



# ARCONIC

Innovation, engineered.

## Instruction Manual

### 255

Pneudraulic Installation Tool



*(Shown without silicone boot.)*

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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/s<sup>2</sup>**

Uncertainty, K: **.72 m/s<sup>2</sup>**

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

**MIN 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 psi (6.2 bar) maximum shop air

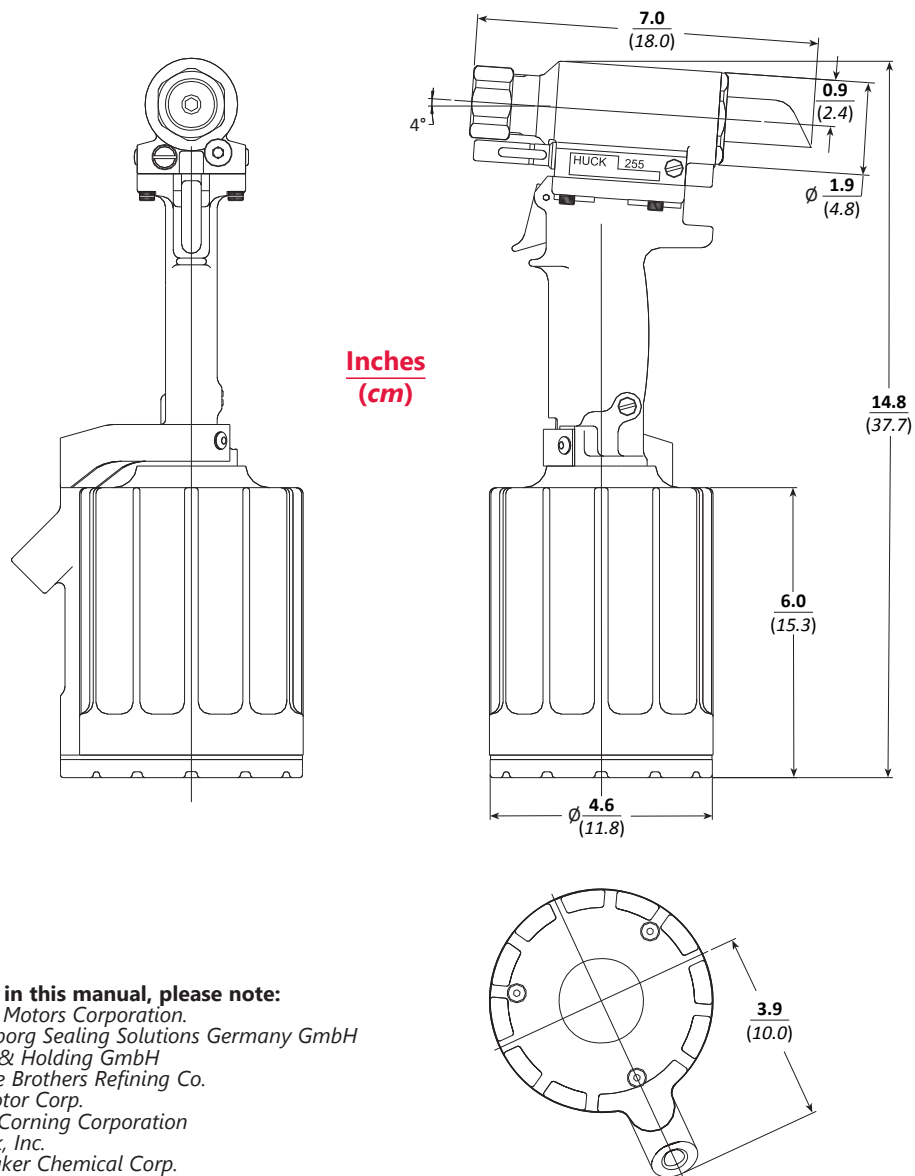
**MAX OPERATING TEMP:** 125° F (51.7° C)

**MIN PULL CAPACITY:** 7500 lbs @ 90 psi  
(34.47 kN @ 6.2 bar)

**SPEED / CYCLES:** 30 per minute

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

**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.



Where the following trade names are used in this manual, please note:

**DEXRON** is a registered trademark of General Motors Corporation.

**GLYD Ring** is a registered trademark of Trelleborg Sealing Solutions Germany GmbH

**Loctite** is a registered trademark of Henkel IP & Holding GmbH

**LUBRIPLATE** is a registered trademark of Fiske Brothers Refining Co.

**MERCON** is a registered trademark of Ford Motor Corp.

**MOLYKOTE** is a registered trademark of Dow Corning Corporation

**Never-Seez** is a registered trademark of Bostik, Inc.

**Quintolubric** is a registered trademark of Quaker Chemical Corp.

**Slic-tite** is a registered trademark of LA-CO Industries, Inc.

**Spirolox** is a registered trademark of Smalley Steel Ring Company

**Teflon** is a registered trademark of Chemours Company FC.

**Threadmate** is a registered trademark of Parker Intangibles LLC.

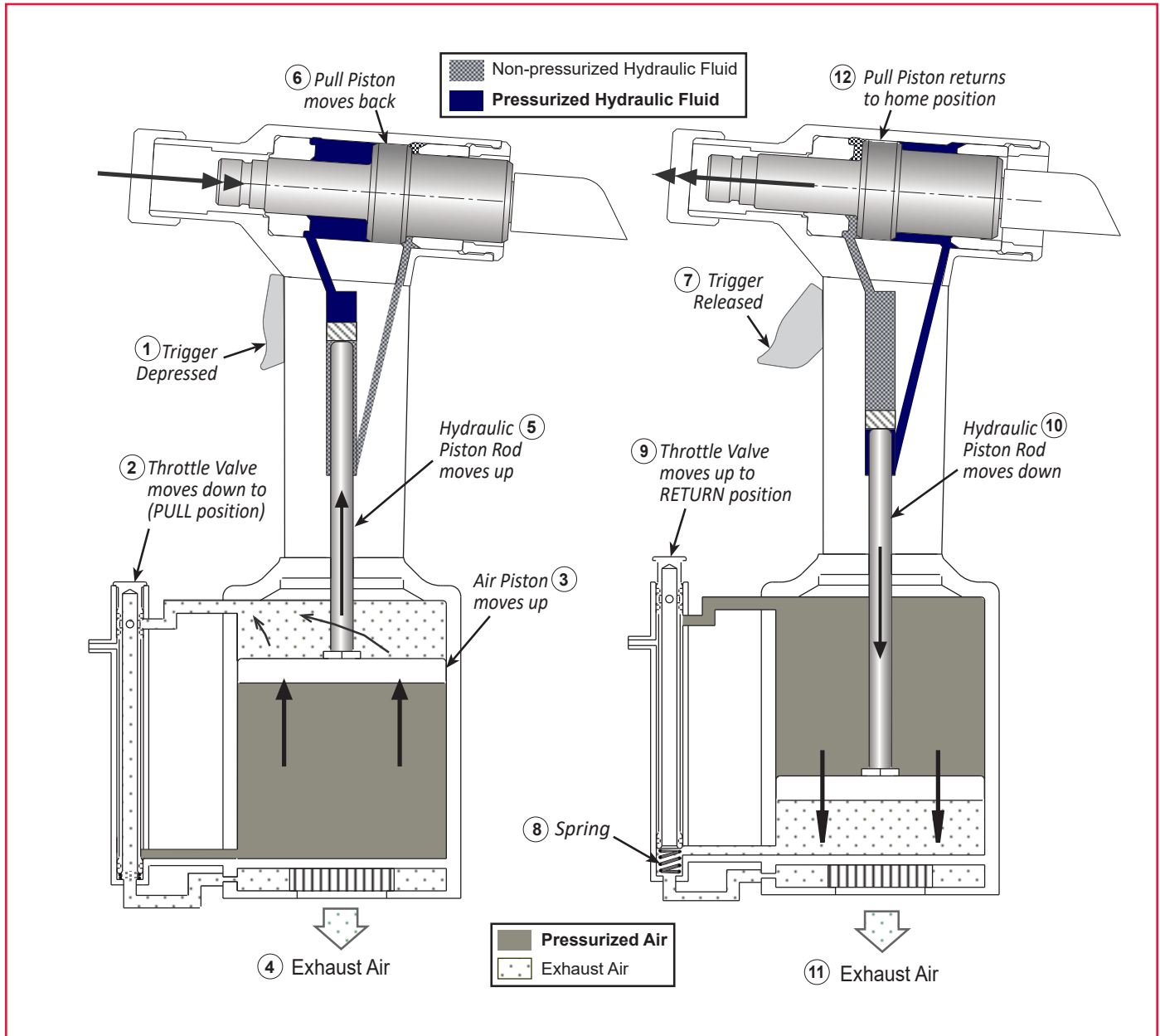
**TRUARC** is a trademark of TRUARC Co. LLC.

**Vibra-Tite** is a registered trademark of ND Industries, Inc. USA.





## Principle of Operation



### PULL STROKE

When the Trigger is depressed (1), the Throttle Valve moves to the down position (2), and pressurized air is directed to the bottom of the Air Piston, causing it to move upward (3). The air above the Piston is exhausted and directed through the center of the Throttle Valve and out the bottom of the tool (4). The Air Piston has a Rod and a Hydraulic Piston attached. When the Air Piston rod moves upward, a column of pressurized hydraulic fluid is forced up (5) into the tool head, which moves the Pull Piston back (6). The attached nose assembly moves with the Pull Piston to start fastener installation.

### RETURN STROKE

When fastener installation is completed, the Trigger is released (7). Air pressure, with the assistance of a Spring (8), causes the Throttle Valve to return to its up position (9). Pressurized air is re-directed to the top of the Air Piston, causing it, along with the Hydraulic Piston Rod, to move downward (10). The air from below the Air Piston is exhausted through the bottom of the tool (11). As this occurs, hydraulic pressure is reversed and the Pull Piston is returned forward (12). A return pressure relief valve protects the tool against pressure spikes. The reservoir replenishes the hydraulic system as needed.

## 255 Blankdraulic Installation Tool (HK1014)



## Preparation for Use

The 255 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 8.5 scfm (241 l/m) available. **NOTE: Air quick-disconnect fittings and air hoses are not available from HUCK International, Inc.**

1. Remove shipping plug from air inlet connector and add a few drops of an approved hydraulic fluid.
2. Apply Parker Threadmate®, Loctite® 567, or Slic-Tite® to male pipe threads per manufacturer's instructions, and screw quick-disconnect fitting into



**CAUTION: Do not use TEFLON® tape on pipe threads. Tape can shred, resulting in malfunctions.**

air inlet connector.

3. Set air pressure on regulator to 90–100 psi, and connect air hose to tool. Press and release trigger a few times to cycle tool.
4. Disconnect the air hose from tool, and remove retaining nut. Select the proper nose assembly for

fastener being installed.

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

If fasteners do not pass inspection, see

**TROUBLESHOOTING** to investigate possible causes. **NOTE: On older nose assemblies with lock collars, use Loctite® 243™ Threadlocker (P/N 508567) on collet threads, because the 255 pull piston does not have staking holes. Refer to the nose assembly drawings that shipped with nose assemblies.**



## Maintenance



**WARNING:** Inspect tool for damage and wear before each use. Do not operate if damaged or worn; severe personal injury could result.



### CAUTIONS:

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.

**Do not use TEFLON® tape on pipe threads. Tape can shred and break free into fluid lines, resulting in malfunctions.**

### GENERAL

The operating efficiency of a tool is directly related to the performance of the entire system. Regular inspection and 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 a 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.

Have the appropriate **Service Parts Kit (255KIT)** available when servicing the tool; it includes important consumable parts. Other components, as experience dictates, should also be available.

