Instruction Manual
2012 series
Pneudraulic Installation Tool

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EC Declaration of Conformity

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

Description of Machinery:
Models 2012, 2013, 2014, and 2015 family of pneudraulic installation tools and specials based on their design (e.g. PR###).

Relevant provisions complied with:
British Standard related to hand held, non-electric power tools (ISO 11448-1:2011)

European Representative:
Rob Pattenden, Huck International, Ltd. Unit C Stafford Park 7, Telford Shropshire TF3 3L 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: [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: 80 dB (reference 1 pW) Uncertainty, KWA: 3 dB
- A weighted emission sound pressure level at the work station, LpA: 69 dB (reference 20 μPa) Uncertainty, KpA: 3 dB
- C-weighted peak emission sound pressure level, LpC, peak: 106 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 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: | 1.573 m/s² |
| Uncertainty, K: | 0.394 m/s² |

Values measured and determined according to ISO 8667-3, ISO 5349-3, and EN 12096.
II. PROJECTILE HAZARDS:
1. Risk of whipping compressed air hose if tool is pneumatic 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. 

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 in 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 markings and markings required, and listed in the manual, are legible 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 SDS Specifications before servicing the tool. SDS specifications are available from the product manufacturer on 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 leave 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 pneumatic 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. 

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 fixture is secure. 
9. Beware of the risk of crushing or pinching if nose equipment is not fitted. 

IV. REPEETIVE 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 dampening materials to prevent worker from ‘ringing’. 
3. Use hearing protection in accordance with employer’s instructions and as required by occupational health and safety regulations. 
4. No assembly power tool is intended for use in potentially explosive environments. 
5. Tool is not insulated against contact with electrical power. 
6. If the 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 hosings 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.
Description

The 2012 models are lightweight, high-speed production tools that install:

- **-04** through **-06** diameter HUCK-CLINCH® fasteners, and oversize HUCK-CLINCH fasteners
- **-04** through **-06** diameter Huck UNIMATIC® blind rivets

Any other blind fasteners

The pulling action of the pull piston is provided by a pneumatic-hydraulic (pneudraulic) intensifier system that is powered by 90 psi (6.2 bar) air pressure. The air inlet is equipped with a connector with 1/4”-18 female pipe threads to accept your air hose or quick-connect fitting.

MODEL FEATURE

The 2012V model has a Slide & Tube Assembly (P/N 124245)—a ribbed “ON/OFF” vacuum-regulating slider that enhances the tool capabilities by:

- expelling broken pintails into the pintail collector, and
- holding fasteners firmly in the nose assembly, with the tool in any position.

When the tool is not in use, the OFF position (slider forward) will prevent air loss. See Figure 9 for the location of this assembly (pictured in the ON position) on the tool.

Sticker Locations

These stickers are located at the bottom of Cylinder Assembly 125471 and MUST be ordered and placed in these locations if they become damaged, lost, or unreadable, or if the Cylinder is replaced.

![Sticker Locations Diagram](image)

Specifications

**STROKE:** 0.650 in (1.65 cm)

**WEIGHT:**
- **2012:** 4.4 lbs (1.99 kg)
- **2012B & 2012V:** 4.7 lbs (2.13 kg)

**MAX AIR PRESSURE:** 90 psi (6.2 bar)

**MAX FLOW RATE:** 2.9 scfm (170 l/min)

**POWER SOURCE:** 90 psi (6.2 bar) maximum shop air

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

**PULL CAPACITY:** 2670 lbs @ 90 psi (11.88 kN @ 6.2 bar)

**SPEED / CYCLES:** 20 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.
- **Loctite** is a registered trademark of Henkel Corporation, U.S.A.
- **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 E. I. du Pont de Nemours and Company.
- **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 tool is connected to the air supply, air pressure holds the Throttle Valve up in the RETURN position, and air pressure is directed to the top of the Air Piston keeping it down.

When the trigger is pressed, the throttle valve moves down to the PULL position, and pressurized air is directed to the bottom of the air piston, causing it to move upward (as shown above). The air above the air piston is exhausted and directed through the center of the throttle valve and out the bottom of the tool through the exhaust muffler.

As the hydraulic piston rod moves upward, a column of fluid is forced into 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 (RETURN) position. Pressurized air is re-directed to the top of the air piston (see above), causing it and the hydraulic piston rod to move downward.

