Insertion Tool (P/N **121694-2025**) into the head.
4. Assemble the piston (6), Polyseal (18) and retaining ring (16). (Note the orientation of the Polyseal (18) in Figure 7.)

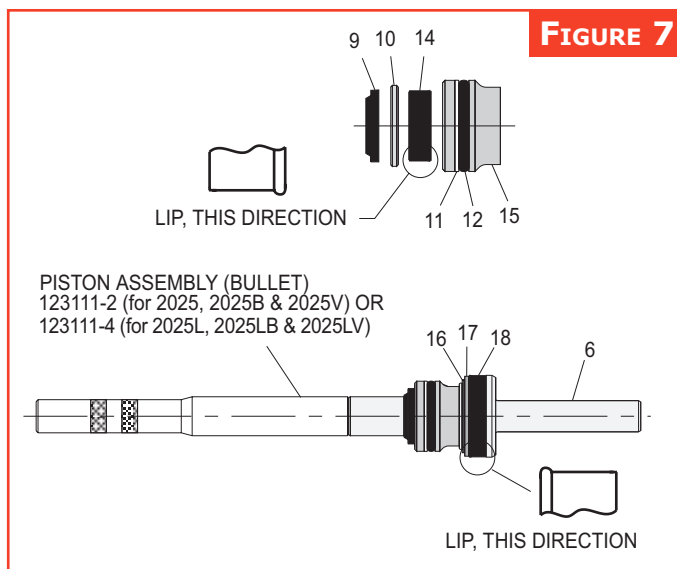


FIGURE 7

5. Assemble the front gland (15), O-ring (12), Back-up ring (11), Polyseal (14), and gland pap (10). (Note the orientation of the Polyseal (14) in Figure 7.)
6. Thread the Piston Assembly Tool (P/N **123111-2** [2025, 2025B, 2025V] / **123111-4** [2025L, 2025LB, 2025LV]) onto the piston (6). Slide the complete gland assembly and wiper seal (9) onto piston (6).
7. Use a press to gently install the assembled components through the rear of the tool. (Figure 8)

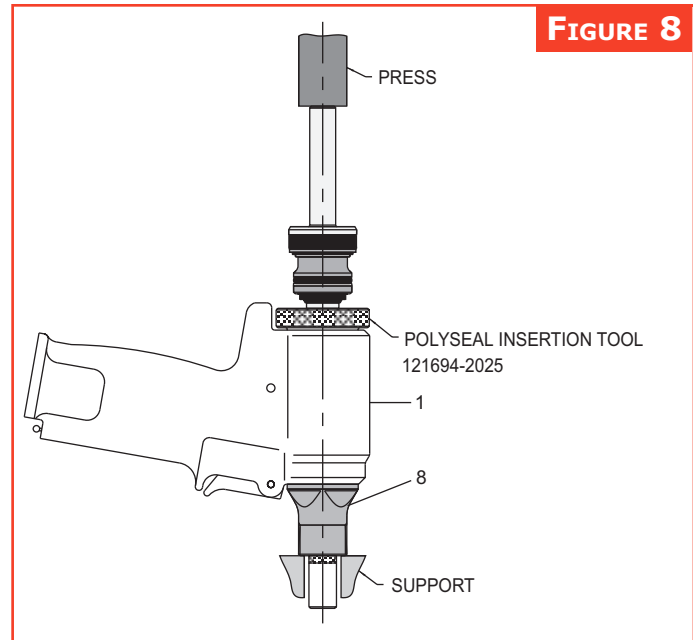


FIGURE 8

8. Remove the Piston Assembly Tool and Polyseal Insertion Tool.
9. Install the rear wiper seal (23) into the end cap (21). (Figure 14)
10. Slide spacer (22) and spring (19) into end cap (21), and then thread end cap assembly into rear of head.

NOTE: For **2025V**, see **PINTAIL BOTTLE/VACUUM SYSTEM** on page 13.

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Parker O-Lube is a registered trademark of Parker Hannifin Corp.



ASSEMBLY (CONTINUED)

GENERAL

For component identification, see Figures 2, 7, 14, & 15.

