Alcoa Fastening Systems

ALCOA

INSTRUCTION MANUAL

2012 ALL MODELS

PNEUDRAULIC INSTALLATION TOOL

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

03-19-2012
HK969

HUCK®

EC Declaration of Conformity

Manufacturer:
Alcoa Fastening Systems, Industrial Products Group, 1 Corporate Drive, Kingston, NY, 12401, USA

Description of Machinery:
Models 2012, 2013, 2014, 2015 series pneudraulic installation tools and specials based on their designs (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 (EN 792-1)

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: Larry M. Krieg

Position: Product Engineer
Installation Systems Division

Place: Kingston, New York, USA

Date: March 2012

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 15744, using as basic standards ISO 3744 and ISO 11203. The sum of a measured noise emission value and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements.

Declared vibration emission values in accordance with EN 12096	
Measured Vibrations emission value, *a*:	**1.573** m/s^2
Uncertainty, K:	**.394** m/s^2
Values measured and determined according to ISO 28662-1, ISO 5349-2, and EN 1033	

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

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Safety Instructions

GLOSSARY OF TERMS AND SYMBOLS:

- Product complies with requirements set forth by the relevant European directives.
- **READ MANUAL** prior to using this equipment.
- **EYE PROTECTION IS REQUIRED** while using this equipment.
- **HEARING PROTECTION IS REQUIRED** while using this equipment.

WARNINGS: Must be understood to avoid severe personal injury.

CAUTIONS: show conditions that will damage equipment and or structure.

Notes: are reminders of required procedures.
***Bold, Italic type and underlining*:** emphasizes a specific instruction.

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. Repairman and Operator must read manual prior to using equipment. Warning and Caution stickers/labels supplied with equipment must be understood before connecting equipment to any primary power supply. As applicable, each of the sections in this manual have specific safety and other information.
4. Read MSDS Specifications before servicing the tool. MSDS Specifications are available from the product manufacturer or your Huck representative.
5. When repairing or operating Huck installation equipment, always wear approved eye protection. Where applicable, refer to ANSI Z87.1 - 2003
6. Only genuine Huck parts shall be used for replacements or spares. Use of any other parts can result in tooling damage or personal injury.
7. If a part affixed with warning labels is replaced, or labels are missing or damaged, the end user is responsible for replacement. Refer to assembly drawing and parts list for replacement part number and proper placement.
8. Disconnect primary power source before performing maintenance on Huck equipment or changing Nose Assembly.
9. Tools and hoses should be inspected for leaks at the beginning of each shift/day. If any equipment shows signs of damage, wear, or leakage, do not connect it to the primary power supply.
10. Mounting hardware should be checked at the beginning of each shift/day.
11. Make sure proper power source is used at all times.
12. Release tool trigger if power supply is interrupted.
13. Tools are not to be used in an explosive environment unless specifically designed to do so.
14. Never remove any safety guards or pintail deflectors.
15. Where applicable, ensure deflector or pintail collector is installed and operating prior to use.
16. Never install a fastener in free air. Personal injury from fastener ejecting may occur.
17. Where applicable, always clear spent pintail out of nose assembly before installing the next fastener.
18. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.
19. 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.
20. Unsuitable postures may not allow counteracting of normal expected movement of tool.
21. 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 in preventing an accident which may cause severe personal injury.
22. Never place hands between nose assembly and work piece. Keep hands clear from front of tool.
23. There is a risk of crushing if tool is cycled without Nose Assembly installed.
24. Tools with ejector rods should never be cycled with out nose assembly installed.
25. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet for correct positioning.
26. Tool is only to be used as stated in this manual. Any other use is prohibited.
27. There is a risk of whipping compressed air hose if tool is pneudraulic or pneumatic.
28. Release the trigger in case of failure of air supply or hydraulic supply.
29. Use only fluids or lubricants recommended.
30. Disposal instruction: Disassemble and recycle steel, aluminum and plastic parts, and drain and dispose of hydraulic fluid in accordance with local lawful and safe practices.
31. If tool is fixed to a suspension device, ensure that the device is secure prior to operating the tool.

Description

The Model 2012 series tools are lightweight, high speed production tools designed to install:

- -04 through -06 diameter HUCK-KLINCH® fasteners (including oversize HUCK-KLINCH)
- -04 through -06 UNIMATIC® blind rivets
- Any other

The 2012V, with vacuum boost selector switch ON, has two functions:

1. With tool in any position, vacuum holds fastener firmly in nose assembly.
2. Vacuum expels broken pintail into pintail collector.

Pulling action of the pull piston is provided by a pneumatic-hydraulic (pneudraulic) intensifier system powered by 90 psi 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. The piston return stroke is spring actuated.

Specifications

POWER SOURCE:
90psi MAX shop air

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

HYDRAULIC FLUID:
ATF meeting DEXRON III, DEXRON IV, MERCON, Allison C-4 or equivalent specifications.
Fire resistant hydraulic fluid may also be used, and is required to comply with OSHA regulation 1926.302 paragraph (d): "the fluid used in hydraulic power tools shall be fire resistant fluid approved under schedule 30 of the US Bureau of Mines, Department of Interior, and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed."