The air from below the piston is exhausted through the exhaust muffler at the bottom of the tool. As the hydraulic piston rod moves downward and hydraulic pressure is released from the PULL piston, a spring behind the PULL piston returns it to its forward position.

The Damper Valve restricts the flow of fluid at pinbreak, thus preventing “tool kick.” The reservoir replenishes the hydraulic system as needed.
Preparation for Use

The 2012 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 90 psi (6.2 bar), capable of a flow rate of 2.9 CFM (170 l/m).

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

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 psi (6.2 bar), and connect the air hose to the air inlet connector and to the tool. Press and release the trigger a few times to cycle the tool.

4. Disconnect the air hose from the tool, and remove the retaining nut. Select the proper nose assembly for the fastener being installed.

5. Connect the air hose to the tool and install fasteners in a test plate of proper thickness with proper size holes. Inspect the fasteners.

WARNINGS:
As applicable, do not use without defectors or pintail bottles.

If defectors are removed or damaged, separated pintails may eject forcibly from rear of tool. Unshielded eyes, especially, may be permanently injured. Other severe injuries can be caused by flying pintails. If there is any chance of a projectile-like ejection, always point rear of tool in a safe direction, or be sure there is some structure that will stop ejecting pintails.

To avoid pinch points, be sure there is adequate clearance for tool and operator’s hands before proceeding. Tool moving toward structure may crush hands or fingers between tool and structure if clearance is limited.

CAUTION: Do not use TEFLON® tape on pipe threads. Tape can shred and break free into fluid lines, resulting in malfunctions. Threadmate® is available in a 4oz. tube from Huck (P/N 508517).

CAUTION: Insert Pintail Tube (P/N 124448-2) into tool ONLY when using a nose assembly that installs either -04 or -05 size fasteners. Jammed pintails and damage may result if pintail tube and fastener size do not correspond correctly.

If the fasteners do not pass inspection, consult the TROUBLESHOOTING section to investigate possible causes.
Operating Instructions

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

This section details installing Huck Blind Fasteners. Review all CAUTIONs and WARNINGs prior to installing these 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.

TO INSTALL A HUCK BLIND FASTENER:

1. Place a fastener in the workpiece or in the end of the nose assembly.

   NOTE: The tool or nose assembly must be held against, and at a right angle (90°) to, the workpiece.

2. Press and hold the trigger until the fastener is installed and the pintail breaks.

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.

CAUTIONS:
Fasteners will jam in the nose assembly if they are pulled when not in a workpiece.

To avoid structural and tool damage, be sure there is sufficient clearance for the nose assembly at full stroke.

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.

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 pin 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.

Pintail bottles must always be used with models 2012B and 2012V.

Do not pull on a pin without placing a fastener in a workpiece. Make sure that the collar chamfer is out, toward the tool. Pins eject with great velocity when pintails break off or teeth/grooves strip, which could cause serious injury.

To reduce the risk of serious personal injury, do not operate tool with a damaged pintail deflector or pintail bottle; replace these parts if they are damaged.

Wear approved eye and hearing protection. Ensure adequate clearance for operator’s hands before installing fasteners.

CAUTION: Ensure the tool has been properly re-assembled prior to use.
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® hydraulic power source will ensure proper operation of the tool and extend its life.

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

CAUTIONS:
Replace all seals, wipers, and rings when the tool is disassembled for any reason, and at regular intervals, depending on severity and duration of use.
Do not use TEFILON® tape on pipe threads. Tape can shred resulting in tool malfunction. Slic-tite® is available in stick form (Huck P/N 503237).

- 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), a brass drift and wood block, and a soft-jaw vise. See Kits & Accessories.
- 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. Follow the disassembly and assembly procedures in this manual; failure to do so could result in tool damage.
- Have the appropriate Spare Parts Service Kit (2012KIT [for 2012], 2012VKIT [for 2012B and 2012V]) available when servicing the tool; it includes important perishable parts. Other components, as experience dictates, should also be available. See Kits & Accessories.
- Apply Loctite® 243 Threadlocker (Huck P/N 508567) to gland threads. Apply Loctite® 271-05 (Huck P/N 503657) to nuts and locknut (P/N 505420); torque to 25–30 ft.-lbs.
- Smear LUBRIPLATE® 130-AA (Huck P/N 502723) or SUPER-O-LUBE® (Huck P/N 505476) on rings and mating parts to ease assembly.
- Apply Threadmate® (Huck P/N 508517) to pipe threads and quick-connect fittings.

