



ARCONIC

Instruction Manual

245

Pneudraulic Installation Tool

Patent Pending



HUCK IS FOREVER.™

February 17, 2017
HK824

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

**ARCONIC**

EC Declaration of Conformity

Manufacturer:

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

Description of Machinery:

Models 24#, 25#, and 2047 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 Arconic Fastening Systems and Rings
Kingston, New York, USA

Date: 01/11/2016 (November 1, 2016)



Declared dual number noise emission values in accordance with ISO 4871

A weighted sound power level, LWA: **91** dB (reference 1 pW) Uncertainty, KWA: 3 dB

A weighted emission sound pressure level at the work station, LpA: **80** 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 3744. 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:	.63 m/s²
Uncertainty, K:	.72 m/s²
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:
Arconic Fastening Systems and Rings, Kingston Operations, Kingston, NY, USA.



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.

Notes: are reminders of required procedures.

Bold, italic type, and underline: emphasize a specific instruction.



WARNINGS: Must be understood to avoid severe personal injury.



CAUTIONS: Show conditions that will damage equipment or structure.

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 whip-check 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

STROKE: 0.625 in (1.59 cm)

WEIGHT: 8.8 lbs (3.99 kg)

MAX AIR PRESSURE: 100 psi (6.9 bar)

MAX FLOW RATE: 11.5 scfm (325.64 l/min)

POWER SOURCE: 90–100 psi (6.2–6.9 bar) maximum shop air

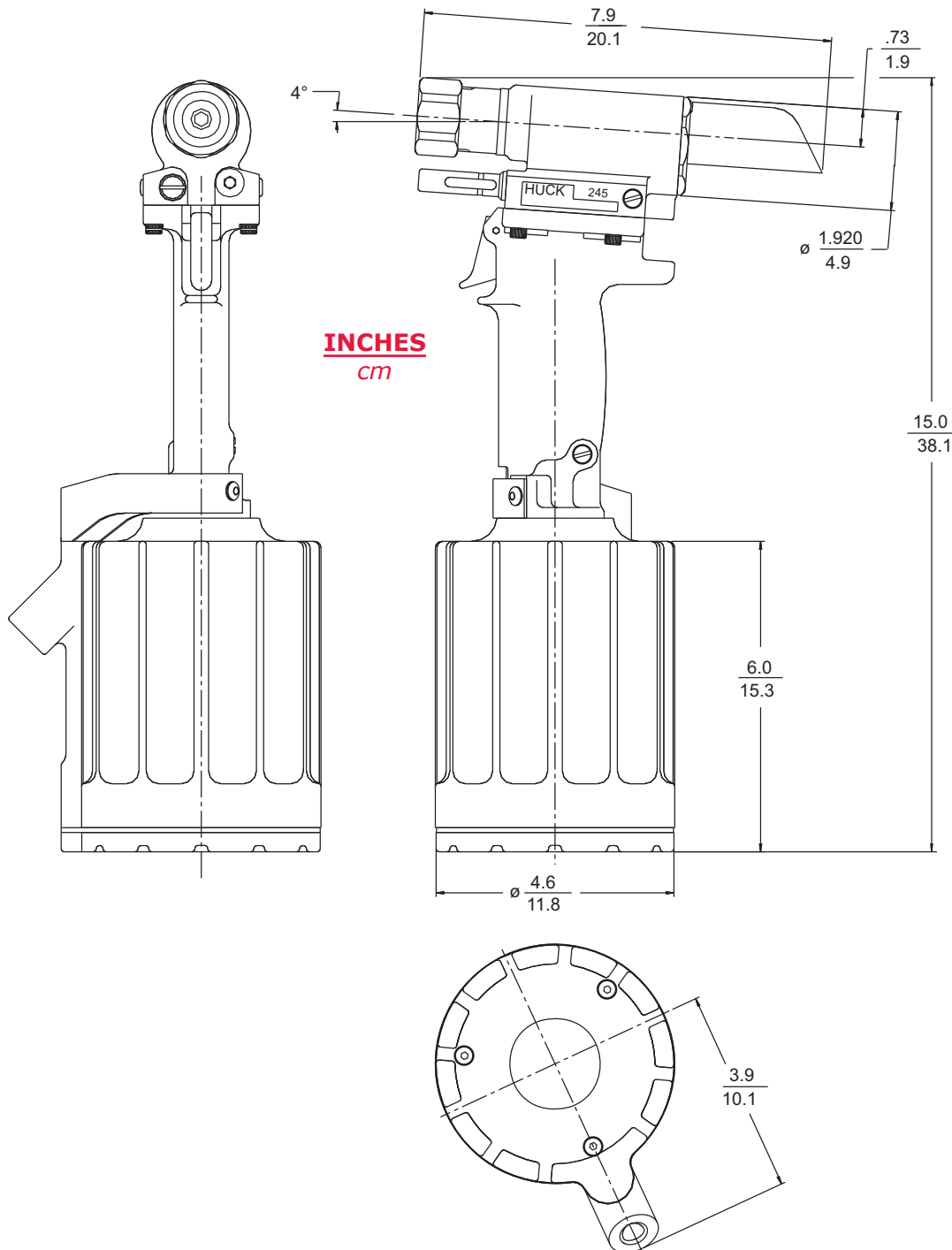
MAX OPERATING TEMP: 125° F (51.7° C)

MIN PULL CAPACITY:

7750 lbs @ 90 psi (34.5 kN @ 6.2 bar)