MAX OPERATING TEMP:
125°F (51.7°C)

MAX FLOW RATE:
2.9 scfm (170 l/m)

MAX INLET PRESSURE:
90 psi (6.2 bar)

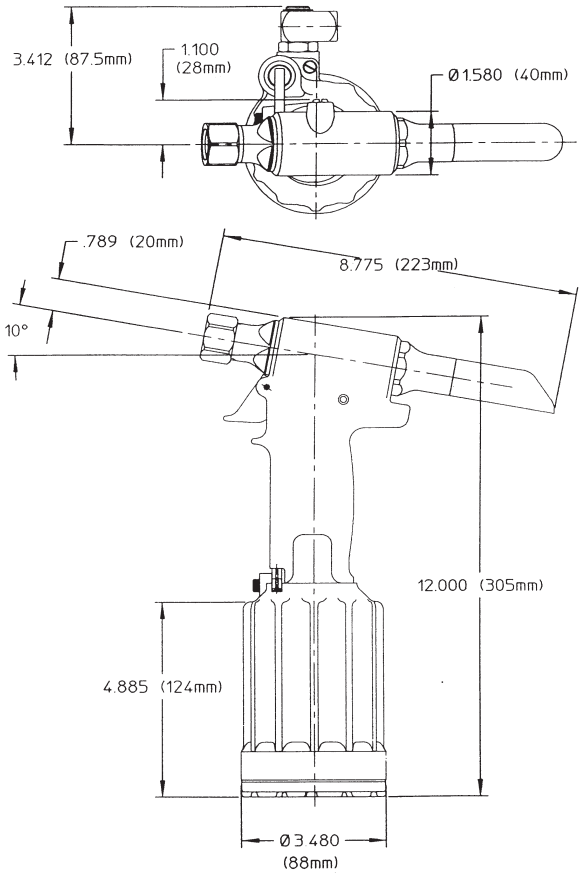
MIN PULL CAPACITY:
2670 lbs (11.88 kN) @ 90 psi

MIN STROKE:
.650 inches (1.65 cm)