DAILY
The 2012 series requires a minimum amount of maintenance. Regular inspection and correction of minor problems will keep the tool operating efficiently and prevent downtime.
- If a filter-regulator-lubricator unit is not being used, 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 (cracks, scoring, and springs) 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.
- Inspect hydraulic pistons and piston rods for scored surfaces, and excessive wear or damage; replace as necessary.
- 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. Check gripper teeth for damage.
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.

CAUTION: Damaged jaw teeth, or debris packed between teeth, will result in failure to install fastener or improperly installed fastener.

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.
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 7–10B.

1. Disconnect the tool from the air source.
2. Unscrew retaining nut and remove nose assembly. (Follow instructions on Nose Assembly Data Sheet.)
3. Unscrew the bleed plug (Figure 7), including O-ring from top of Handle/head. Drain the fluid into a container. Tool can be cycled to clear more completely. Discard the fluid.
5. Remove the throttle arm pivot screw and lift out the throttle arm. Disconnect the ball end of the cable assembly from the throttle arm. (Figures 8 & 9)
6. 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. Remove the end cap and bottom exhaust gasket. Remove the muffler from the end cap, and remove the spring from the throttle valve.
7. Tap the cylinder head down into the cylinder assembly and remove the retaining ring.
8. Screw the button-head screws into the cylinder head, and carefully pry on them to remove the cylinder head.
9. Use pliers to grip the self-locking nut and pull out the air piston and rod assembly from the cylinder. NOTE: Air Piston and rod should not be disassembled and reassembled. If the locknut loosens, apply Loctite 271-05; tighten to 25–30 ft.-lbs.
10. Remove bumper from gland assembly. Unscrew the gland with a 1-3/8” socket wrench and extension.
11. Remove the retaining ring from the gland. Pull out the spacer and Polysel.
12. Lift the cylinder from the handle/head.
13. Turn over the handle/head and drain fluid into container. Discard fluid.
14. Pull the throttle valve out of the cylinder assembly. NOTE: The throttle valve bushings do not typically require service.
15. Press out the lower and upper bushings. Use square-ended brass rods at least six inches long. With proper diameter rod, press out lower bushing first, and then press out upper bushing using a larger size rod.
16. Model 2012: Place handle/head securely in vise. Remove End Cap with 15/16” open end wrench. Extract Spring, Washer and Wiper Seal. Models 2012B and 2012V: See Special Disassembly Instructions for 2012B and 2012V (Figure 3).

WARNING: Disconnect the air hose from the tool before:
- Removing or attaching the nose assembly
- Performing maintenance on the tool or nose assembly
- Replacing tool components
The tool may be activated if it is connected and the cylinder is under pressure; serious personal injury could result.

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

CAUTION: The bushings in the cylinder must be replaced only if new throttle valve seals cannot correct an air leak.
Send the unit to an authorized repair center to have the bushings replaced.

WARNING: Disconnect the air hose from the tool before:
- Removing or attaching the nose assembly
- Performing maintenance on the tool or nose assembly
- Replacing tool components
The tool may be activated if it is connected and the cylinder is under pressure; serious personal injury could result.

CAUTION: Do NOT scratch, nick, or ding piston rod. This will cause permanent hydraulic leakage.

continued...
Disassembly (continued)

PISTON ASSEMBLY AND FRONT GLAND ASSEMBLY REMOVAL

1. Thread the Polyseal Insertion Tool (P/N 121694-202) into the Handle/head.
2. Slide the spacer (P/N 123112-2) onto the piston. Thread the Piston Assembly Tool (P/N 123111-2) onto the piston.
3. Use a brass drift to push out the piston from the front. Allow clearance, with stand-off, as the piston leaves the tool.
4. Remove the Piston Assembly Tool, spacer, and Polyseal Insertion Tool.
   NOTE: Inspect the piston for wear, scoring, and damage. Replace if necessary.
5. Unscrew the adapter (P/N 123761) with a wrench. Inspect all seals and parts; replace if necessary.
6. Remove trigger cable assembly by driving out the pin with a punch. Remove trigger pin to disconnect the cable from trigger.