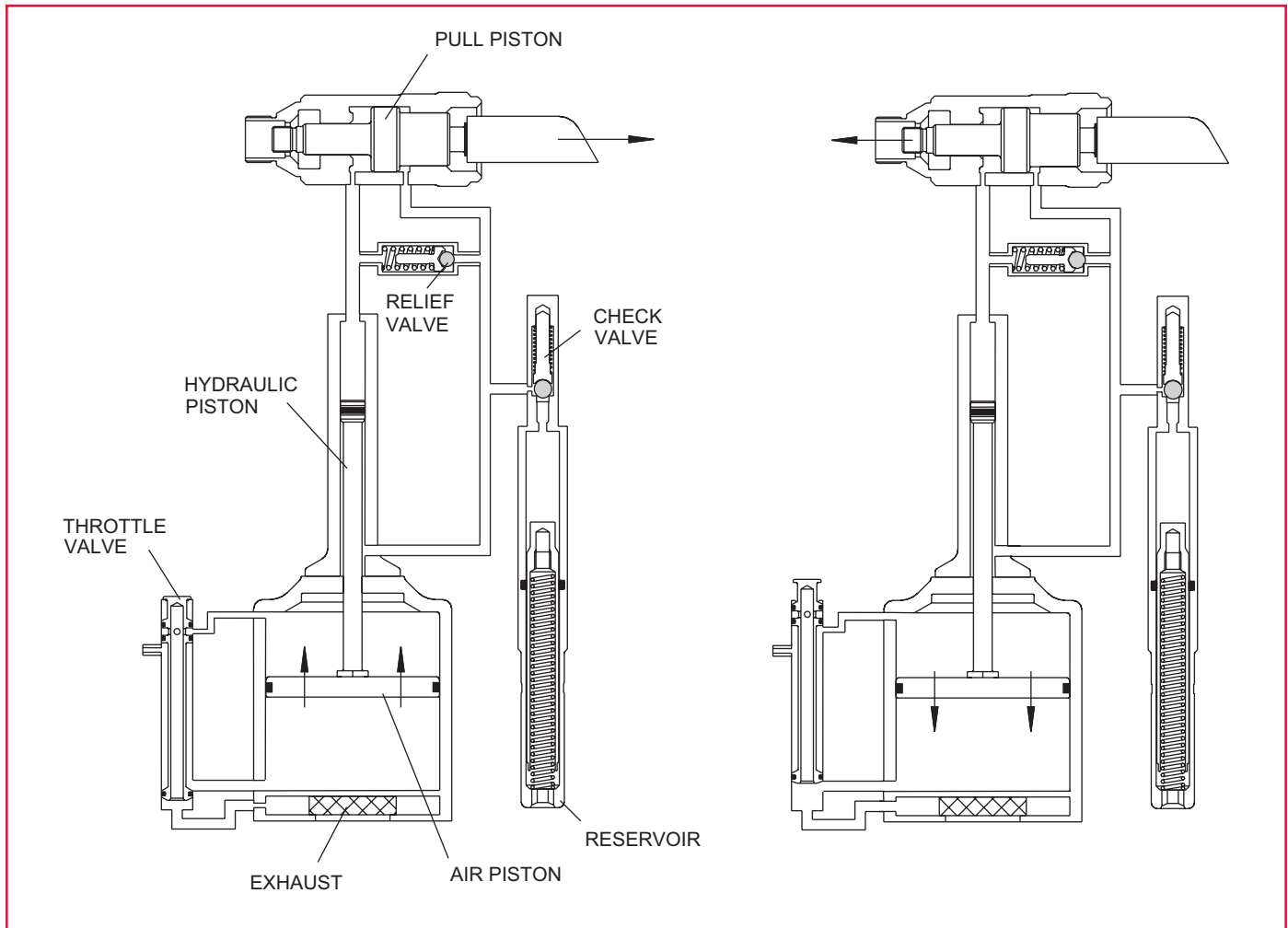
SPEED / CYCLES: 30 per minute

HYDRAULIC FLUID: Hydraulic fluid shall meet DEXRON® III, DEXRON VI, MERCON®, Allison C-4 or equivalent Automatic Transmission Fluid (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.





Principle of Operation



PULL STROKE

When the trigger is pressed, the throttle valve moves down to the down position, and pressurized air is directed to the bottom of the air piston, causing it to move upward. 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 air piston rod moves upward, a column of pressurized fluid is forced into the tool head, which moves the pull piston rearward. The attached nose assembly moves with the pull piston to start fastener installation.

RETURN STROKE

When fastener installation is completed, the trigger is released. Air pressure, with the assistance of a spring, sends the throttle valve to the up position. Pressurized air is re-directed to the top of the air piston, causing the air piston and hydraulic rod to move downward. The air from below the piston is exhausted through the bottom of the tool. The rod and air piston move downward, hydraulic pressure is reversed, and the pull piston is returned forward. The return pressure relief valve protects the tool against pressure spikes. The reservoir replenishes the hydraulic system as needed.



Preparation for Use

The 245 tool ships 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 have a filter-regulator-lubricator unit and access to a 100-psi (6.9 bar) air supply capable of a flow rate of 11.5 CFM (325.64 l/m).

NOTE: Air quick-disconnect fittings and air hoses are not available for purchase separately from HUCK International, Inc. HUCK includes an air hose (P/N 115436) to facilitate immediate tool use.



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).

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.
3. Set the air pressure on the regulator to 90–100 psi (6.2–6.9 bar).

4. Attach the optional air hose (shipped with the tool) to the tool. Press and release the trigger a few times to cycle the tool.
5. Disconnect the air hose from the tool, and remove the retaining nut. 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 stop and 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 245 pull piston does not have staking holes. Refer to the nose assembly drawings that shipped with nose assemblies.

Maintenance



CAUTION: Replace all seals, wipers, and rings when the tool is disassembled for any reason, and at regular intervals, depending on severity and length of use.

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: This HUCK tool 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.
- Disassemble and assemble tool components in a straight line. Do NOT bend, cock, twist, or apply undue force.
- Have the appropriate Spare Parts Service Kit P/N 245KIT available when servicing the tool, which includes important perishable parts. Other components, as experience dictates, should also be available. See Kits & Accessories.
- Apply Loctite® 243 Threadlocker P/N 508567 to gland threads. Apply Loctite® 271-05 P/N 503657 to nuts.
- Smear LUBRIPLATE® 130-AA P/N 502723 or SUPER-O-LUBE® P/N 505476 on O-rings, Quad-rings, Back-up rings, and mating parts to ease assembly.
- Apply Threadmate® P/N 508517 to pipe threads and quick-connect fittings.

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, clear the air lines of dirt and water.
- Check all hoses and couplings for damage and air leaks; tighten or replace if necessary.
- Check the tool and nose assembly for damage and air or hydraulic leaks; tighten, repair, or replace if necessary.
- Inspect the tool, hoses, and Powerig® during operation to detect abnormal heating, leaks, or vibration.
- Clean nose assemblies in mineral spirits to clear jaws and rinse metal chips and dirt. For a more thorough cleaning, disassemble the nose assembly. Use a pointed pick to remove imbedded particles from the pull grooves of the jaws.
- Clean all parts of any assembly with UNITIZED™ Jaws in mineral spirits or isopropyl alcohol only; do not let jaws come in contact with other solvents. Do not let jaws soak; dry them immediately after cleaning. HUCK recommends drying other parts before re-assembling.

WEEKLY

- Disassemble, clean, and re-assemble 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.

Loctite is a registered trademark of Henkel Corporation, U.S.A.
TEFLON is a registered trademark of E. I. du Pont de Nemours and Company.
LUBRIPLATE is a registered trademark of Fiske Brothers Refining Co.
SUPER-O-LUBE is a registered trademark of Parker Hannifin Corp.
Threadmate is a registered trademark of Parker Intangibles, LLC.