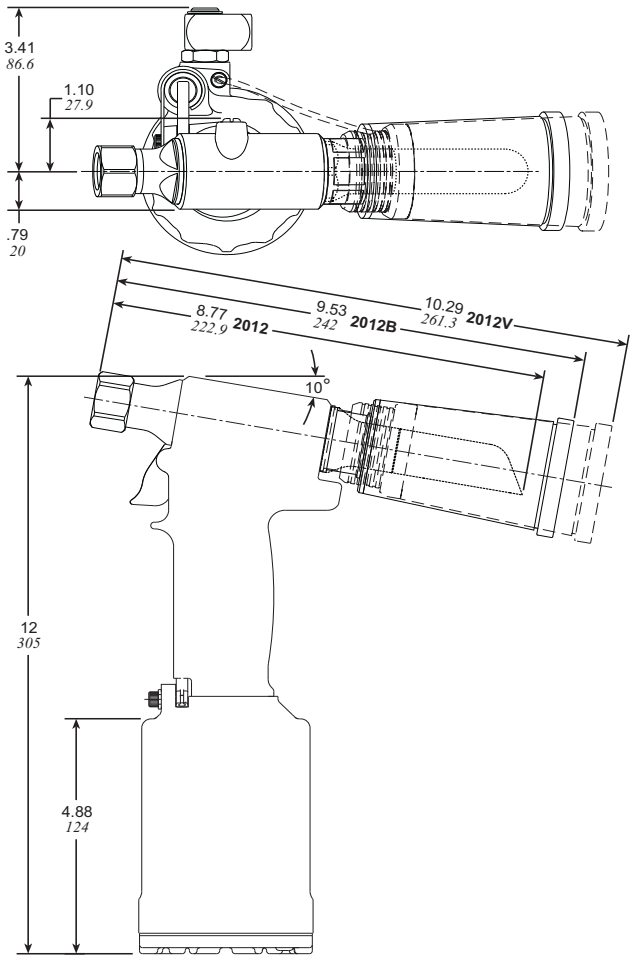
SPEED/CYCLES:
20 per minute

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

SPECIFICATIONS *continued*



2012



2012B & 2012V

Principle of Operation

Fig. 2

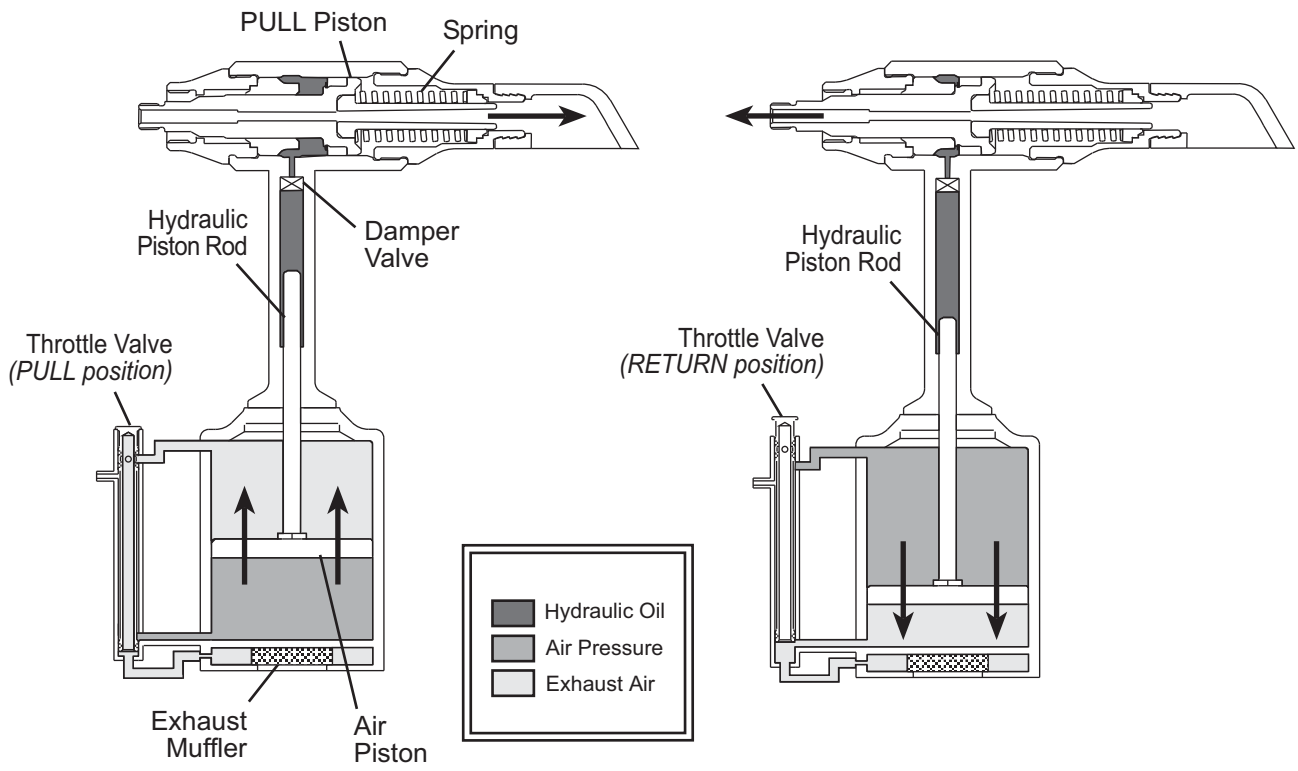


Fig. 2a

Fig. 2b

When the tool is connected to the air supply, air pressure holds the **Throttle Valve** in the UP position, and air pressure is directed to the top of the **Air Piston** keeping it down.

When the trigger is depressed, the **Throttle Valve** moves to the DOWN position, and pressurized air is directed to the bottom of the **Air Piston**, causing the it to move upward (Fig.2a). The air above the piston is exhausted and directed through the center of the **Throttle Valve** and out the bottom of the tool through the **Muffler**.

As the **Hydraulic Piston Rod** moves upward, a column of fluid is forced into the tool head, which moves the **PULL Piston** rearward. The attached nose assembly moves with the **PULL Piston** to start fastener installation.

When fastener installation is completed, and upon trigger release, air pressure with the assistance of a spring causes the **Throttle Valve** to return to its UP position.

Pressurized air is re-directed to the top of the **Air Piston** (Fig.2b), causing the **Air Piston** and **Hydraulic Piston Rod** to move downward. The air from below the piston is exhausted through the **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** impedes oil flow at pinbreak helping prevent “Tool Kick”.

Preparation for Use

WARNING

As applicable, do not use without deflectors or pintail bottles. **If deflectors 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.**

WARNING

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.

The 2012 is shipped with a plastic plug in the air inlet connector. Connector has 1/4-18 female pipe threads to accept the hose fitting. Quick connect fittings and 1/4 inch inside diameter air hose are recommended. An air supply of 90-100 psi, capable of 2.9 CFM, must be available. Air supply should be equipped with a filter-regulator-lubricator unit.

1. Remove plastic plug from air inlet connector and drop in a few drops of Automatic Transmission Fluid, DEXRON III, or equivalent.
2. Screw quick-connect fitting into air inlet connector.
3. Set air pressure on regulator to 90-100 psi.
4. Attach optional air hose, part number 115436 (supplied with tool), to air inlet connector.
5. Connect air hose to tool.
6. Cycle tool a few times by depressing and releasing trigger.
7. Disconnect air hose from tool.
8. Remove retaining nut.
9. Select correct nose assembly from the available SELECTION CHARTS or speak with your Huck representative.

CAUTION: Insert Pintail Tube 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.

NOTE: Quick disconnect fittings and air hoses are not available from Huck.

Operating Instructions

NOTE: 2O12V is sold with the ribbed vacuum control ON/OFF slide in the forward or OFF position. See *FIGURE 6* for slides location which is shown in the ON (rear) position. While Tool is not being used, move slide to the OFF (forward) position to prevent unnecessary air loss.

Blind Fastener Installation:
The Fastener may be placed either in the work hole or in the end of the Nose Assembly. In either case, Tool and Nose Assembly must be held against work and at right angles to it. Depress Trigger and hold it depressed until Fastener is installed and Pintail breaks. Release Trigger.

WARNING

Inspect tool for damage before each use. Do not operate if damaged as severe personal injury may occur.

Broken pintails eject from deflector with speed and force. *Be sure pintail deflector is directed safely away from operator or other personnel in the area. Ejecting pintails striking anyone may cause serious personal injury. For Models 2012B and 2012V, pintail bottles must always be used. Replace damaged pintail deflectors and bottles as serious personal injury may occur from pintails when using these defective parts.*

MAINTENANCE

GOOD SERVICE PRACTICES

Service Kits **2012KIT** *and* **2012VKIT** include perishable parts and should be kept on hand at all times. Other components, as experience dictates, should also be kept for replacements. ***Always replace O-Rings and Back-up Rings when tool is disassembled for any reason.***

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

A clean, well-lit area should be available for servicing the tool. Special care must be taken to prevent contamination of pneumatic and hydraulic systems. Proper hand tools and soft materials to protect tools must be available. Use only standard hand tools, brass drift and wood block. Vise with soft jaws should be available. Unsuitable hand tools will cause installation tool damage. All parts must be handled carefully and examined for damage and/or wear. Components should be disassembled and assembled in a straight line without bending, cocking or undue force. Disassembly and assembly procedures outlined in this manual should be followed. If Huck recommended procedures are not followed, the tool may be damaged.

Rub Slic-tite®* with PTFE thread compound, or equivalent, on pipe plug threads and quick connect fitting.

CAUTION: Do not use TEFLON®* tape on pipe threads. Pipe threads may cause tape to shred resulting in tool malfunction. (Slic-tite is available in stick form, as part number 503237, from Huck.)

Smear LUBRIPLATE® 13OAA*, or equivalent lubricant, on O-Rings and mating surfaces to aid assembly and to prevent damage to O-Rings. (LUBRIPLATE 13O-AA is available in a tube as Huck P/N 502723.)

Use Never-Seez®* Lubricating Compound (Huck P/N 508183), or equivalent anti-seize compound, on Gland Housing Assy, Huck P/N 116134-1, threads. Torque to 50 ft. lbs.

Apply Loctite®* #271 Adhesive/sealant to Locknut 505420. (Loctite is available from Huck in a tube as P/N 503657.) Torque to 25-30 ft. lbs.

STANDARD TOOLS AVAILABLE FROM HUCK

1/8 hex key 502294 used on button head screw 504127.