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

Figure 2

NOTE: The Piston Assembly shown below (P/N 123774) is for illustrative purposes; Piston Assemblies differ between models.
Disassembly (continued)

Special Disassembly Instructions for 2012B & 2012V

1. Remove the vacuum tube from the cylinder. (2012V only)

2. Secure the head/handle in a vise. Rotate the pintail bottle until the retaining-ring holes are visible. Reach through the bottle window with TRUARC pliers (P/N 502857) and remove the retaining ring, and then remove the washer.

3. Remove the pintail bottle.

4. Remove the bottle adapter (and vacuum ON/OFF slide, 2012V only).

5. Remove the end cap assembly and spring.

6. Remove the washer and O-ring from the spring side of the end cap.

7. Remove the retaining ring on the bottle side of the end cap. Remove the spacer, wiper seal, washer, and O-ring.

8. Remove the O-rings from the vacuum ON/OFF slide. (2012V only)
Assembly

This procedure is for the assembly of the tool. For component identification, see Figures 5–12.

BEFORE RE-ASSEMBLING THE TOOL:

- Clean components with mineral spirits or a similar solvent. Inspect for wear/damage and replace as necessary.
- Use the O-rings, Quad-rings, and Back-up rings from the appropriate Huck Spare Parts Service Kit (P/Ns 2012KIT or 2012VKIT). 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 SUPER-O-LUBE® (Huck P/N 505476) on rings and mating parts to ease assembly.

NOTE: Replace all seals, wipers, and rings of disassembled components. These parts wear out over time, and replacement minimizes problems such as leaks.

TO RE-ASSEMBLE THE TOOL:

1. If the bushings were removed from the cylinder: Use an arbor press and apply Loctite #609 (P/N 503377) on bushings before pressing into cylinder. Place chamfered end of upper bushing in top of cylinder. Carefully press bushing squarely into cylinder. Repeat procedure for lower bushing.
2. Assemble the gland assembly. Replace the Polyseal, spacer, and retaining ring. NOTE: Note the orientation of the Polyseal in Figure 7.
3. Install the adapter into cylinder handle/head.
4. Thread the Polyseal Insertion Tool (P/N 121694-202) into the handle/head. Thread the Piston Assembly Tool (P/N 123111-4) onto the piston assembly.
5. Push the front gland assembly (except for wiper) onto the piston. Then slide the wiper onto piston.
6. Gently push the assembled components into the handle assembly from the rear using a press, or a soft mallet and wood or brass drift.
7. Remove the Piston Assembly Tool and Polyseal Insertion Tool.
8. Model 2012: Assemble spring, spacer, rear wiper seal and end cap into handle/head.
   Models 2012B and 2012V: Reverse the instructions in the Special Disassembly Instructions for 2012B and 2012V section.
9. Position cable assembly in trigger slot and push dowel pin through holes in trigger and cable assembly. Position assembled trigger in handle and drive roll pin through holes in handle and trigger.
10. Secure the handle assembly upside-down in a soft-jaw vise. Place the inverted cylinder assembly on the base of the handle. The timing pin maintains the orientation.
11. Apply Loctite® 243™ to the threads of the gland assembly. Screw the gland assembly into the handle/head. Use a 1-3/8” socket wrench to tighten and torque to 36–66 ft.-lbs.
12. Push the bumper firmly over the gland. (The slots must face the bottom of the tool.)
13. Clean the piston rod threads and apply Loctite® 243™. Carefully press the assembled air piston and piston rod into the cylinder just enough to allow installation of the cylinder head assembly.
14. 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; align the screw holes with the muffler end cap.
15. Position the muffler in the center of the cylinder head. Position the gasket on the cylinder assembly, taking care to note the direction of the lip.
16. Carefully position the muffler end cap on the cylinder, making sure that it is properly positioned in the recess of the bottom plate. Secure the muffler end cap with the three button head screws using a 1/8” hex key.
17. Place the tool upright on a level surface. Drop the spring into the throttle valve hole in the cylinder, and push the throttle valve assembly into the cylinder.
18. Place the ball end of the cable assembly in the end of throttle arm. Slide throttle arm into slot on cylinder.
19. Insert the pivot screw into the cylinder to retain the throttle arm.