OPERATING INSTRUCTIONS

This section details installing LockBolt® and HUCK Blind Fasteners. Read and understand all WARNINGS and CAUTIONS prior to installing fasteners. If the tool malfunctions, consult the [TROUBLESHOOTING](#) section before attempting any repairs. **NOTE: Reasonable care of tools by operators is an important factor in maintaining efficiency and reducing downtime.**

Read all of these instructions in order to ensure the safe operation of this equipment.



WARNINGS:

- Wear approved eye and hearing protection.
- Ensure adequate clearance for operator's hands before installing fasteners.
- 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; or without placing it in a workpiece, may result in the pin becoming a high-speed projectile when the pin grooves are stripped or the pintail breaks off. Pins eject with great velocity when pintails break off or teeth/grooves strip. 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. To reduce the risk of serious personal injury, be sure the pintail deflector is properly attached and directed away from all personnel. Replace damaged pintail deflectors.



CAUTIONS:

- Ensure the tool has been properly re-assembled prior to use.
- Remove excess gap from between the sheets to permit proper fastener installation and prevent jaw damage. ALL jaw teeth must engage the pintail to avoid damaging the teeth.
- BOM blind fasteners will jam in the nose assembly if they are pulled when not in workpiece.
- To avoid structural and tool damage, be sure there is sufficient clearance for the nose assembly at full stroke.

TO INSTALL A LOCKBOLT® FASTENER:

1. Place a pin in the workpiece and place the collar over the pin. NOTE: If the collar has one tapered end, that end must be out toward tool; not next to the workpiece.
2. Hold the pin in the hole and push the nose assembly onto the pin protruding through the collar until the nose anvil touches the collar.
3. Press and hold the trigger until the collar is swaged and the pintail breaks.
4. Release the trigger; the tool will perform its RETURN stroke. The pressure is re-directed; the piston moves forward; and the tool is pushed off the fastener and ready for the next installation cycle.

TO INSTALL A HUCK BLIND FASTENER:

1. Place a fastener in the workpiece or in the end of the nose assembly.
2. Press and hold the trigger until the fastener is installed and the pintail breaks. NOTE: The tool or nose assembly must be held against, and at a right angle (90°) to, the workpiece.
3. Release the trigger; the tool will perform its RETURN stroke. The pressure is re-directed; the piston moves forward; and the tool is pushed off the fastener and ready for the next installation cycle.



DISASSEMBLY

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 1–4, 9 & 10.



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



CAUTIONS:

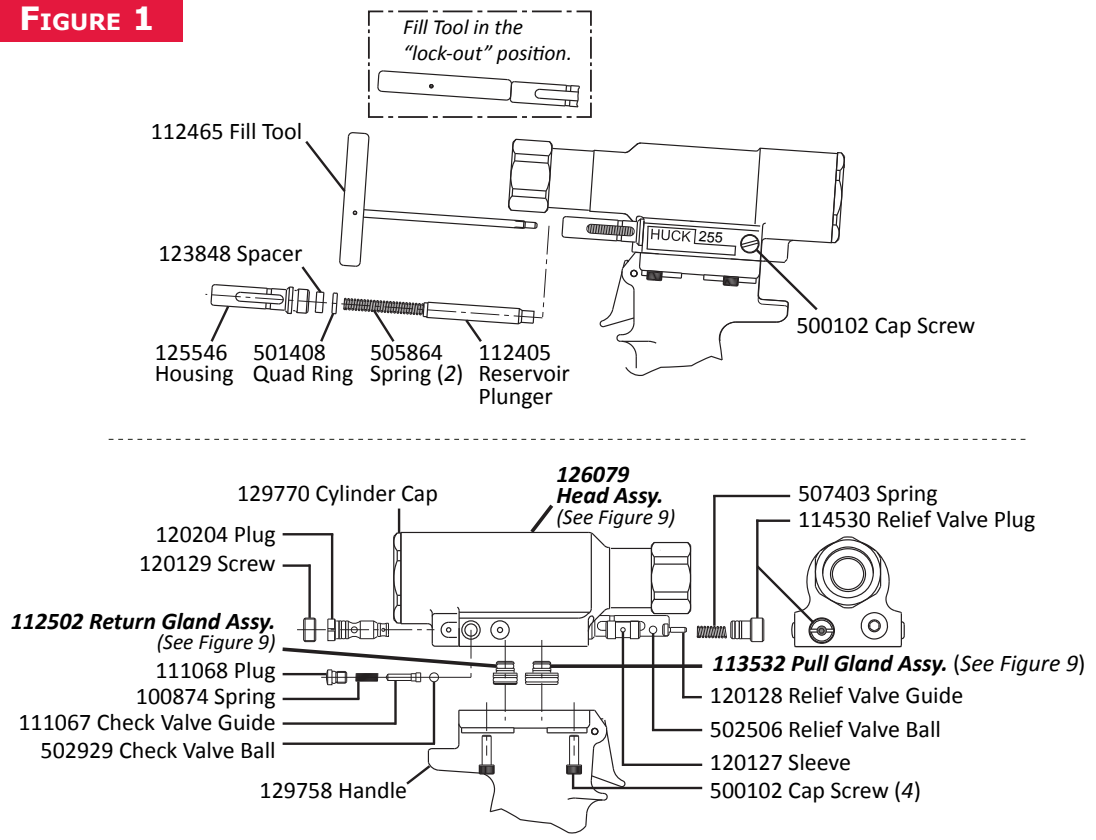
- Care must be given to not scratch the piston rod or cylinder when removing.
- Do NOT re-use seals, wipers, or rings; irreparable tool damage could occur. Discard these parts and use replacements.

1. Disconnect air hose from tool.
2. Remove air hose from cylinder.
3. Remove nose assembly. Follow instructions on *Nose Assembly Data Sheet*.
4. Remove Screws and Guard (Figure 9).
5. Insert Fill Tool, P/N 112465 through reservoir housing and screw into reservoir plunger locking it in the out position (Figure 1).
6. Unscrew cap screws with 5/32 hex key. Carefully lift Head straight up from Handle, remove Pull Gland and Return Gland from separated assemblies. (Remove seals from glands) (Figure 1).
7. Unscrew Plug of return Pressure Relief Valve from front of head. Remove Spring, Valve Guide, sleeve and Steel Ball. A small magnet is helpful (Figure 1)
8. Unscrew Bleed

Plug. Hold over waste oil container and release fill tool slowly.