5/32 hex key 502295 used on socket cap screw 123756.

(0400) TRUARC®* pliers 502866 used on (N5100-l00) retaining ring.

TOOL MAINTENANCE

The 2012 series require a minimum amount of maintenance. Regular inspection and correction of minor problems will keep the tool operating efficiently and prevent downtime.

Using filter-regulator-lubricator unit is highly recommended for safe and reliable tool operation. If a filter-regulator-lubricator unit is not being used in the air supply: (1) Remove hose fitting from air inlet connector and drop in a few drops of automatic transmission fluid or light oil. (2) Blow out air line to remove dirt and water before connecting air hose to tool. At regular intervals, depending upon use, replace all seals in tool. Service Kits should be kept on hand. Inspect both hydraulic pistons, and their piston rods for scored surfaces, excessive wear or damage, and replace as necessary.
Always replace seals and back-up rings when tool is disassembled for any reason to assure proper sealing and tool function.

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

NOSE ASSEMBLY MAINTENANCE

Frequently cleaning the nose assembly is recomended. Remove nose assembly from tool and disassemble. See DISSASSEMBLY section. Check components for any signs of damage, e.g. cracks, scores and spring damage. Check gripper teeth for damage. Remove any debris packed between teeth with a sharp pointed 'pick'. Periodically dip nose, while cycling tool, in mineral spirits, isopropyl alcohol or other suitable solvent, to clean jaws and wash away metal chips and dirt.

*

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

TEFLON is a registered trademark of E. I. du Pont de Nemours and Company

Loctite is a registered trademark of Henkel Corporation, U.S.A.

TRUARC is a trademark of TRUARC Co. LLC

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

LUBRIPLATE is a registered trademark of Fiske Brothers Refining Co.

Disassembly

WARNING

Air hose must be disconnected before:

- **Removing or attaching nose assembly.**
- **Cleaning tool and/or nose assembly.**
- **Replacing worn or damaged tool components.**

Tool may be activated if not disconnected and cylinder is under pressure. Fingers may be severely pinched/lacerated. Other severe personal injury may result.

The following procedure is for complete disassembly. Disassemble only subassemblies necessary to check and replace damaged or worn seals, wipers, back-up rings and other components.
Always replace seals, wipers, and back-up rings of disassembled sub-assemblies.

1. Disconnect tool from air source.

2. Unscrew Retaining Nut and remove nose assembly.

3. Unscrew Bleed Plug (*Figure 7*), including O-ring, from top of Handle/head. Turn tool over and allow fluid to drain into container. Tool may be cycled to clear tool more completely. Discard fluid.

4. Pull Pintail Deflector off End Cap.

5. Remove Throttle Arm Pivot Screw and lift out throttle arm. Disconnect ball end of Cable Assembly from throttle arm. (*Figures 8 & 9*)

6. Hold tool in vise with bottom up. Remove Button Head Screws (3) with 1/8 hex key. Remove End Cap and Gasket. Remove Muffler from end cap. Remove Spring from Throttle Valve.

7. To loosen Cylinder Head Retaining Ring in Cylinder, tap Cylinder Head with mallet. Remove Retaining Ring.

8. Screw Button Head Screws back into Cylinder Head, and carefully pull or pry on screws to remove head.

9. To remove air piston from cylinder, pull on Locknut with vise-grip pliers. **Note: Air piston and rod should not be disassembled. If Locknut loosens, apply LOCTITE #271 and tighten to 25-30 ft. lbs.**

CAUTION:Do not scratch, nick or ding Piston Rod. This will cause permanent hydraulic leakage.

10. Remove Bumper from Gland Assembly. Unscrew gland with 1 3/8 socket wrench and extension bar.

11. Remove Retaining Ring from Gland. Pull out Spacer and Polyseal.

12. Lift Cylinder from Handle/head.

13. Turn Handle/head over and drain fluid into container. Discard fluid.

14. Pull Throttle Valve out of Cylinder. Note: *Service on Throttle Valve Bushings is not normally required.*

CAUTION:Only if air leakage is not correctable with new Throttle Valve Seals, Bushings should be replaced in Cylinder.

15. Press out Lower Bushing and Upper Bushing. 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. **2012:** Place handle/head securely in vise. Remove End Cap with 15/16" open end wrench. Extract Spring, Washer and Wiper Seal.
2012B or 2012V: See Special Disassembly Instructions in Figure 3 for 2012B and 2012V on next page.

CAUTION: If Piston Seals and Gland Seals must be reused, help prevent damaging them by installing optional Polyseal Insertion/removal Tool (121694-202) in rear of Handle/head.

Removal of Piston and Front Gland (*Figure 10*)

17. Thread Polyseal Insertion/removal Tool, 121694-202, into Handle/head.

18. Slide Spacer, 123112-2, onto piston. Thread Piston Assembly (bullet) Tool, 123111-2 onto piston.

continued

Disassembly *continued*

19. Push complete piston from front using brass drift. Allow clearance, with stand-off, for piston as it leaves tool.

20. Remove Piston Assembly Bullet, Spacer and Polyseal Insertion/removal Tool. **NOTE: Inspect hydraulic piston for wear, scoring or damage. Replace when necessary.**

21. Unscrew Adapter, 123761, with wrench.

22. Inspect all seals and parts.

23. Remove trigger cable assembly by removing pin with parallel punch. Remove dowel pin to disconnect cable from trigger.

Special Disassembly Instructions for 2012B and 2012V

Figure 3

1. Remove Vacuum Tube from Cylinder. (2015V only)

2. Place handle/head securely in vise.Use 0100 TRUARC pliers, 502857, to remove retaining ring. Reach through window of pintail bottle. Remove washer.