### 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.**

### 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.



## Operating Instructions

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



### WARNINGS:

**Do not pull on a fastener without first placing it in a work piece. The fastener will eject forcibly when the pintail breaks off, which may cause serious injury.**

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

**For fasteners intended to be used with separate collars: Pulling a fastener without a collar, or with collar chamfer facing the workpiece, may result in the fastener becoming a high-speed projectile when the grooves are stripped or pintail breaks off. Serious personal injury may occur to anyone in the 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 directed away from all personnel.**



### CAUTIONS:

**Ensure the tool has been properly reassembled prior to use.**

**Remove excess gap from between sheets. There must be enough pintail protruding from the collar for all of the jaw teeth to grip the pintail grooves. If all jaw teeth do not engage properly, the jaws will be stripped or damaged.**

**Blind fasteners may jam in 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.**

**Do not abuse the tool by dropping it, using it as a hammer, or otherwise causing unnecessary wear and tear.**

**Reasonable care of installation tools by operators is necessary to maintain tool efficiency and reduce downtime.**

### LOCKBOLT FASTENER INSTALLATION

Place pin in work hole and place collar over pin. See WARNING. (If Collar has only one tapered end, that end must be out toward tool, not next to sheet.) Hold pin and push nose assembly onto pin protruding through collar until nose assembly anvil touches collar. Depress trigger and hold depressed until collar is swaged and pintail breaks. Release trigger and tool will go into return stroke. The tool and nose assembly are ready for the next fastener installation cycle.

### BLIND FASTENER INSTALLATION

Remove excess gap from between the sheets to permit correct fastener installation. Fastener may be placed in work hole or in end of nose assembly. See WARNING. 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. Release trigger and tool will go into its return stroke. The tool and nose assembly are ready for next fastener 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 and damaged components. For component identification, see Figures 1–4 & 9.



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

1. Disconnect the tool from the air source.
2. Remove the nose assembly. Follow instructions on Nose Assembly Data sheet.
3. Insert the Fill Tool (P/N **112465**) through the reservoir housing and screw it into the reservoir plunger, locking it in the out position. (Figure 1)
4. Unscrew the 4 cap screws with a 5/32" hex key, and carefully separate the head from the handle. Remove the pull and return gland from separated assemblies, and remove the seals from glands. (Figure 1)
5. Unscrew the relief valve plug from the front of the head. Then remove the spring, guide, ball, and sleeve. A small magnet is helpful.
6. Unscrew the bleed plug from the side of the head. Hold tool over a container; slowly release the fill tool, and drain the fluid into container. (Figure 1) Discard the fluid.
7. Unscrew the reservoir housing. Then remove the two springs, and slide the reservoir plunger out of the head. Remove the spacer and use a "pick" to remove the Quad-ring.
8. Unscrew reservoir check valve plug from side of head. Remove the spring, guide, and ball. (Figure 1)

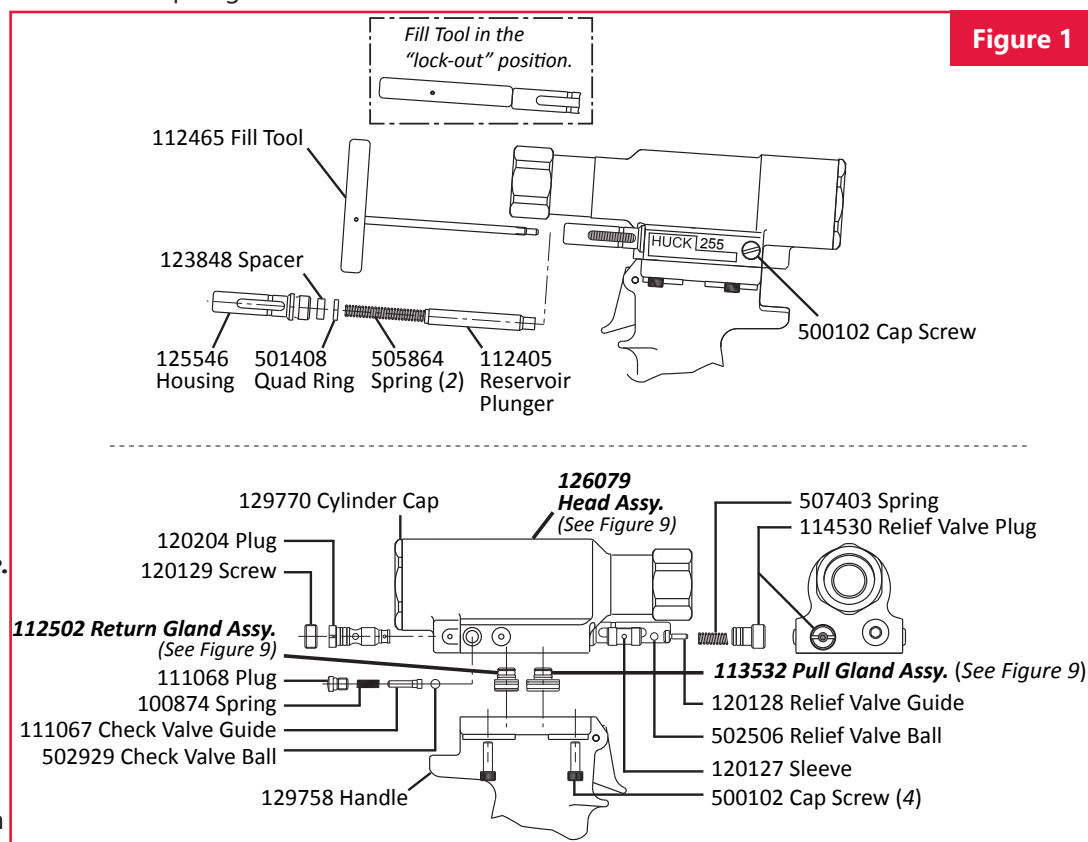
**NOTE: If the check valve seat is damaged, it must be replaced; it cannot be re-used. It can be removed by using the following procedure. (Figure 9)**

Remove all parts in reservoir check valve before removing the plug. Unscrew plug, insert a #10 screw in thread of plug, and pull to remove. Use a