1. Secure the head/handle (1) upside-down in a soft-jaw vise. (Figure 2) Place the inverted cylinder assembly (35) on the base of the handle. (The timing pin maintains orientation.)
2. Assemble the gland assembly (25) with new seals. (Note the orientation of the Polyseal (18) in Figure 7.) Apply Anti-Seize Compound (P/N **508183**) to the threads of the gland assembly. Screw the gland assembly into the head/handle and torque it to 50 ft.-lbs. using a 1-3/8" socket wrench.
3. Push bumper (34) firmly over gland.
NOTE: The side of the bumper with two slots must face the bottom of the tool.
4. Install the Quad-ring (47) onto the air piston (37).
5. Lubricate the piston rod. Press the assembled air piston/rod into the cylinder just enough to allow installation of the cylinder head (45).
6. Assemble O-Ring (46) onto the cylinder head (45) and then push the cylinder head squarely into the cylinder, taking care not to damage O-ring (46). Install the retaining ring (38); align the screw holes with the muffler end cap.
7. Position the muffler (42) in center of cylinder head. Position the gasket (39) on cylinder. (Figure 2) Note the direction of the lip in Figure 7.
8. Carefully position the bottom plate (41) on cylinder. Make sure that the muffler is properly positioned in the recess of the bottom plate (41). (Figures 2 & 14)
9. Secure the bottom plate with the three button head screws (40) using a 1/8" hex key. (Figure 2)
10. Assemble O-rings (50) on throttle valve (52). (Figure 14 Section CC)
11. Place the tool upright on a level surface. Drop the spring (49) into the throttle valve bore in the cylinder (35), and push the throttle valve into the cylinder.
12. Place the ball end of the throttle cable (2) into the end of the throttle arm (53), then slide the throttle arm into the slot on the cylinder. (Figure 14)
13. Snap the lever guard (73) in place, and install the pivot screw (48) in the cylinder to retain the throttle arm (53).
14. Models 2025 & 2025L: Push the pintail deflector (24) onto the end cap (21).

Models 2025B & 2025LB: Position the adapter (64) and pintail bottle (24) on the end cap. Reach in the window of the pintail bottle and install the retaining ring (62) and washer (63). (Figures 14 & 15)

Models 2025V & 2025LV: See PINTAIL BOTTLE/VACUUM SYSTEM on page 13.

The tool is now assembled and must be filled with hydraulic fluid prior to use. Refer to FILL AND BLEED on page 14.

PINTAIL BOTTLE/VACUUM SYSTEM

This procedure is applicable to models **2025V** and **2025LV** only; it should be used in conjunction with the previous sections, GENERAL and HEAD/HANDLE. For component identification, see Figures 5, 6, & 15.

1. Assemble adapter and tube/slide assembly (70) and new O-rings (65).
2. From bottle side of end cap (21) install O-ring (69), washer (71), wiper seal (23), wiper housing (67) and retaining ring (66) as shown in Figure 6.
3. From spring side of end cap install O-ring (68), spacer (22), and spring (19). (Figure 6) Screw the entire assembly into the head; tighten.
4. Assemble the tube/slide assembly and O-rings (65); slide the complete assembly onto the end cap (21), and push tube into the connector (54). (Figure 15)
5. Position the adapter (64) and pintail bottle (24) on the end cap (21). (Figures 5 & 15)
6. Reach through the window of the pintail bottle (24) and install the washer (63) and retaining ring (62) as shown in Figure 5.



FILL AND BLEED

This section documents the “bleed-&fill” procedure. For component identification, see Figures 9, 10, & 11.

REQUIRED EQUIPMENT

- Automatic Transmission Fluid (ATF) DEXRON III or equivalent (Refer to the **SPECIFICATIONS** sections for more information.)
- Shop air-line with 90–100 psi (6.2–6.9 BAR) max.



WARNING: Avoid contact with hydraulic fluid. Hydraulic fluid must be disposed of in accordance with local regulations. See MSDS for hydraulic fluid shipped with tool.