The tool is now assembled and must be filled with hydraulic fluid prior to use. See the Fill and Bleed section. NOTE: Install the bleed plug and O-ring assembly after that process.
Fill and Bleed

This section documents the “bleed-&-fill” procedure. For component identification, see Figures 4–4b.

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.

REQUIRED EQUIPMENT
DEXRON® III or equivalent ATF (See Specifications for more information.)
Shop air-line with 90 psi (6.2 bar) max.
Air regulator
Fill Bottle Assembly (P/N 120337, included with tool)
Large flat-blade screwdriver
Nose Assembly or optional Stall Nut (P/N 124090) NOTE: The stall nut is used to load the tool during bleeding and for measuring tool stroke.
- Fasteners (optional)

PREPARATION

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.

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. (Figure 4)

TO BLEED AND FILL THE TOOL:

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

Never cycle the tool without:
Bleed plug tightened in the fill port
Fill bottle securely attached to the tool, or
Fill port is held over a container. (Figure 4a)

When not properly contained, any fluid in the tool will spray out. Severe injury may result.

1. Connect tool to the air supply to seat air piston at the bottom of air cylinder; then disconnect. Lay the tool on its side with fill port facing up.
2. Use a screwdriver to remove the bleed plug from the fill port. Screw the fill bottle into the fill port.
3. Connect the tool to the air supply and stand it upright. Cycle the tool 20–30 times; watch for air bubbles escaping into the bottle. NOTE: Rock tool to free trapped air. Do not allow air to re-enter tool. When cycling the tool, always hold fill bottle at a right angle (90°) to it (Figure 4b) to prevent drawing in air.
4. When air bubbles stop accumulating in the fill bottle, stop cycling the tool. When the trigger is released, the pull piston returns to the idle (full forward) position. Disconnect the tool from the air supply.
5. Lay the tool on its side, and remove the fill bottle. Carefully add fluid to “top off” the fluid in the fill port. Insert and tighten the bleed plug.
6. Connect the tool to the air supply to check the tool stroke. NOTE: There are two procedures for measuring tool stroke: with and without a stall nut. See Measuring Tool Stroke. If the tool stroke is less than the recommended minimum length, remove the bleed plug and add fluid. Then re-insert the bleed plug and re-check the stroke.

continued...
Fill and Bleed (continued)

The fluid level may drop slightly. If so, repeat these steps until the fluid level does not drop when the tool is cycled. **NOTE: This usually requires 3 or 4 repetitions.**

When the tool stroke is as recommended:
1. Increase the air pressure according to the tool specification.
2. Install two fasteners to check function and installation in a single stroke (or cycle the tool with the stall nut fully threaded onto the piston to load up the tool).
3. Re-measure the stroke.

Repeat this process as necessary until the tool stroke is at the minimum requirement length.

**BLEED PROCEDURE FOR PARTIALLY FILLED TOOL IN FIELD USE**

**WARNINGS:**
Air pressure must be at 20–40 psi (1.4–2.8 bar) to prevent possible injury from high-pressure spray.

*Never cycle the tool without:*
- Bleed plug tightened in the fill port
- Fill bottle securely attached to the tool, or fill port is held over a container. (Figure 4a)

*When not properly contained, any fluid in the tool will spray out. Severe injury may result.*

1. Disconnect the tool from the air supply. Lay tool on its side with fill port facing up.
2. Remove the bleed plug from the fill port, and position fill port over suitable container. (Figure 4a)
3. Connect the tool to the air supply and cycle it several times to drain fluid, air, and foam.
4. Screw the fill bottle into the fill port.
5. Connect the tool to the air supply, with the pressure set at 20–40 psi (1.4–2.8 bar).