3. Remove pintail bottle.

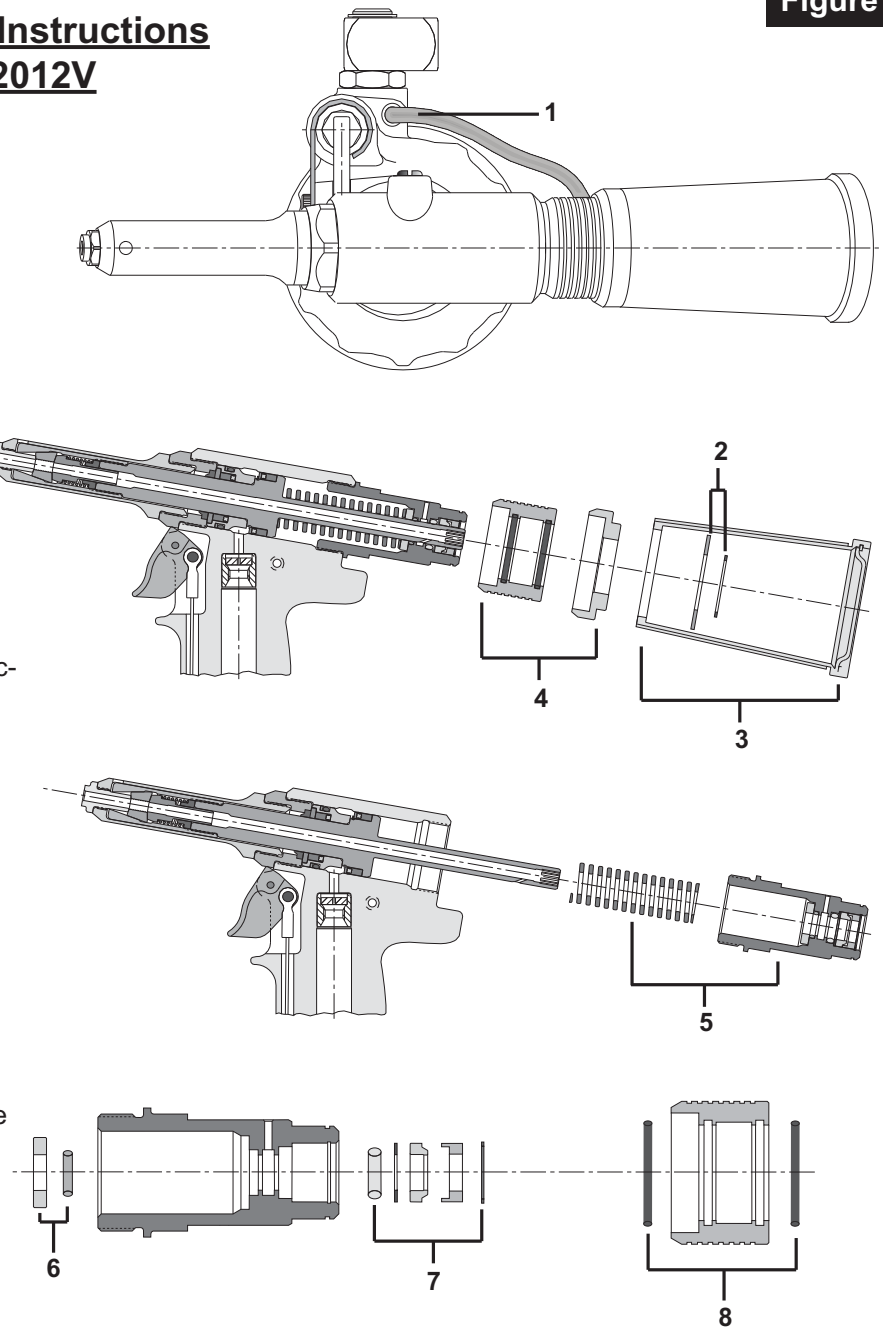
4. Remove bottle adapter and vacuum ON/OFF slide.

5. Remove end cap assembly and spring.

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

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

8. Remove O-rings from ON/OFF slide.



Assembly

See *MAINTENANCE: GOOD SERVICE PRACTICE.* Clean all components with mineral spirits, and inspect for wear or damage. Replace as necessary. Use seals, wipers and back-up rings supplied in *SERVICE KIT, 2012KIT* and *2012VKIT* -see NOTES. Smear LUBRIPLATE 130AA or PARKER-O-LUBE on seals.

CAUTION: Always replace all seals, wipers and back-up rings on/in disassembled components. These parts wear from friction and deteriorate with age. Replacement prevents potential leakage.

Figures 3 through 12.

1. ***If Bushings have been removed from cylinder:***
   Use an arbor press and apply LOCTITE #609, (503377) on bushings before being pressed 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 Gland Assembly after replacing Polyseal, Spacer and Retaining Ring. *Figure 8*. ***NOTE: Cup of POLYSEAL must face toward top of tool when installed in Gland.***

3. Install Adapter into cylinder handle/head.

4. Thread Polyseal insertion/removal tool, 121694-202 into handle/head.

5. Thread Piston Assembly Tool 123111-4, onto Piston Assembly.

6. Push front gland assembly onto piston, as shown.

7. Slide wiper onto piston, as shown.

8. Push assembled components in gently from rear of tool using a press or soft mallet and wood or brass drift.

9. Remove Piston Assembly Tool and Polyseal Insertion/removal Tool.

10. **For 2012:** Assemble Spring, Spacer, Rear Wiper Seal and End Cap into handle/head.
    For 2012B or 2012V: Reverse the disassembly instructions in the Special Disassembly Instructions for 2012B and 2012V in the Disassembly section.

11. Position Cable Assembly in Trigger slot and push Dowel Pin through holes in trigger and cable assembly. Position assembled trigger in handle and drive Pin through holes in handle and trigger.

12. Hold handle/head in vise with lower end pointing up. Turn cylinder bottom up, and position on handle by lining up cylinder pin with handle hole.

13. Apply Never-Seez or equivalent to threads of Gland Assembly. Screw gland into head/handle. Using a 1 3/8 socket wrench, tighten gland to 75-80 ft. lbs.