- Air regulator
- Fill and Bleed Bottle (P/N **120337**, supplied with tool)
- Large flat-blade screwdriver
- Stall Nut (P/N **124090** or **125340**, optional)
- Nose assembly
- Fasteners (optional)

PREPARATION

- Install air regulator in the air-line and set the pressure to **20–40 psi (1.4–2.8 BAR)**.
- Add an approved hydraulic fluid to the fill point of the Fill and Bleed bottle.

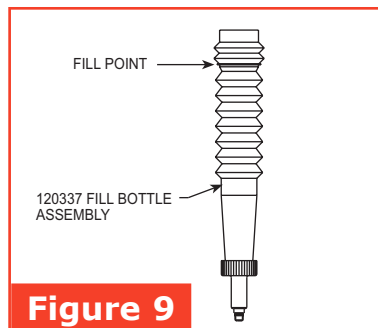


Figure 9

To bleed and fill the tool:



CAUTION: All fluid must be purged from the tool before refilling. The tool stroke will be diminished if the fluid is aerated.

For optimal performance, refill with a fluid that is recommended in **SPECIFICATIONS**.

1. Lay the tool on its side with the fill port facing up, and remove the bleed plug (55) from the fill port.
2. Connect the tool to shop air-line. If fluid is present, hold the tool over a suitable container with fill port facing into container. Cycle the tool several times to drain old fluid, air, and foam. (Figure 10)



WARNING: Air pressure must be set at 20–40 psi (1.4–2.8 BAR) to prevent possible injury from high-pressure spray.

If the bleed plug (55) is removed, the Fill and Bleed bottle must be in place before cycling the tool.

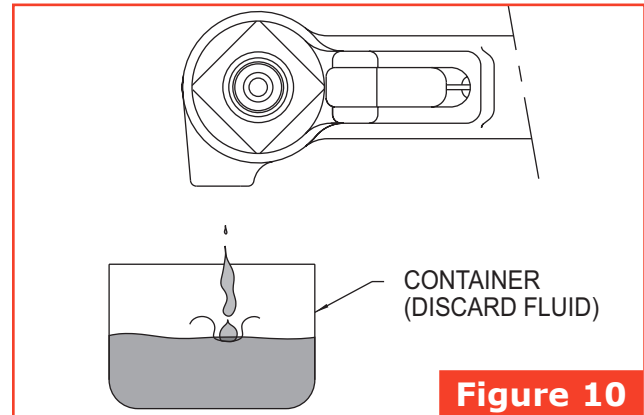


Figure 10

3. Screw the fill bottle into the fill port.
 4. Stand the tool upright on a bench. Trigger the tool slowly (20–30 cycles), and bend the fill bottle at a right-angle to the tool. (Figure 11)
- When air bubbles stop accumulating at top of the bottle, stop cycling the tool. When the trigger is released, the pull piston returns to the idle position (full-forward).
5. Disconnect the tool from the air-line.

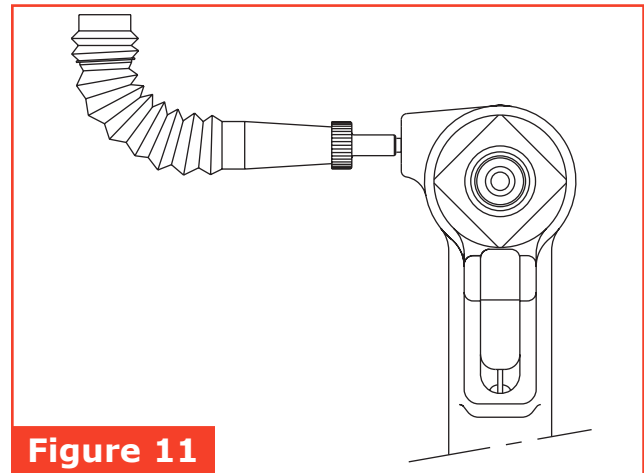
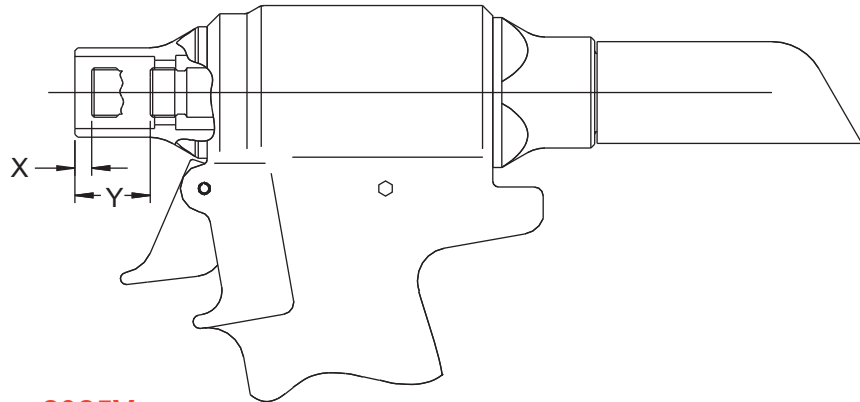