9. Unscrew Reservoir Housing from head. Remove two Springs. Slide Reservoir Plunger from head. Remove spacer and quad ring. A pick may be used to remove the quad ring (Figure 1).
10. Unscrew Plug of reservoir check Valve from side of head. Remove Spring, check Valve Plunger and Stainless Steel Ball (Figure 1).
11. If check valve seat is damaged contact your HUCK representative. If seat is damaged it can be removed by using the following procedure. **NOTE: If seat is taken out it can not be reused, it must be replaced** (Figure 10).
12. **(Seat removal) NOTE: all parts in the reservoir check valve must be removed before plug 70 can be removed.** Unscrew plug 74, insert a #10 screw in the thread of plug, pull to remove. Using a small drift and hammer, from the rear side of the head drive seat out towards the front of the head (Figure 9).
13. Pintail Deflector can be pulled off deflector tube at rear of Piston.
14. Unscrew End Cap from Head with 1 9/16 open end wrench (Figure 9).

FIGURE 1

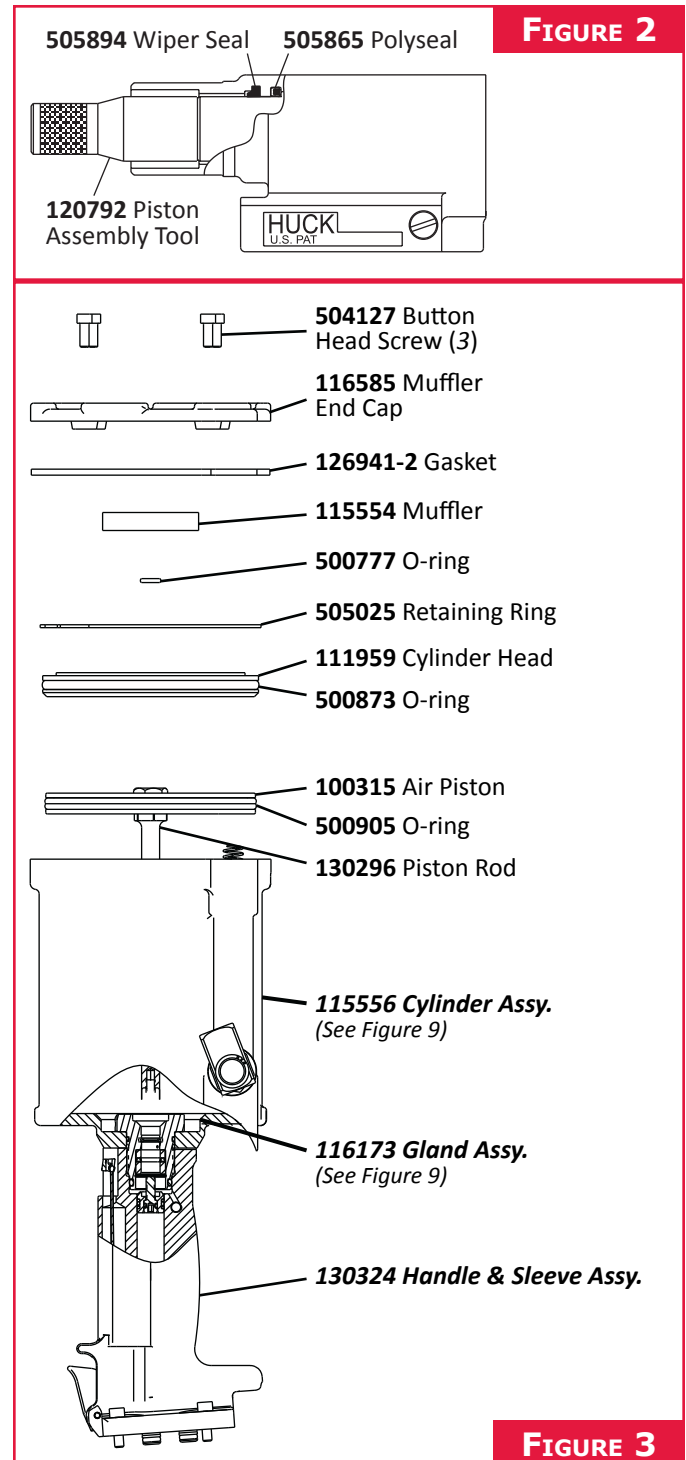




DISASSEMBLY (CONTINUED)

15. Thread assembly/disassembly bullet (120792) onto piston. Tap or press piston assembly out of head. Remove wiper and polyseal. **NOTE: Pushing out piston will also push out rear gland assembly.** (Figure 2)
16. Remove Bushing and Screw Assy from Throttle Arm. Remove throttle arm. Pull Throttle Valve out of cylinder. Remove Spring. (Figure 9)
17. With a small punch and hammer, drive Roll Pin from handle. Remove trigger and cable from handle and disassemble by removing pin (Figure 9).
18. Remove Bleed Screw from handle (Figure 3).
19. Hold tool inverted in vice. Unscrew three Button Head Screws with 1/8" hex key. (Fig 3).
20. Remove bottom Plate, Bottom Exhaust Gasket, Muffler and O-ring (Fig 3).
21. Remove Retaining Ring from Cylinder (Fig 3).
22. Screw button head screws into Cylinder Head. Carefully pry under screws to remove cylinder head.
23. Push air piston all the way down in cylinder, lay tool on its side. Hold the self-locking nut with a 9/16" socket and extension, and use a 3/16" hex key to remove the Intensifier Piston Assembly. (Figures 4 & 9).
24. Turn cylinder and handle upside down and secure in a vise.
25. Grip lock nut under Air Piston with pliers and pull piston and rod assembly from handle and cylinder assembly (Fig 3).
26. With a 1-3/8" socket and extension, remove Gland Assembly. Handle and cylinder will now separate.
27. Push Hydraulic Piston out of handle. Push out from top to bottom.
28. To remove polyseal from Gland Assembly. Remove retaining ring and spacer. (Figure 9)

The tool has been properly disassembled. Store all re-usable parts (screws and disassembled components) in a clean, dry area.