- small drift and hammer, from rear side of the head, to drive seat out towards front of head. (Figure 9)
9. Pull the pintail deflector off the barbed end at rear of Pull Piston. Use a 1-9/16" open-end wrench to unscrew the end cap. Slide out the spring.
10. Slide Spacer (P/N **123112-1**) onto the piston. Thread the Assembly Bullet (P/N **123111-1**) onto the piston. (Figure 2) Push the piston out the back of the head. Allow clearance as piston leaves the tool.
- NOTE: This will push out the front and rear gland assemblies, the wiper, and wiper housing. (Figure 9)**
11. Remove the screw from the throttle arm, and then remove the throttle arm. Remove the throttle valve assembly and spring from the cylinder. (Figure 9)
12. With a small punch and hammer, drive out the roll pin to remove the trigger from the handle. Remove trigger pin. Remove ball end of cable from the throttle arm, and pull cable out of handle. (Figure 9)
13. Remove the bleed plug from the handle.
14. Secure the tool upside-down in a soft-jaw vise, and remove three button-head screws from the muffler end cap with a 1/8" hex key. (Figure 3)



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



**Figure 1**

## 255 Blankdraulic Installation Tool (HK1014)



## Disassembly (continued)

15. Remove the muffler end cap, bottom exhaust gasket, muffler, and O-ring. (Figure 3)
16. Tap the cylinder head down into the cylinder assembly and remove the retaining ring.



**CAUTION: Take care to not scratch the cylinder when removing.**

17. Screw button-head screws into the cylinder head, and carefully pry on them to remove cylinder head.
18. Push air piston all the way down in the cylinder, remove tool from vise, and lay on its side. Hold the self-locking nut with a 9/16" socket and extension, and use a 7/64" hex key to remove the piston screw. (Figures 4 & 9)
19. Secure the cylinder assembly and handle upside-down in a vise again.



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

20. Use pliers to grip the self-locking nut and pull out the air piston and rod assembly from the handle and cylinder assemblies.
21. Use a 1-3/8" socket and extension to remove the gland assembly. The handle and cylinder assemblies will now separate.



**CAUTION: Use a plastic or wooden drift to avoid damaging the handle bore.**

22. Push the piston rod out of the handle. (Figure 3)
23. Remove the Retaining Ring and Spacer (P/Ns **505939** and **123904**) from the gland assembly, then remove the Polyseal (P/N **506611**). (Figure 9)

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



**CAUTION: Do NOT re-use seals, wipers, or rings; irreparable tool damage could occur. Discard these parts and use replacements (see **KITS & ACCESSORIES**).**

Figure 2

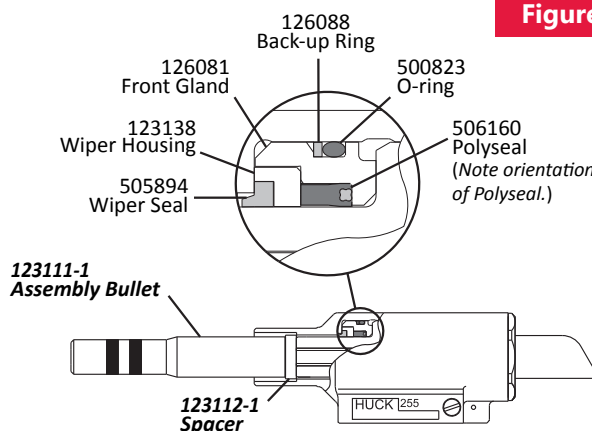
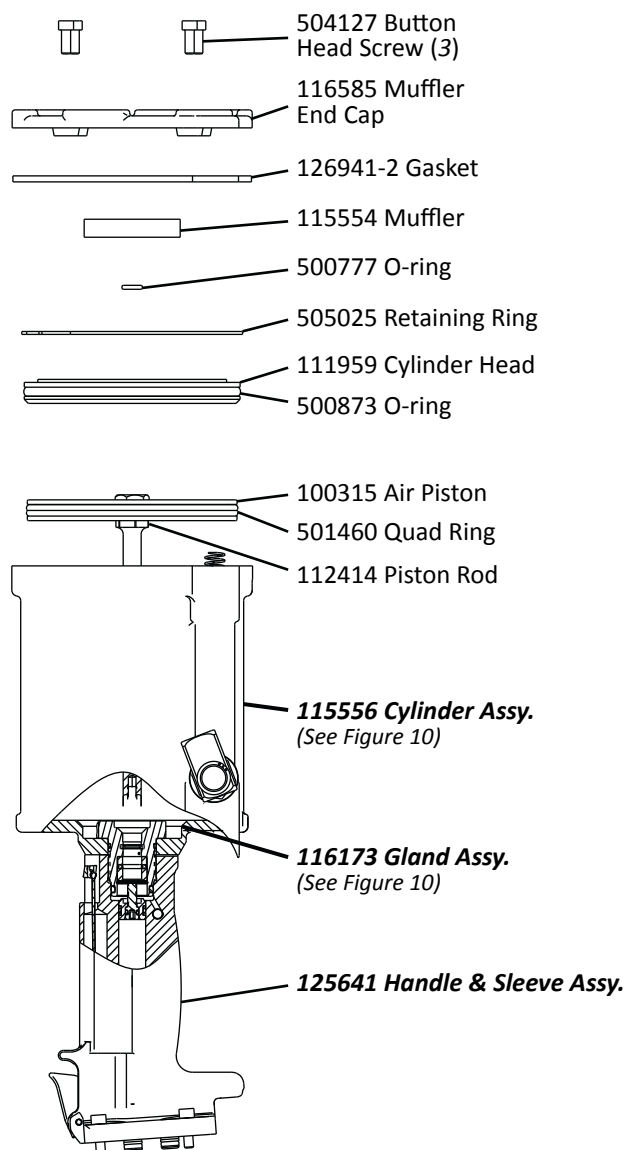


Figure 3





## 255 Blankdraulic Installation Tool (HK1014)

## Assembly

For component identification, see Figures 1–5, & 9.  
Before 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 Spare Parts Service Kit (P/N **255KIT**). Take care not to damage the rings. Smear LUBRIPLATE® 130-AA or SUPER-O-LUBE® on rings and mating parts to ease assembly.