6. Stand tool upright. Hold the fill bottle at a right angle (90°) to the tool, and cycle the tool 20–30 times; watch for air bubbles escaping into the bottle. (Figure 4b)

7. When air bubbles stop accumulating in the fill bottle, stop cycling the tool. When the trigger is released, the pull piston returns to the idle (full forward) position. Disconnect the tool from the air supply.
8. Lay the tool on its side, and remove the fill bottle. Carefully add fluid to “top off” the fluid in the fill port. Insert and tighten the bleed plug with a screwdriver.
9. Connect the tool to the air supply to check the tool stroke. **NOTE: There are two procedures for measuring tool stroke: with and without a stall nut. See Measuring Tool Stroke.**

If the tool stroke is less than the recommended minimum length, remove the bleed plug and add fluid. Then re-insert the bleed plug and re-check the stroke. The fluid level may drop slightly. If so, repeat these steps until the fluid level does not drop when the tool is cycled. **NOTE: This usually requires 3 or 4 repetitions.**

When the tool stroke is as recommended:
1. Increase the air pressure according to the tool specification.
2. Install two fasteners to check function and installation in a single stroke (or cycle the tool with the stall nut fully threaded onto the piston).
3. Re-measure the stroke.

Repeat steps 1–9 as necessary until the tool stroke is at the recommended minimum length.
Measuring Tool Stroke

NOTE: Remove the Nose Assembly from the tool for both of the following procedures.

WITH A STALL NUT
1. Disconnect the tool from the air-line and remove the nose assembly.
2. Reconnect the tool to the air-line. Press and hold the trigger to cycle the piston fully to the rear of the tool (the end of the PULL stroke). Thread the stall nut onto the piston until it contacts the adapter bushing.
3. Release the trigger. The stall nut will move forward with the piston. (Figure 5)
4. Measure the \( X \) dimension. (This is the tool stroke.) If the stroke is less than 0.650 in (1.65 cm), follow the steps at the end of the Fill and Bleed procedure.

WITHOUT A STALL NUT
1. Disconnect the tool from the air-line and remove the nose assembly.
2. Reconnect the tool to the air-line. Press and hold the trigger to cycle the piston fully forward (the end of the RETURN stroke). Measure and record the \( Y \) dimension. (Figure 6)
3. Press and hold the trigger; the piston is now fully to the rear of the tool (the end of the PULL stroke). Measure and record the \( X \) dimension. (Figure 6)
4. Subtract \( X \) from \( Y \).
   \[
   \text{Stroke} = Y - X \quad (\text{This is the tool stroke.})
   \]
If the stroke is less than 0.650 in (1.65 cm), follow the steps at the end of the Fill and Bleed procedure.
Figure 7

116134-1 Gland Assembly
Tighten and torque to 36–66 ft.-lbs.

NOTES:

* Cylinder Head Assembly 123778-1 includes:
  ---- Cylinder Head (not sold separately)
  500864 O-Ring

* Throttle Valve Assembly 125472-2 includes:
  ---- Throttle Valve (not sold separately)
  507396 O-Ring (qty. 3)

* Note orientation of Wipers and Polyseals.

** When Cylinder Assembly is replaced, stickers (590350, 590351, and 590347) MUST be purchased and placed as shown in Figure 13.
**Tool Head (2012 & 2012B)**

Notes:

- **Piston Assembly 123774** includes:
  - 124258 Piston (not sold separately)
  - 506160 Polyseal
  - 506653 Retaining Ring
  - 506654 Washer
- **Front Gland Assembly 123775** includes:
  - 123757 Front Gland (not sold separately)
  - 122432 Gland Cap
  - 505818 Polyseal
  - 500816 O-Ring
  - 501110 Back-up Ring
  - 505817 Wiper
- **Pintail** to be used ONLY for -04 and -05 size fasteners.

*Note orientation of Wipers and Polyseals.*

**WARNING Sticker MUST be purchased and placed as shown any time it becomes worn, lost, or damaged or if Handle/Head is replaced.*

2012 Head / Handle

2012B Head / Handle

*All components same as 2012 except as shown here.*
Tool Head (2012V)

*Note orientation of Wipers and Polyseals.