Figure 11

6. Lay the tool on its side and remove the fill bottle. Top off the fluid in the fill port, and install and tighten the bleed plug.
7. Connect the air-line to the tool and measure the stroke as described in **MEASURING TOOL STROKE** on page 15. If the stroke is less than specified, remove the bleed plug and add fluid. Re-insert the bleed plug and recheck the stroke.
8. Increase the air pressure to specifications. Install two fasteners to check the function and installation in a single stroke, or cycle the tool with a stall nut fully threaded onto the piston to load up the tool. Measure the stroke again. Remove the plug and add fluid. Re-insert the plug and cycle and measure again. Repeat this process until the stroke meets the minimum requirements.



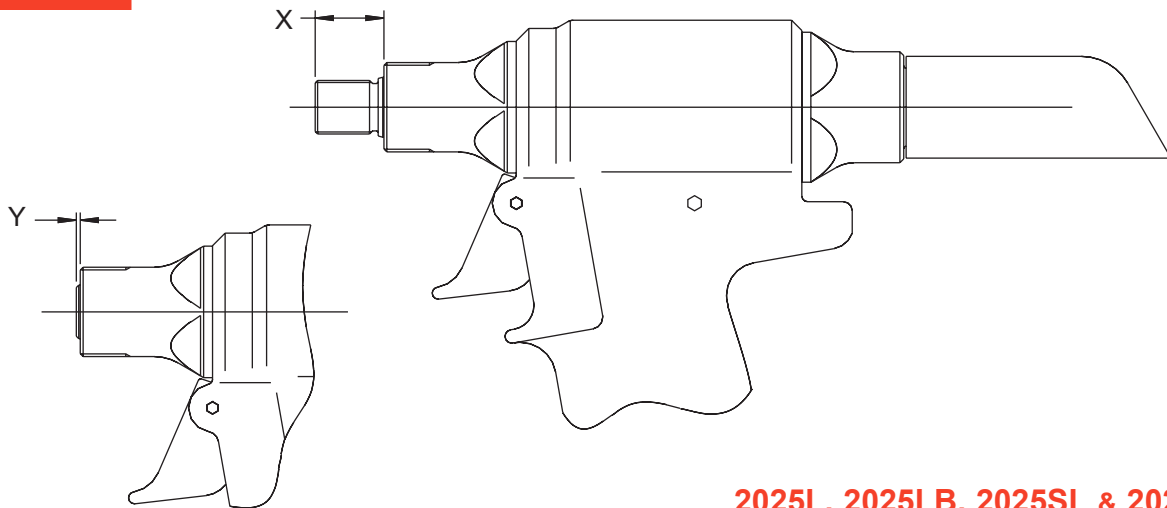
MEASURING TOOL STROKE

FIGURE 12


2025, 2025B, 2025S & 2025V

1. Cycle the piston all the way forward and measure X.
2. Cycle and hold the piston back and measure Y.

Stroke = Y-X

FIGURE 13


2025L, 2025LB, 2025SL & 2025LV

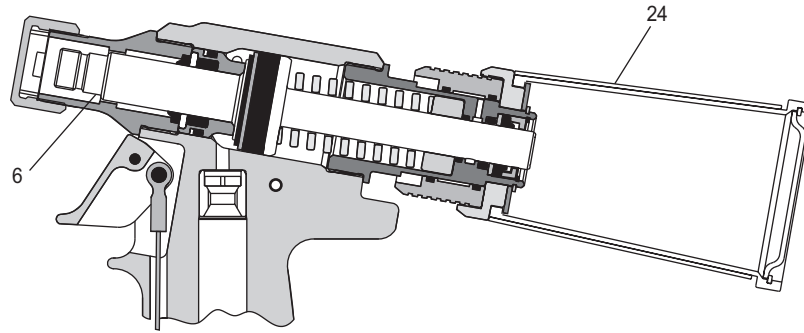
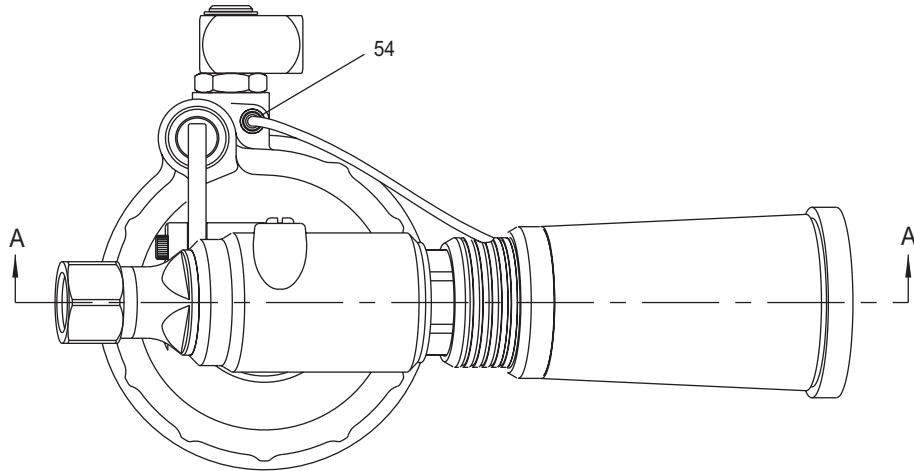
1. Cycle the piston all the way forward and measure X.
2. Cycle and hold the piston back and measure Y.

Stroke = X-Y

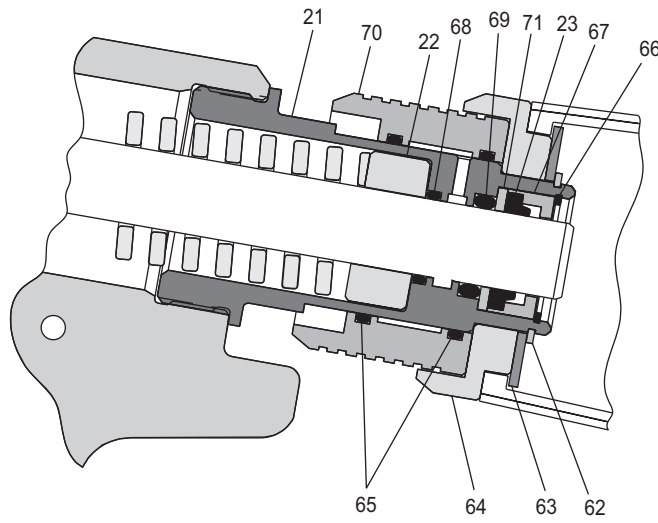


ASSEMBLY DRAWING (REFER TO PARTS LISTS TABLES ON PAGES 18 AND 19)