### TO RE-ASSEMBLE THE TOOL:

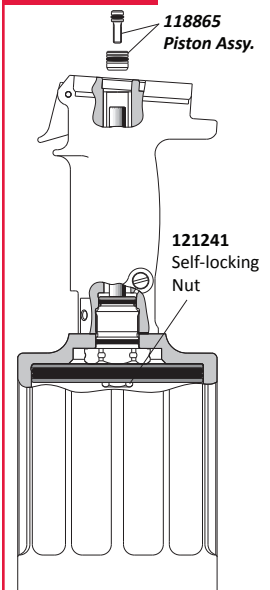
1. Secure the handle upside-down in a soft-jaw vise. (Figure 3) Place the inverted cylinder assembly on the base of the handle. (The timing pin maintains orientation.) Assemble the gland assembly with new seals. (Note the orientation of the Polyseal in Figure 9.) Apply Anti-Seize Compound (P/N **508183**) to the threads. Screw the assembly into the head and use a 1-3/8" socket wrench to torque it to 75–80 ft.-lbs.
2. Clean the air piston rod (P/N **130296**) threads and treat with apply Loctite® 243™. Carefully press the assembled air piston and piston rod (with Quad-ring in place) all the way into the air cylinder. (Figure 3)
3. Turn tool upright. Install Hydraulic Piston Assembly (with rings in place) in the handle. Press from the top of the handle without damaging seals. (Figure 4)
4. Push screw, with O-ring in place, through hydraulic piston and screw into top of piston rod. Hold self-locking nut with a 9/16" socket and extension, and use a 7/64" hex key to torque screw to 55-60 in. lbs. Torque the self-locking nut to 28–32 ft.-lbs.
5. Secure the head upside-down in a vise. Push the cylinder head squarely into the cylinder, taking care not to damage O-ring. Install the retaining ring. (Figure 3)
6. Position O-ring and muffler in the center of the cylinder head. Position the gasket on the cylinder assembly, taking care to note the direction of the lip in Figure 3.
7. Carefully position the muffler end cap on the gasket, and secure the muffler end cap with the three button head screws using a 1/8" hex key. (Figure 3)
8. Place tool upright on a level surface. Drop the spring into the throttle valve hole in cylinder, and push throttle valve, with O-rings in place, into the cylinder.
9. Assemble trigger cable and trigger pin, and slide cable into handle. (Figure 9) Align hole in trigger with hole in handle and install roll pin with a hammer and punch.
10. Slide the throttle arm onto the ball end of the throttle cable. Swing the arm until the other end fits over the throttle valve. Push the screw through the throttle arm and tighten with 5/32" hex key.
11. Reinstall the air hose assembly if it was removed.

**NOTE: If replacing the check valve seat: Push the plug (P/N 120204, Figure 9, Section A-A), with O-ring & Back-up ring in place, into head; insert and tighten the screw. Install O-ring and Back-up ring onto seat. Drive in seat assembly using a soft drift, taking care not to damage the ball seat surface.**

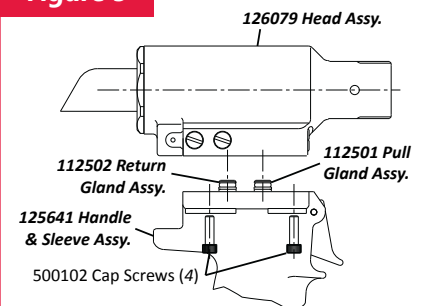
12. Assemble the pull piston with new seals that have been lubricated with LUBRIPLATE® 130-AA or SUPER-O-LUBE®.
  13. Thread the Assembly Bullet (P/N **123111-1**) onto the pull piston and push entire assembly into the head.
- NOTE: Spacer (P/N 123112-1) is not needed for this procedure.**
14. Assemble the front gland assembly (with O-ring, Back-up ring, Polyseal, wiper housing, and wiper seal), and push it into place on the pull piston.
  15. Install the O-rings and Back-up rings on the rear gland assembly. Push the assembly into the head; screw in the end cap and torque to 55–60 ft.-lbs.
  16. Install the O-ring and Back-up ring on the relief valve plug. Insert the ball, guide, sleeve, spring, and plug into the head. (Figures 1 & 9)
  17. Install the O-ring on the check valve plug. Insert the ball, guide, spring, and plug into the head.
  18. Push pintail deflector onto the end of the pull piston.
  19. Screw the bleed plug assembly (with O-ring in place) into the handle.
  20. Install O-rings and Back-up rings on pull and return gland assemblies; push assemblies into handle. (Figure 5) Push head down onto handle, aligning it with the assemblies.
  21. Place the tool upside-down in a vise, and install the 4 cap screws; torque to 170 in.-lbs.

The tool is now assembled and must be filled with hydraulic fluid prior to use; see **FILL AND BLEED**.

**Figure 4**



**Figure 5**



## 255 Blankdrain Installation Tool (HK1014)



### Fill and Bleed

This section documents the "bleed-&-fill" procedure. For component identification, see Figures 6, 7, & 8.

#### REQUIRED EQUIPMENT

- DEXRON® III or equivalent ATF (See **SPECIFICATIONS** for more information.)



**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.**

- Shop air-line with 90–100 psi (6.2–6.9 bar) max.
- Air regulator
- Fill Bottle (P/N **120337**, included with tool)
- Large flat-blade screwdriver
- Nose assembly or optional stall nut (P/N **120824**)
- 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 Bottle.