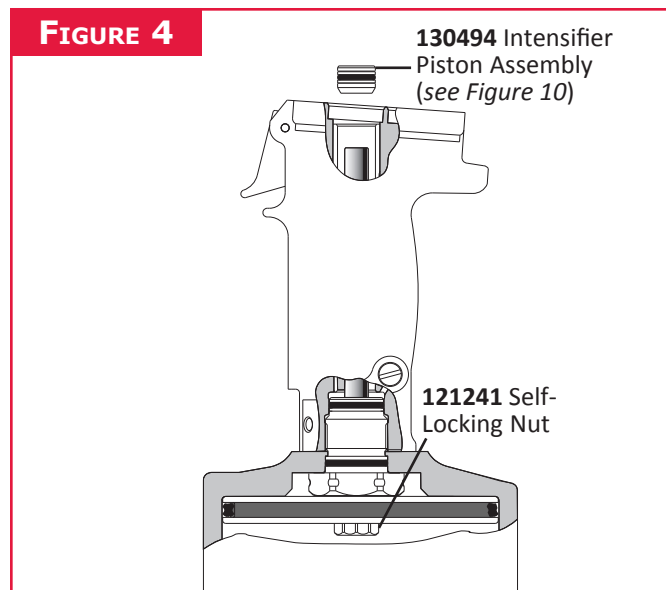
ASSEMBLY

QUAD rings and Back-up rings in Service Parts Kit **245KIT** Smear LUBRIPLATE 130AA or PARKER-O-LUBE on O-rings, QUAD rings, Back-up rings and mating parts to ease assembly. Assemble tool taking care not to damage rings.

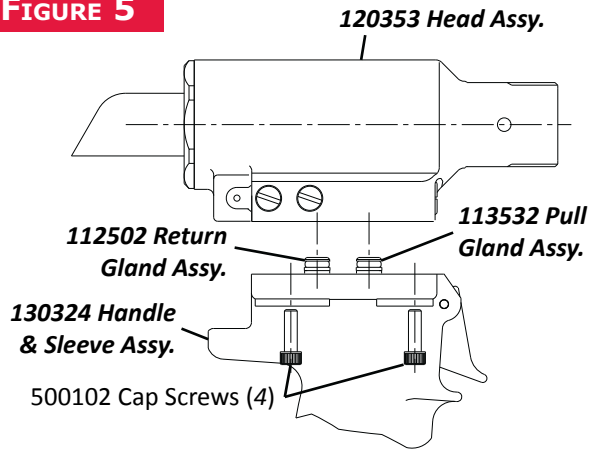
1. Install O-ring in handle; then sleeve. Holding handle inverted in a vice, Place Cylinder on handle with Timing Pin positioned in matching hole. Assemble Gland Assembly (Figures 9 & 10), and screw it into handle. Torque to 100-120 ft. lbs. using 1-3/8" socket wrench.
2. Push Air Piston/Rod assembly with O-ring in place into Air Cylinder until it bottoms at top of Cylinder (Figure 4).
3. Turn tool upright. Install the Intensifier Piston Assembly, with rings in place, in the handle. Press from the top of the handle without damaging seals. (Figure 4).
4. Hold self-locking nut with a 9/16" socket and extension, and torque the piston to 14–16 ft.-lbs using a 3/16" hex key. Torque the self-locking nut to 28–32 ft.-lbs.
5. Hold handle in vise with bottom facing up. Push Cylinder Head with O-ring in place squarely into cylinder. Install Retaining Ring. (Figures 3 & 9)
6. Position O-ring and Muffler on center of Cylinder Head, place Gasket on cylinder assembly **NOTE: Lip must face Bottom Plate**. Place Bottom Plate on top of Gasket and secure with 3 Button Head Screws using 1/8" hex key. (Figure 3)
7. Turn tool upright. Drop spring into Throttle valve hole in cylinder. Push Throttle Valve with O-rings in place into cylinder. (Figure 9)
8. Assemble Trigger cable and pin and slide cable into handle. Align hole in Trigger with hole in handle and install Roll Pin with a hammer and punch. (Figure 9)
9. Slide Throttle Arm onto ball end of Throttle Cable. Swing arm until other end fits over throttle valve. Push Bushing & Screw Assembly through Throttle Arm; tighten with 5/32" hex key.
10. If air hose was removed reinstall in cylinder.
11. **(If seat is being replaced)** Push plug (with O-ring & Back-up ring in place) into head. Install screw (Figure 10).
12. Install O-ring and Back-up rings onto seat. Drive in seat and seal assembly using soft drift taking care not to damage ball seat surface. (Figures 1 & 10)
13. Assemble Pull Piston with new seals. Lubricate with LUBRIPLATE or PARKER SUPER-O-LUBE. (Figure 9)
14. Install Wiper and Polyseal in head. (Figure 2)
15. Thread assembly bullet onto Pull Piston and push entire assembly into head. (Figure 2)
16. Install O-rings & Back-up rings on rear gland. Push complete assembly into head, screw in end cap and tighten. (Figures 9 & 10)
17. Install O-ring and Back-up ring on plug. Install Ball Guide, Sleeve, Spring and Plug into head. (Figures 1 & 9).

continued

FIGURE 4



ASSEMBLY (CONTINUED)

FIGURE 5


18. Install O-ring on Plug. Install Ball, Guide, Spring and Plug into head.
19. Push Deflector onto Deflector Tube. (Figure 9)
20. Place O-ring on Plug and screw assembly into Handle. (Figure 9)
21. Install O-rings & Back-up Rings on Pull Gland, and O-rings & Back-up Rings on Return Gland. Push Gland Assemblies into handle. Push head down on glands. Place tool in a vise Head down and install 4 Screws and torque to 170 inch-pounds. (Figure 5)
22. Tool is now completely assembled and ready for **FILL AND BLEED.**

LUBRIPLATE is a registered trademark of Fiske Brothers Refining Co.
 SUPER-O-LUBE is a registered trademark of Parker Hannifin Corp.



FILL AND BLEED



WARNINGS:

- 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 pressure must be set at 20–40 psi (1.4–2.8 bar) to prevent possible injury from high-pressure spray.
- If the plug is removed, the fill bottle must be in place before cycling 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.

EQUIPMENT REQUIRED:

- Shop airline with 90 - 100 psi max.
- Air regulator
- Fill Bottle Assy 120337 (supplied with tool)
- Fill Tool 112465 (supplied with tool)
- Large flat blade screwdriver
- Optional Stall Nut 120824
- Nose assembly
- Fasteners (Optional)

120337 Fill Bottle Assy

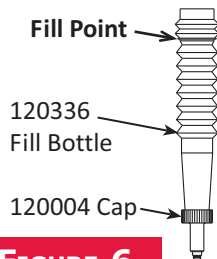


FIGURE 6

TRANSMISSION FLUID DEXRON III, OR EQUIVALENT.

Step 1

Screw Fill Tool P/N 112465 into Reservoir Plunger, pull Plunger into Housing and lock Fill Tool in full forward position by tilting handle (long side touching tool) and locking in place (Figure.7).

Step 2

Remove Plugs and and all guides, springs and balls from ports in head. Reinstall Plug in head in Relief Valve port (front of tool) (Figures 7 & 8).