14. Push Bumper firmly over gland, slots must face toward bottom of tool.

15. Lubricate piston rod. Press assembled air piston/piston rod into cylinder just enough to allow installation of cylinder head.

16. Push Cylinder Head squarely into cylinder taking care not to damage O-ring. Install Retaining Ring. Align screw holes with muffler end cap.

17. Position Muffler in center of cylinder head. Position Gasket on cylinder.

18. Carefully position Muffler End Cap on cylinder. ***Be certain that muffler is properly positioned in recess of muffler end cap.***

19. Muffler end cap is secured with three Button Head Screws. Tighten with 1/8 hex key.

20. Place tool upright on level surface. Drop Spring into throttle valve bore in cylinder. Push Throttle Valve into cylinder.

21. Place ball end of Throttle Cable in end of Throttle Arm.

22. Slide Throttle Arm into slot on Cylinder.

23. Install Pivot Screw in cylinder to retain Throttle Arm.

24. Follow **Filling and Bleeding Procedure** of this manual to fill tool.

25. Install Bleed Screw afte filling and bleeding procedure.

Filling and Bleeding Procedure

Equipment Required:

- Shop airline with 90 - 100 psi max.
- Air regulator
- Fill Bottle 120337 (supplied with tool).
- Large flat blade screwdriver
- Nose assembly or optional Stall Nut
- Fasteners (optional)
- Optional Stall Nut, part no. 124090. *(Stall nut is used to load tool during bleeding and for measuring stroke.)*

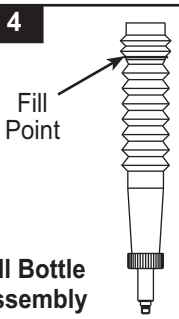
Preparation:

1. Install air regulator in air line and set pressure to 20-40 psi.

2. Fill bleed bottle almost full of DEXRON III ATF (automatic transmission fluid). *Figure 4*

.

Fig. 4



Procedure to Fill Empty Tool (new or rebuilt):

1. Attach the tool air source momentarily to seat air piston at bottom of cylinder and disconnect tool. With fill port facing up, lay tool on its side.

2. With a screwdriver, remove bleed plug from fill port.

3. Screw fill bottle into fill port in the head.

4. Set air line pressure to 20-40 psi and connect air line to tool.

WARNING

Air pressure *MUST* be set to 20-40 psi to prevent possible injurious high pressure spray.

NEVER CYCLE TOOL WITHOUT:

BLEED PLUG TIGHTENED

FILL BOTTLE TIGHTENED IN TOOL, **or**

FILLPORT HELD OVER A RECEPTACLE *Figure 4.1*

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

5. Stand tool upright on bench. While triggering tool slowly (20-30 cycles), bend fill bottle at right angles to tool. *Figure 4.2*. Air bubbles will emerge from tool. When bubbles stop, cycling may be discontinued.

Fig. 4.1

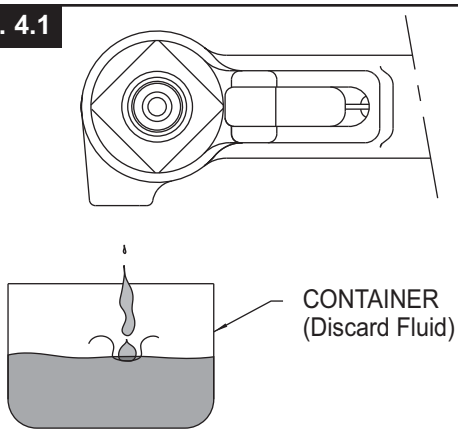
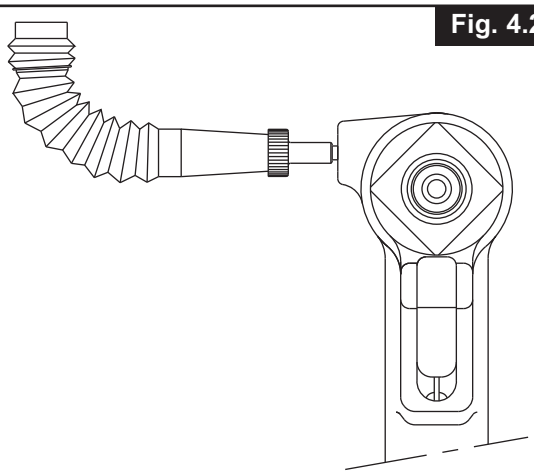


Fig. 4.2



6. When trigger is released, pull piston returns to idle position (full forward). Disconnect tool from air line.

7. Lay tool on its side. Remove fill bottle. Top off fluid in fill port. Install bleed plug and tighten.

8. Connect air line to tool. There is a choice of two procedures for measuring the stroke: with and without a stall nut. See **See How To Measure Stroke** section and follow the selected procedure. If stroke is less than specified, remove bleed plug and top off fluid. Reinstall bleed plug.

9. Increase air pressure to specification. Install two fasteners to check function and installation in a single stroke, or cycle tool with stall-nut fully threaded onto piston to load up tool. Measure stroke again. Remove plug and top off fluid. Reinstall plug and cycle again. Measure again. Continue this process until stroke meets minimum requirements.

continued

Filling and Bleeding Procedure *(continued)*

Bleed Procedure for Partially Filled Tool in Field Use:

1. Disconnect tool from airline. With fillport facing up, lay tool on its side.

2. Remove bleed plug from bleed port.

3. Hold tool over suitable container with fillport facing into container.

WARNING
Air pressure *MUST* be set to 20-40 psi to prevent possible injurious high pressure spray.
NEVER CYCLE TOOL WITHOUT:
BLEED PLUG TIGHTENED
FILL BOTTLE TIGHTENED IN TOOL, **or**
FILLPORT HELD OVER A RECEPTACLE *Figure 4.1*
When not properly contained any fluid present in tool will spray out. Severe injury may result.