**NOTE: Refill the tool only when the fluid level drops below the red line on the reservoir housing; or when the tool is rebuilt.**

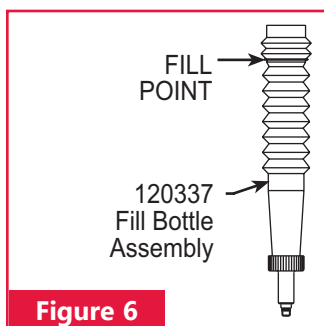


Figure 6



**CAUTION: Purge ALL fluid from the tool before refilling with a recommended fluid; aerated fluid will diminish tool stroke.**

#### TO BLEED AND FILL THE TOOL:

1. Screw the Fill Tool (P/N **112465**) into the reservoir plunger. Pull the plunger into the reservoir housing and lock the fill tool in the full-forward position by tilting the handle (long side touching tool) and locking it in place. (Figure 7)
2. Remove the relief valve plug and check valve plug (Figure 7), as well as all guides, springs, and balls, from the ports in the head. Re-insert the relief valve plug in the front of the tool. (Figures 7 & 8)
3. Screw the retaining nut onto the head assembly, and screw the stall nut onto the hydraulic piston. Tighten to ensure full thread engagement. Back off retaining nut until it engages stall nut. Verify that the hydraulic piston is full forward and locked with the retaining nut (and, optionally, with the stall nut).

**NOTE: If the stall nut is not used, the piston must be pushed to the full-forward position before installing the valves.**



**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 plug is removed, the fill bottle must be in place before cycling the tool.**

4. Connect tool to the air source to seat air piston at bottom of air cylinder; then disconnect. Lay tool on its side with fill port facing up (check valve on side).
5. (Figures 7 & 8) Insert the fill bottle in the check valve hole.

continued...

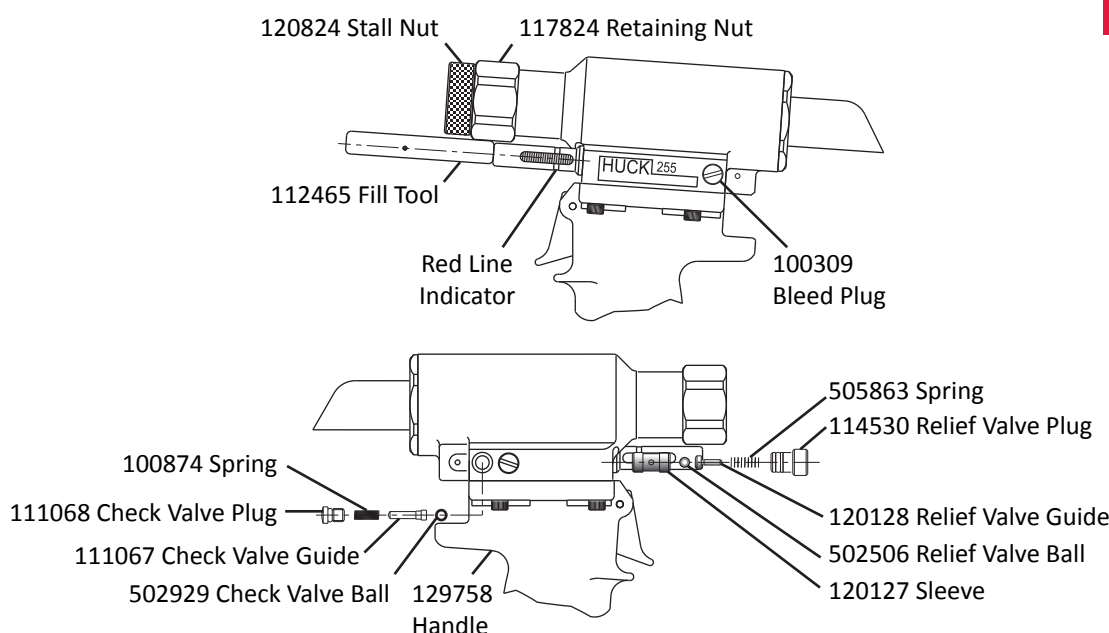


Figure 7





## Fill and Bleed (continued)

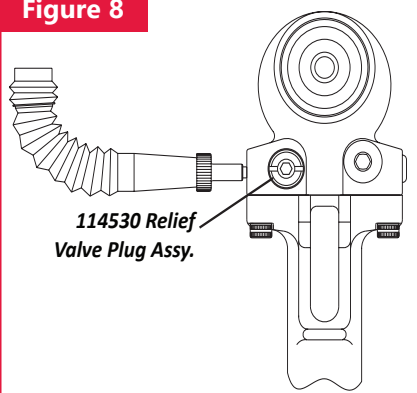
6. Connect the tool to the air supply and cycle it 20–30 times; watch for air bubbles escaping into the bottle. (Rock the tool to free trapped air.)

**NOTE: Do not allow air to re-enter the**

**tool. When cycling the tool, hold the fill bottle as shown in Figure 8 to prevent drawing in air.**

7. When bubbles stop accumulating, stop cycling tool. Remove the fill bottle while tool is laying on its side.
8. Install the check valve ball, guide, and spring. Replace the plug.
9. Turn the tool so the front of the head faces you. Use a 3/32" allen wrench to back out (approximately 1/2 turn counterclockwise) the setscrew inside the plug, shown in Figure 8A. (This ensures that the piston remains in the full-forward position.) Remove the relief valve plug; insert the relief valve ball, guide, sleeve, and spring, and then re-insert the plug.
10. Unlock the fill tool and check the fluid level (red line indicator, Figure 7) in the reservoir housing. Cycle

**Figure 8**



**optional stall nut was not used; just cycle the tool.**

The reservoir fluid level should not drop below the red line on the reservoir housing.

11. Re-lock the fill tool into the reservoir plunger. Lay the tool on its side and remove the bleed plug. Insert the fill bottle and add a few drops of fluid to the reservoir; wait for air bubbles to escape, then remove the fill bottle. (Push a pin or a scribe into the hole to check for trapped air bubbles.) Replace the plug.