Notes:
- Piston Assembly includes:
  - 124258-1 Piston (not sold separately)
  - 506160 Polyseal
  - 506653 Retaining Ring
  - 506654 Washer

- Front Gland Assembly includes:
  - 123757 Front Gland (not sold separately)
  - 122432 Gland Cap
  - 505818 Polyseal
  - 500816 O-Ring
  - 501110 Back-up Ring
  - 505817 Wiper

- Pintail to be used ONLY for -04 and -05 size fasteners.
Tool Head, Top View (2012)

Figure 9a
Tool Components (2012OS)

Figure 10a

104293 Bleed Plug Assembly
505438 O-ring

506576 Plug & Gasket Assembly
125116 Guard

500779 O-ring (2)
500778 O-ring

507164 Swivel Assembly

SECTION B-B

125467-2 Throttle Valve
123754-1 Throttle Arm

507396 O-ring (3)

B

116272 Spring

A
**Tool Components (2012OS)**

1. **Nose Adapter**
2. **Jam Nut**
3. **Piston**
4. **Trigger Pin**
5. **Dowel Pin**
6. **Retaining Ring**
7. **HUCK Sticker**
8. **Washer**
9. **Polyseal**
10. **Spring**
11. **WARNING Sticker**
12. **Back Cap**
13. **Washer**
14. **Wiper Seal**
15. **O-ring**
16. **Polyseal**
17. **Wiper**
18. **Back-up Ring**
19. **Gasket**
20. **Bottom Plate**
21. **Screw** 3
22. **Muffler**
23. **Wiper Seal**
24. **Washer**
25. **Back-up Ring**
26. **Gasket**
27. **Trigger**
28. **Cable Assembly**
29. **Dowel Pin**
30. **Trigger Pin**
31. **Piston Rod**
32. **Piston**
33. **Cylinder Assembly**
34. **Gland Assembly**
35. **Cylinder Head**
36. **Bottom Plate**
37. **Muffler**
38. **Screw** 3

**Note orientation of Wipers and Polyseals.**

**WARNING sticker (590240-1)** MUST be purchased and placed as shown when it becomes worn, lost, or damaged, or if **Handle Assembly (123766)** is replaced.

**When Cylinder Assembly (125471) is replaced, stickers (590350, 590351, and 590347) MUST be purchased and placed as shown in Figure 13.**
Piston & Front Gland Assemblies

Figure 11

Removing the Piston Assembly and Front Gland Assembly

Figure 12

Installing the Piston Assembly and Front Gland 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.

1. **Tool fails to operate when trigger is pressed.**
   a. Worn or damaged throttle valve O-rings.
   b. Air pressure too low.
   c. Broken throttle cable assembly.

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, causing short stroke. See the Fill and Bleed section.
   d. Air in hydraulic system. See the Fill and Bleed section.
   e. Collet backed off from piston.

3. **Hydraulic fluid exhausts with air.**
   a. Worn or damaged O-rings, Polyseal, and/or Quad-ring in Gland Assembly (P/N 116134-1).

4. **Hydraulic fluid leaks at Cylinder Head End Cap.**
   a. Worn or damaged pull piston O-ring or Back-up ring. Inspect all rings. Replace if necessary.

5. **Hydraulic fluid leaks at pull piston rod.**
   a. Worn or damaged front gland Polyseal and wiper, and/or O-ring.

6. **Pull piston will not return.**
   a. Broken or weak return spring.
   b. Collet backed off from Piston.

7. **Air leaks at air cylinder head.**
   a. Worn or damaged cylinder head O-ring. Replace if necessary.

Kits & Accessories

Huck has created product-specific Spare Parts Service Kits that contain various perishable parts. 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**

**SERVICE KITS**
- 2012KIT (2012 & 2012B)
- 2012VKIT (2012V)

**ASSEMBLY TOOL KIT**
- Polyseal Insertion Tool - 123110-5
- Piston Assembly Tool - 123111-4
- Spacer - 123112-3

**ACCESSORIES 2012 SERIES**
- Stall Nut Assembly - 124090-2
- Fill Bottle - 120337
- Pintail Collection Bag - 125652 (Figure 14)

**STANDARD TOOLS AVAILABLE FROM HUCK**
- 1/8” hex key (P/N 502294), use on button-head screw (P/N 504127)
- 5/32” hex key (P/N 502295), use on socket-cap screw (P/N 123756)
- TRUARC™ pliers (P/N 502866), use on retaining ring (P/N N5100-100)
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.

<table>
<thead>
<tr>
<th>Eastern</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Corporate Drive</td>
</tr>
<tr>
<td>Kingston, New York</td>
</tr>
<tr>
<td>12401-0250</td>
</tr>
<tr>
<td>Telephone (845) 331-7300</td>
</tr>
<tr>
<td>FAX (845) 334-7333</td>
</tr>
</tbody>
</table>

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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