4. Connect tool to air line. Cycle tool several times to drain the old fluid, air and foam.

5. Screw fill bottle into fillport.

6. See ***WARNING*** above. With air pressure set at 20-40 psi, connect airline to tool.

7. Stand tool upright on bench. While actuating the trigger slowly (20-30 cycles), bend fill bottle at right angles to tool. *Figure 4.2*. Observe that air bubbles emerge from tool. When bubbles are no longer observed, cycling may be discontinued.

8. When trigger is released, pull piston returns to idle position (full forward). Disconnect tool from airline with piston full forward.

9. Lay tool on its side. Remove fill bottle. Top off fluid in fillport. Install bleed plug and tighten with screwdriver.

10. Connect air line to tool. There is a choice of two procedures for measuring the stroke: With and without a stall-nut. **See How To Measure Stroke** section and follow the selected procedure. If stroke is less than specified, remove bleed plug and top off fluid. Reinstall bleed plug.

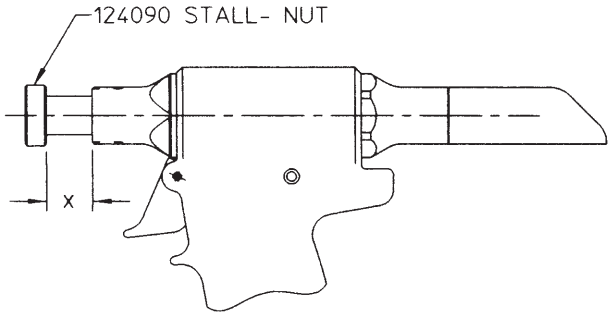
11. Install two fasteners to check function and installation in a single stroke, or cycle tool with stall nut fully threaded onto piston. Measure stroke again. Remove plug and top off fluid. Reinstall plug and cycle again. Measure again. Continue this process until stroke meets minimum requirements.

How to Measure Stroke

TO MEASURE STROKE OF TOOL WITH STALL-NUT THREADED ONTO PISTON:

1. Disconnect tool from airline and remove nose from tool.
2. Reconnect tool to airline. Cycle tool and hold trigger depressed. This keeps piston fully to the rear and at end of PULL stroke. Thread stall-nut back onto piston until it contacts stop.
3. Release trigger. Stall-nut will move forward with piston. *Figure 5* and measure 'X" dimension. This is the tool's stroke.
4. If stroke is less than .650, refer to appropriate previous section. Follow filling and topping off instructions.

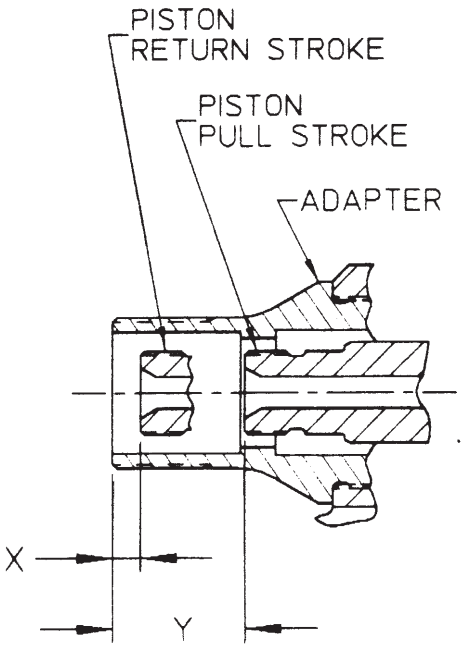
Fig. 5



TO MEASURE STROKE OF TOOL WITHOUT STALL-NUT:

1. Disconnect tool from airline and remove nose from tool.
2. Reconnect tool to airline, with piston fully forward (end of RETURN stroke), measure and record "X" dimension. *Figure 6*.
3. Hold trigger depressed. Piston is now fully to the rear and at end of PULL stroke. Measure and record "Y" dimension.
4. Subtract "X" dimension from "Y" dimension.
5. If stroke is less than .650, refer to appropriate previous section. Follow filling and topping off instructions.