Step 3

Screw retaining nut onto Head Assembly. Screw Stall Nut (optional) onto Piston and tighten to ensure full thread engagement. Back off retaining nut until it engages stall nut. Check Piston location. Piston must be all the way forward and locked with stall nut and retaining nut. **NOTE: If Stall Nut is not used, piston must be pushed to full forward position before installing valves.**

Step 4

Attach the tool air source momentarily to seat air piston at bottom of cylinder. Disconnect tool. With fill port facing up, (check valve on side) lay tool on its side. (Figure 7)

Step 5

Install fill bottle in head fill port (check Valve hole) (See Figures 7 & 8).

PREPARATION:

1. Install air regulator in airline and set pressure to 20-40 psi.
2. Fill bleed bottle almost full of DEXRON III ATF or equivalent. (Fig.6) Refill tool only when red line on plunger drops below the red line on the reservoir housing or when tool is rebuilt. USE: AUTOMATIC

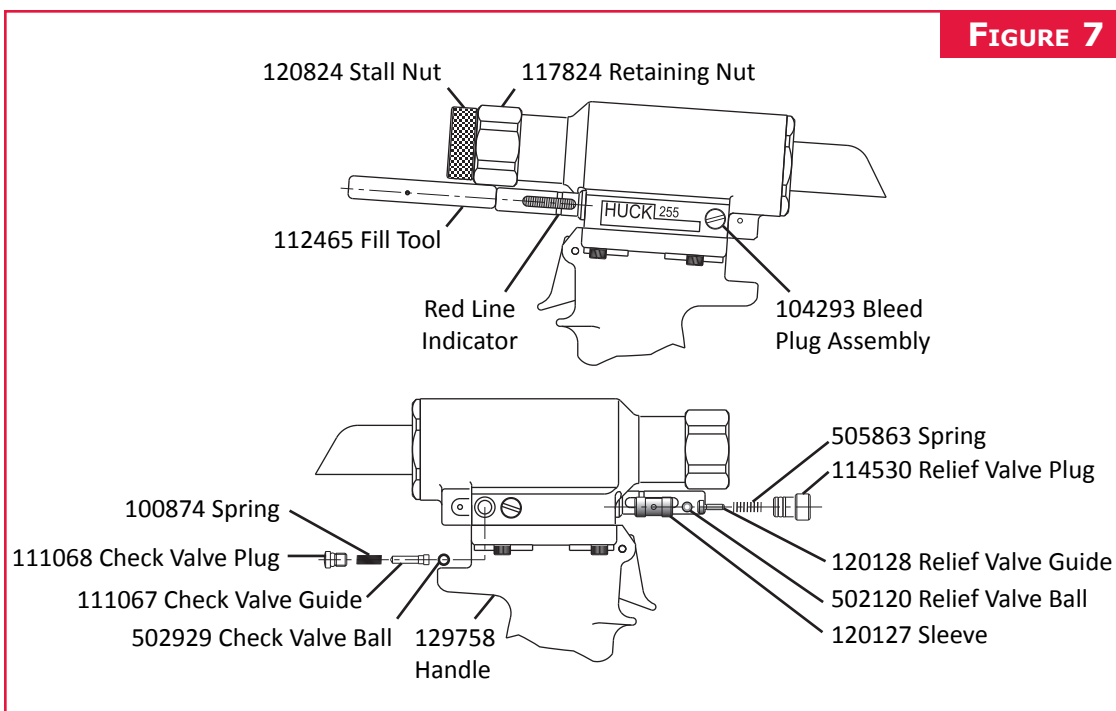


FIGURE 7

FILL AND BLEED (CONTINUED)

Step 6

Connect tool to shop air regulated to 20 to 40 psi. Cycle tool 20-30 times, watch for air bubbles escaping from the tool into bottle. (you may rock the tool to free trapped air in the tool.) Do not allow the air to re-enter the tool.

Step 7

When air bubbles no longer appear in bottle, remove fill bottle while tool is lying on its side.

Step 8

Install the check valve ball, guide and spring. Replace Plug. (Figure 7) **NOTE: When cycling tool, always hold bottle upright as shown in Figure 8 to prevent drawing in air from empty part of bottle.**

Step 9

Turn tool so front of head faces operator and remove relief valve plug. Prior to removing Plug, back out setscrew inside of plug by approximately 1/2 turn counterclockwise. (See Figure 7a). This ensures that the piston will remain in full-forward position. Install relief valve ball, guide, sleeve and spring. Replace the plug and re-tighten setscrew.

Step 10

Unlock Fill Tool and check Reservoir red line. At this point cycle tool with Stall Nut (Optional see note:) attached and retaining nut locked in the full forward position ("Dead Stall"). Reservoir should not drop below the red line on the reservoir housing. **NOTE: Dead Stalling is not necessary if optional Stall nut was not used; just cycle tool.**

Step 11

Re-lock the fill tool in out position. Lay tool on its left side and remove plug. Top off reservoir. Place a few drops of oil in hole and wait for air bubbles to escape. Push a pin or a scribe into hole to check for trapped air bubbles. Replace plug (Figure 7).

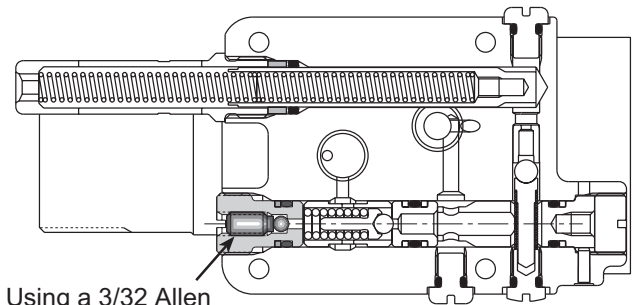
Step 12

Unlock the fill tool and cycle tool as in step 10. Reservoir may drop slightly, if so, repeat step 11 until when you touch the fill tool handle it has no pressure against it and it drops out of the lock position, and the plunger does not drop when tool is cycled. **NOTE: This usually requires 3 to 4 times topping off.**

Step 13

Remove fill tool and stall nut (if used). Install a nose assembly and pull several fasteners to test function.

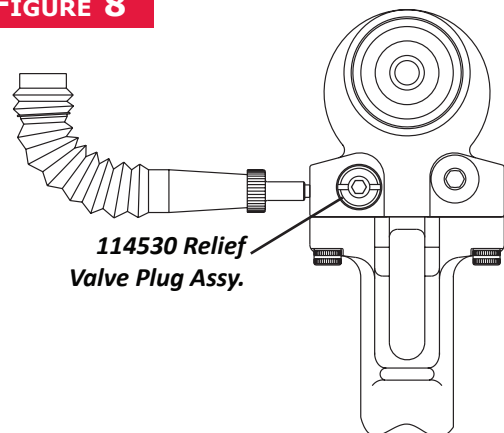
FIGURE 7A



Using a 3/32 Allen wrench, loosen setscrew inside Plug by approx. 1/2 turn.