FIGURE 15



PARTIAL SECTION AA





PARTS LIST

ITEM	Description	2025 2025L	2025B 2025LB	2025V 2025LV	2025S 2025SL	QTY
1**	Handle Assy	125736			126980	1
2	Cable Assy	116404-1				1
3	Dowel Pin	505496				1
4	Pin	500621				1
5	Trigger	124333-2	124333-1	124333-2	124333-2	1
6	Piston Assy (includes Items 16, 17, & 18)	125738 (2025, 2025B) 125738-1 (2025L, 2025LB)		125738-2 (2025V) 125738-3 (2025LV)	125738 (2025S) 125738-1 (2025SL)	1
7	Retaining Nut	111795		111795	111795	1
8	Adapter	123761		123761	123761	1
9	Wiper Seal	505817		505817	505817	1
10	Gland Cap	122432		122432	122432	1
11	Back-up Ring	501110		501110	501110	1
12	O-Ring	500816		500816	500816	1
13	O-Ring	500778		500778	500778	1
14	Polyseal	505818		505818	505818	1
15	Front Gland	123757		123757	123757	1
16	Retaining Ring	502833		502833	502833	1
17	Washer	507448		507448	507448	1
18	Polyseal	507400		507400	507400	1
19	Compression Spring	507446		507446	507446	1
20**	WARNING Sticker	590240-1		590240-1	590240-1	1
21	End Cap	125739	127030	125863	125739	1
22	Washer	507323		507323	507323	1
23	Wiper Seal	507351		507351	507351	1
24	Pintail Deflector	124210	n/a	n/a	124210	1
	Pintail Bottle	n/a	123772	123772	n/a	1
25	Gland Assy	125742		125742	125742	1
26	Gland Housing	125740		125740	125740	1
27	O-Ring	500787		500787	500787	1
28	Polyseal	507447		507447	507447	1
29	Spacer	125741		125741	125741	1
30	Retaining Ring	506876		506876	506876	1
31	O-Ring	500785		500785	500785	1
32	Back-up Ring	501091		501091	501091	1
33	QUAD Ring	501075		501075	501075	1
34	Bumper	116408		116408	116408	1
35*	Cylinder Assy	125733		125733	125733	1
36	Piston Rod	125743		125743	125743	1
37	Air Piston	130729		130729	130729	1
38	Retaining Ring	507445		507445	507445	1
39	Gasket	126941-4		126941-4	126941-4	1
40	Screw	504127		504127	504127	3

(continued on next page)

* When replacing **Cylinder Assembly (35)**, **Stickers (59, 60, & 61)** MUST be ordered and placed in the location shown in Figure 14.

** When replacing **Handle Assembly (1)**, **WARNING Sticker (20)** MUST be ordered and placed in the location shown in Figure 14.



PARTS LIST (CONTINUED)

ITEM	Description	2025 2025L	2025B 2025LB	2025V 2025LV	2025S 2025SL	QTY
41	Bottom Plate	128792		128792	128792	1
42	Muffler	115554-1		115554-1	115554-1	1
43	Lock Nut	505420		505420	505420	1
44	Washer	506493		506493	506493	1
45	Cylinder Head	125747		125747	125747	1
46	O-Ring	500871		500871	500871	1
47	O-Ring	500903		500903	500903	1
48	Pivot Screw	125118		125118	125118	1
49	Spring	116272		116272	116272	1
50	O-Ring	507396		507396	507396	3
51	Swivel Assy	n/a	507164	n/a	507164	1
52	Throttle Valve	125562-1		125562-1	125562-1	1
53	Throttle Arm	125751		125751	125751	1
54	Plug & Gasket Assy	506576		n/a	506576	1
	Tubing Connector	n/a		506675	n/a	1
55	Plug	Sold as an assembly only: Bleed Plug Assembly P/N 104293				1
56	O-Ring					1
57	O-Ring	500779		500779	500779	2
58	O-Ring	500778		500778	500778	1
59*	CE Sticker	590350		590350	590350	1
60*	Max Pressure & Flow Sticker	590351		590351	590351	1
61*	HUCK Address Sticker	590347		590347	590347	1
62	Retaining Ring	n/a	n/a	501007	n/a	1
63	Washer	n/a	n/a	506628	n/a	1
64	Adapter	n/a	n/a	123784	n/a	1
65	O-Ring	n/a	n/a	500790	n/a	1
66	Retaining Nut	n/a	n/a	502317	n/a	1
67	Wiper Housing	n/a	n/a	125864	n/a	1
68	O-Ring	n/a	n/a	500780	n/a	1
69	O-Ring	n/a	n/a	500809	n/a	1
70	Tube & Slide Assembly	n/a	n/a	124245	n/a	1
71	Washer	n/a	n/a	125865	n/a	1
72	Stop	120588		120588	120588	1
73	Lever Guard	126439		126439	126439	1
74	Sticker, Year of Manufacture	590517	590517	590517	590517	1

* When replacing **Cylinder Assembly (35)**, **Stickers (59, 60, & 61)** MUST be ordered and placed in the location shown in Figure 14.