**WARNING: Failure to re-lock the fill tool will result in oil being ejected from the head under pressure when topping off the reservoir. Severe personal injury may result.**

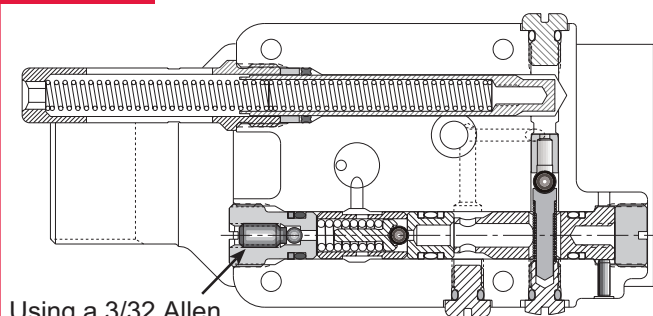
(Figure 7)

12. Unlock the fill tool, cycle the tool as in step 10, and check the fluid level in the reservoir housing. The reservoir fluid level may drop slightly. If so, repeat step 11 until, when the fill tool handle is touched, it has no pressure against it and it drops out of the lock position, and the fluid level in the reservoir housing does not drop when the tool is cycled.

**NOTE: This usually requires 3 or 4 repetitions.**

13. When the fluid level is sufficient, remove the fill tool and stall nut. Install a nose assembly and pull several fasteners to test function.

**Figure 8a**



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

**SECTION A-A**  
from Figure 9

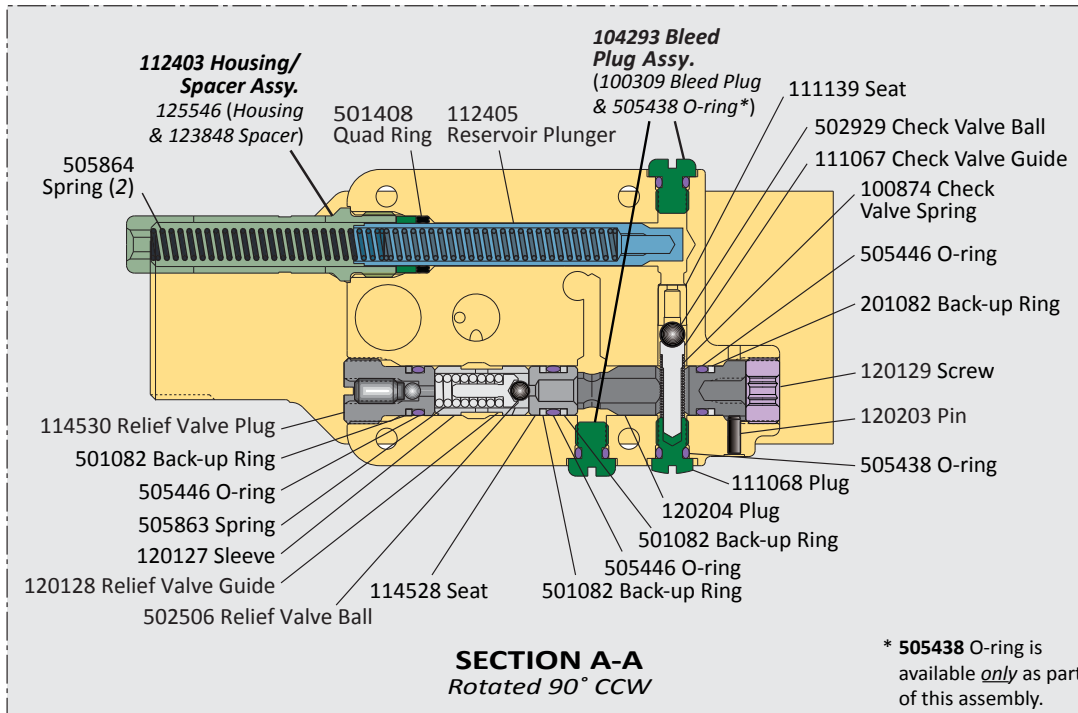
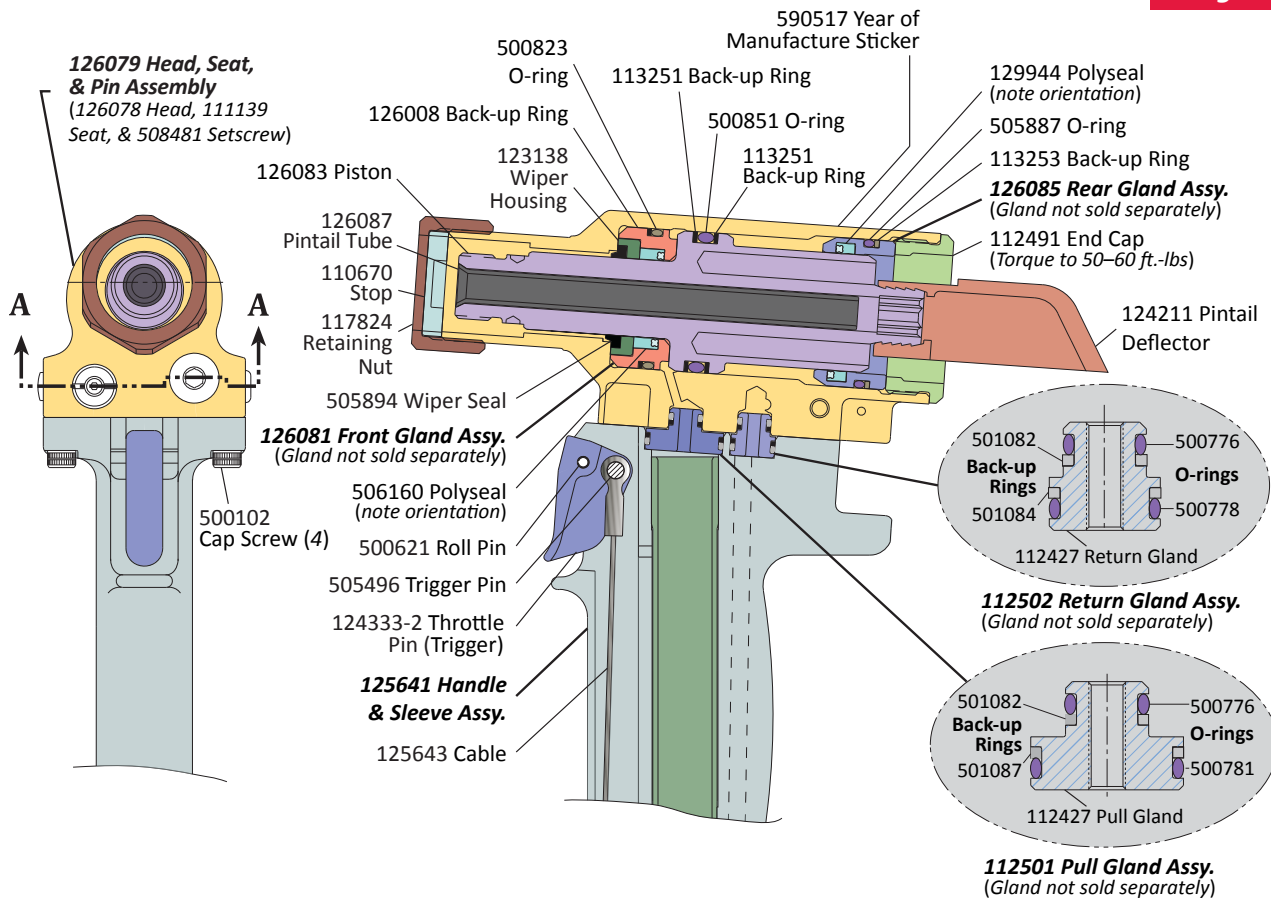
the tool with the stall nut attached and the retaining nut locked in the full-forward position ("dead stall").