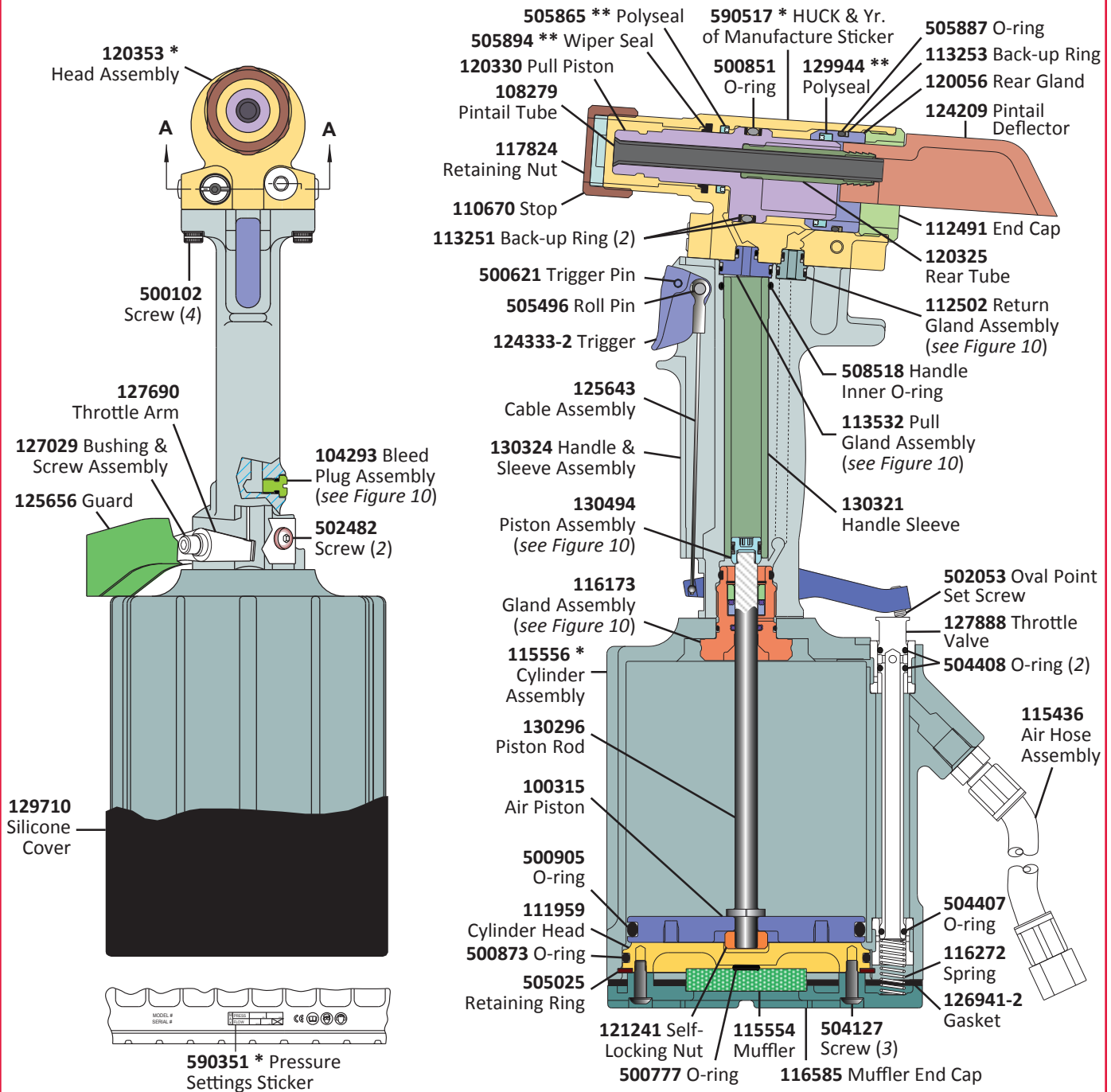
SECTION A-A
from figure 9

FIGURE 8





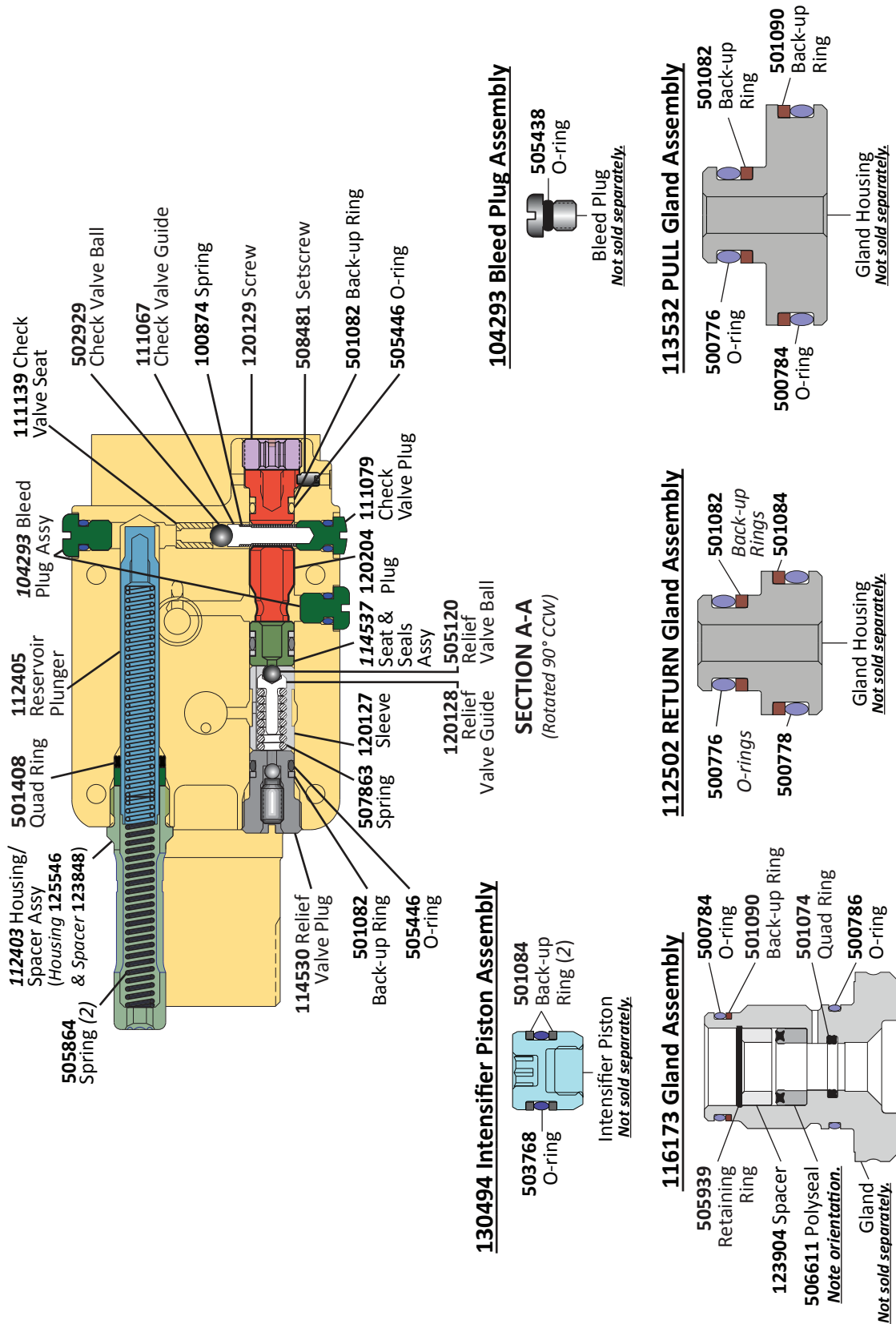
TOOL COMPONENTS

FIGURE 9

NOTES

* When a sticker becomes damaged, worn, missing, or unreadable, or when replacing the Cylinder Assembly or Head Assembly, stickers **MUST** be ordered separately and placed as shown.

** Note orientation of Polyseals and Wiper Seals.

TOOL HEAD AND ASSEMBLIES

FIGURE 10




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.

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 pressed.***
 - a. Air line not connected.
 - b. Worn or damaged throttle valve O-rings.
 - c. Broken throttle valve cable.
2. ***Tool does not complete fastener installation and break pintail.***
 - a. Air pressure too low.
 - b. Worn or damaged air piston Quad-ring.
 - c. Tool is low on hydraulic fluid. See the **FILL AND BLEED** section.
 - d. Air in hydraulic system. See the **FILL AND BLEED** section.
 - e. Worn or damaged reservoir springs.
 - f. Check for piston drift.
3. ***Pintail stripped and/or swaged collar not ejected.***
 - a. Check for broken or worn jaws in nose assembly. See Nose Assembly Data Sheet.
 - b. Check for loose retaining nut.
 - c. Check for piston drift.
4. ***Hydraulic fluid exhausts with air or leaks at base of handle.***
 - a. Worn or damaged gland assembly. Inspect Polyseal, O-rings, Quad-ring, and Back-up ring. Replace if necessary.
5. ***Tool has piston drift.***
 - a. Loose collet crashing into the front of the anvil causing the relief valve to open. Tighten the collet. See the **FILL AND BLEED** section.
 - b. Worn or damaged return pressure relief valve. Inspect seat, O-ring, Back-up rings, ball, and valve spring. Replace if necessary.
 - c. Worn or damaged Piston Assembly. Inspect O-rings and Back-up rings. Replace if necessary.
6. ***Hydraulic fluid leaks at rear of pull piston.***
 - a. Worn or damaged rear gland. Inspect O-rings and Back-up rings. Replace if necessary.
7. ***Hydraulic fluid leaks at front of pull piston.***
 - a. Worn or damaged front gland. Inspect Polyseal. Replace if necessary.
8. ***Pull piston will not return.***
 - a. Throttle valve stuck; lubricate O-rings.
 - b. Throttle arm, cable, or trigger binding.
9. ***Air leaks at air cylinder head.***
 - a. Worn or damaged O-ring. Replace if necessary.

KITS & ACCESSORIES

HUCK has created product-specific **Spare Parts Service Kits** that contain various perishable parts for each tool. The types and quantities of spare parts that should be available vary with the application and tools in use. Have the appropriate kit accessible when using this tool and when performing maintenance on it.

HUCK also recommends having the following **Accessories** available when preparing, using, and performing maintenance on this tool.

KITS

<u>SERVICE KIT</u>	-	245KIT
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ACCESSORIES

Polyseal Insertion Tool	-	505940
Piston Assembly Tool	-	120792
Stall Nut	-	120824
Fill Bottle Assembly	-	120337
Pintail Bag	-	125655



Limited Warranties

Limited Lifetime Warranty on BobTail® Tools:

Huck International, Inc. warrants to the original purchaser that its BobTail® installation tools manufactured after 12/1/2016 shall be free from defects in materials and workmanship for its **useful lifetime**. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Two Year Limited Warranty on Installation Tools:

Huck International, Inc. warrants that its installation tools and Powerigs® manufactured after 12/1/2016 shall be free from defects in materials and workmanship for a period of two years from date of purchase by the end user. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

90 Day Limited Warranty on Nose Assemblies and Accessories:

Huck International, Inc. warrants that its nose assemblies and accessories shall be free from defects in materials and workmanship for a period of 90 days from date of purchase by the end user. This warranty does not cover special clearance noses, or special order / non-standard product, or part failure due to normal wear, abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Useful lifetime is defined as the period over which the product is expected to last physically, up to the point when replacement is required due to either normal in-service wear, or as part of a complete overhaul. Determination is made on a case-by case basis upon return of parts to Huck International, Inc. for evaluation.

Tooling, Part(s) and Other Items not manufactured by Huck:

HUCK makes no warranty with respect to the tooling, part(s), or other items manufactured by third parties. HUCK expressly disclaims any warranty expressed or implied, as to the condition, design, operation, merchantability, or fitness for use of any tool, part(s), or other items thereof not manufactured by HUCK. HUCK shall not be liable for any loss or damage, directly or indirectly, arising from the use of such tooling, part(s), or other items or breach of warranty or for any claim for incidental or consequential damages.

Huck shall not be liable for any loss or damage resulting from delays or non-fulfillment of orders owing to strikes, fires, accidents, transportation companies or for any reason or reasons beyond the control of the Huck or its suppliers.

Huck Installation Equipment:

Huck International, Inc. reserves the right to make changes in specifications and design and to discontinue models without notice.

Huck Installation Equipment should be serviced by trained service technicians only.

Always give the serial number of the equipment when corresponding or ordering service parts.

Complete repair facilities are maintained by Huck International, Inc. Please contact one of the offices listed below.

Eastern

One Corporate Drive Kingston, New York 12401-0250
Telephone (845) 331-7300 FAX (845) 334-7333

Outside USA and Canada

Contact your nearest Huck International location (see reverse).

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 Tool Kits and Nose Assemblies. Please contact your Huck Representative or the nearest Huck International location (see reverse) for the ATSC in your area.



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