** When replacing **Handle Assembly (1)**, **WARNING Sticker (20)** MUST be ordered and placed in the location shown in Figure 14.



TROUBLESHOOTING

Always check the simplest possible cause (such as a loose or disconnected trigger line) of a malfunction first. Then proceed logically, eliminating other possible causes until the cause is discovered. Where possible, substitute known good parts for suspected defective parts. Use this Troubleshooting information to aid in locating and correcting trouble.

1. **Tool fails to operate when trigger is pressed.**
 - a. Air line not connected.
 - b. Throttle valve O-rings (50) worn or damaged.
 - c. Throttle valve cable (2) is broken.
2. **Tool does not complete fastener installation and break pintail.**
 - a. Air pressure too low.
 - b. Worn or damaged air piston Quad-ring (47).
 - c. Tool is low on hydraulic fluid. Refer to the **FILL AND BLEED** section.
 - d. Air in hydraulic system. Refer to the **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. Check for worn anvil. Refer to nose data sheet.
4. **Hydraulic fluid exhausts with air or leaks at base of handle.**
 - a. Worn or damaged gland assembly (25). Inspect Polyseal (28), O-rings (31 and 27), Quad-ring (33) and Back-up ring (32). Replace if necessary.
5. **Hydraulic fluid leaks at rear of pull piston (6).**
 - a. Worn or damaged piston Polyseal (18). Replace if necessary.
6. **Hydraulic fluid leaks at front of pull piston (6).**
 - a. Worn or damaged front gland (15). Inspect Polyseal (14), O-ring (12), and Back-up ring (11). Replace if necessary.
7. **Pull piston (6) will not return.**
 - a. Throttle valve (52) stuck; lubricate O-rings (50).
 - b. Throttle arm (53), cable (2), or trigger (5) binding.
8. **Air leaks at air Cylinder Head (45).**
 - a. Worn or damaged O-ring (46). Replace if necessary.

ACCESSORIES

Fill and Bleed Bottle (Figure 9) - **120337**

Stall Nuts

2025, 2025B, 2025S, 2025V - **124090**

2025L, 2025LB, 2025SL, 2025LV - **125340**

ASSEMBLY TOOL KITS

2025, 2025B, 2025S, 2025V - **123110-6**

Includes: (Figure 3)

Piston Assembly (Bullet) - 123111-2

Spacer - 123112-2

POLYSEAL Tool - 121694-2025

2025L, 2025LB, 2025SL, 2025LV - **123110-8**

Includes: (Figure 3)

Piston Assembly (Bullet) - 123111-4

Spacer - 123112-3

POLYSEAL Tool - 121694-2025

CONVERSION KITS

Convert 2025L to 2025LV - **126190**

Includes:

Pintail Collection Bottle - 123772

Tubing and Slide Assembly - 124245

Piston Assembly - 125738-3

End Cap Assembly - 125863

Convert 2025 to 2025V - **126432**

Includes:

Pintail Collection Bottle - 123772

Tubing & Slide Assy - 124245

Piston Assy - 125738-2

End Cap Assembly - 125863

Vacuum Attach Adapter - 123784

Retaining Ring Ext - 501007

Flat Washer - 506628

Straight Connector - 506675

SERVICE KITS

2025, 2025B, 2025L,
2025S, 2025SL, 2025LB - **2025KIT**

2025V, 2025LV - **2025VKIT**



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Telephone (845) 331-7300 FAX (845) 334-7333

Outside USA and Canada

Contact your nearest Huck International Office, see back cover.

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