**NOTE: Dead stalling is not necessary if the**



## Assembly Drawing Tool Head

Figure 9

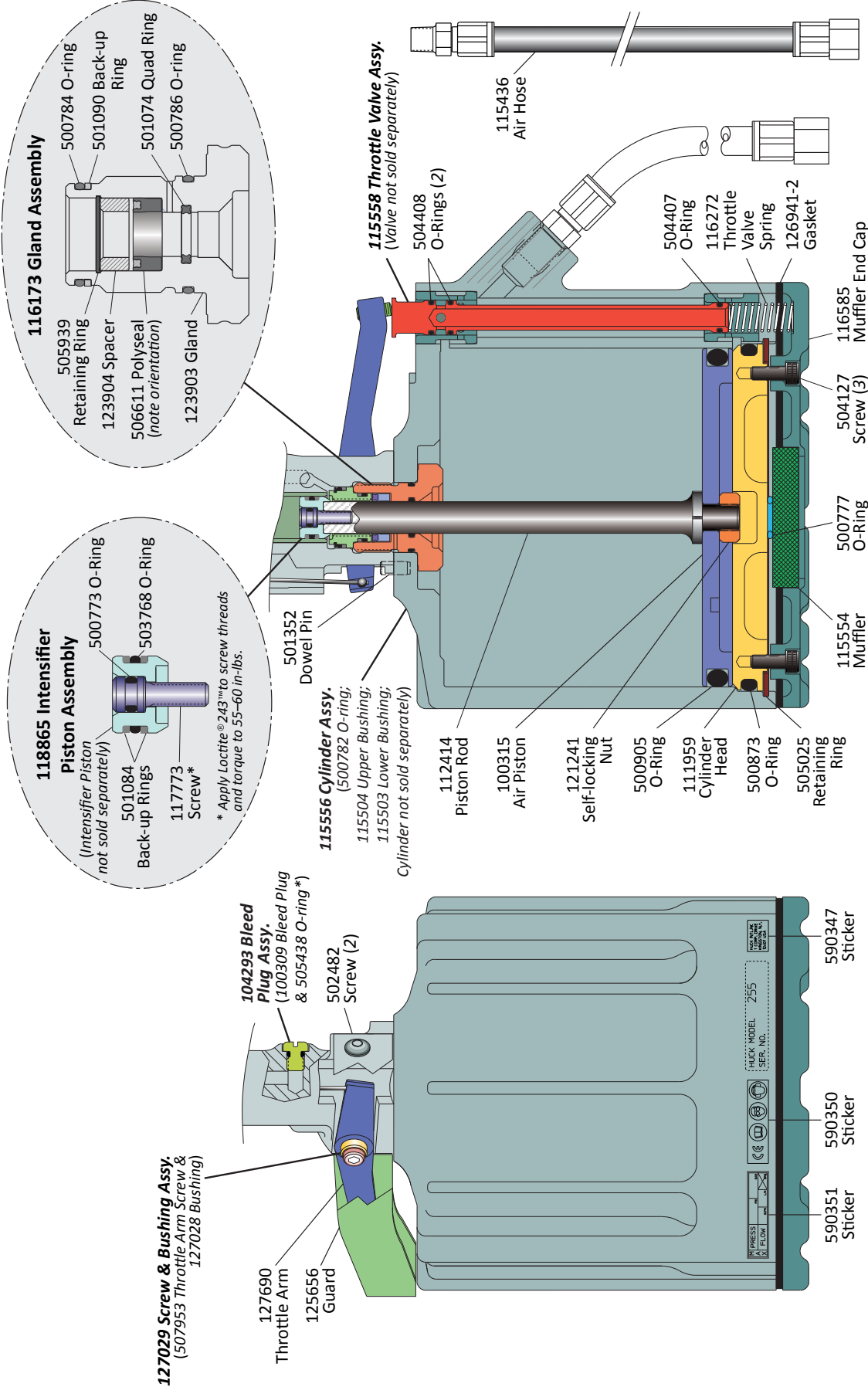




## 255 Blankdraulic Installation Tool (HK1014)

### Assembly Drawing Tool Base

Figure 10



\* 505438 O-ring is available only as part of this assembly.



## 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 or empty. 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, and allowing the piston to drift. Tighten the collet. See the **FILL AND BLEED** section.
  - b. Worn or damaged return pressure relief valve. Inspect seat, O-ring, Back-up rings, steel 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, O-ring, and Back-up ring. 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

**ASSEMBLY TOOL KIT** - 126104

includes:

- Assembly Bullet - 123111-1
- Spacer - 123112-1

**SERVICE KIT** - 255KIT

(includes most consumable parts, such as seals, deflector, springs, etc.)

### ACCESSORIES

**Stall Nut** - 120824





## 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 Powerig® hydraulic power sources manufactured after December 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.

**ARCONIC**

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