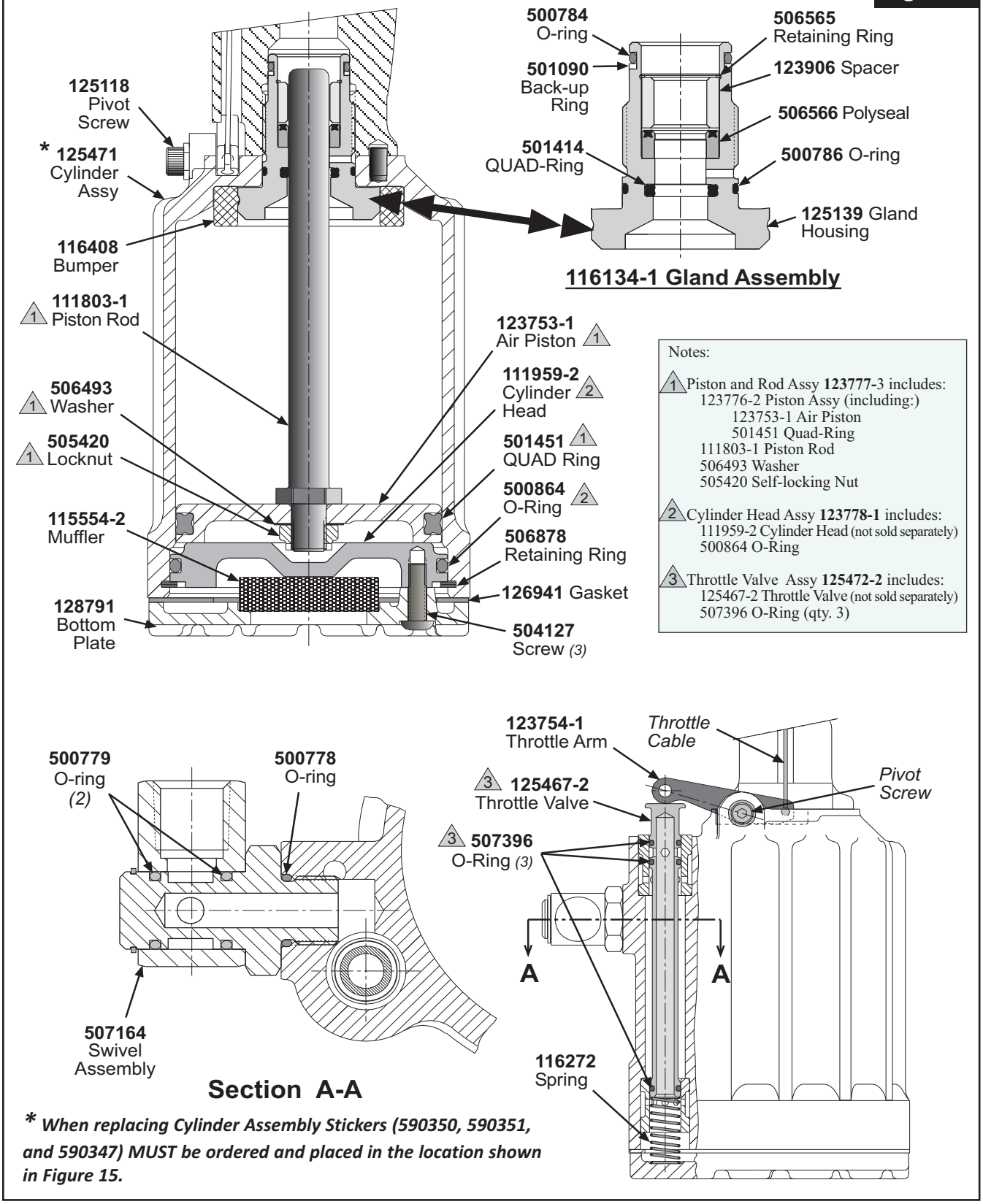
Fig. 6



Tool Assembly Drawings

(pages 16-22)

Figure 7



**** When replacing Cylinder Assembly Stickers (590350, 590351, and 590347) MUST be ordered and placed in the location shown in Figure 15.***

Tool Assembly Drawings

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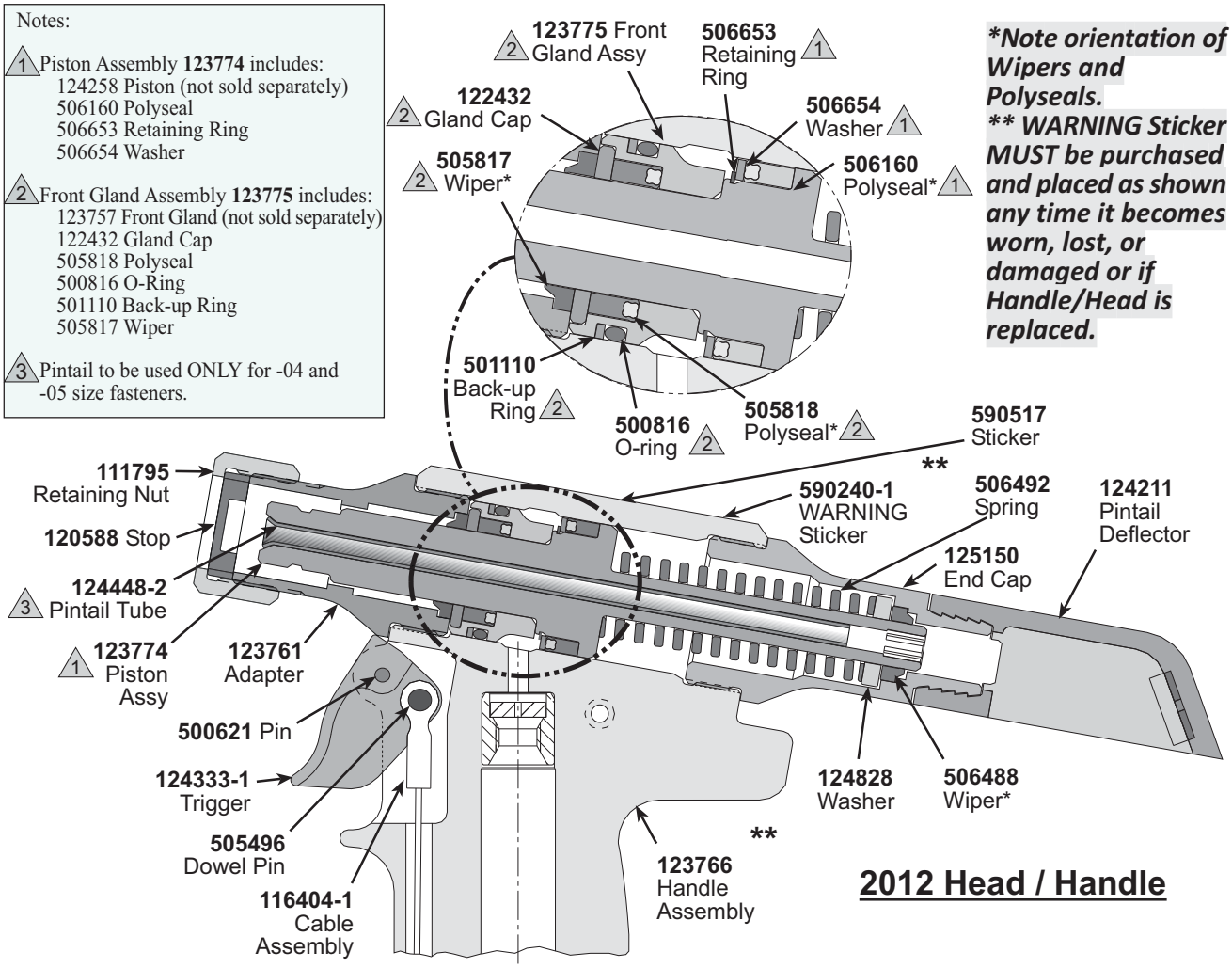
Figure 8

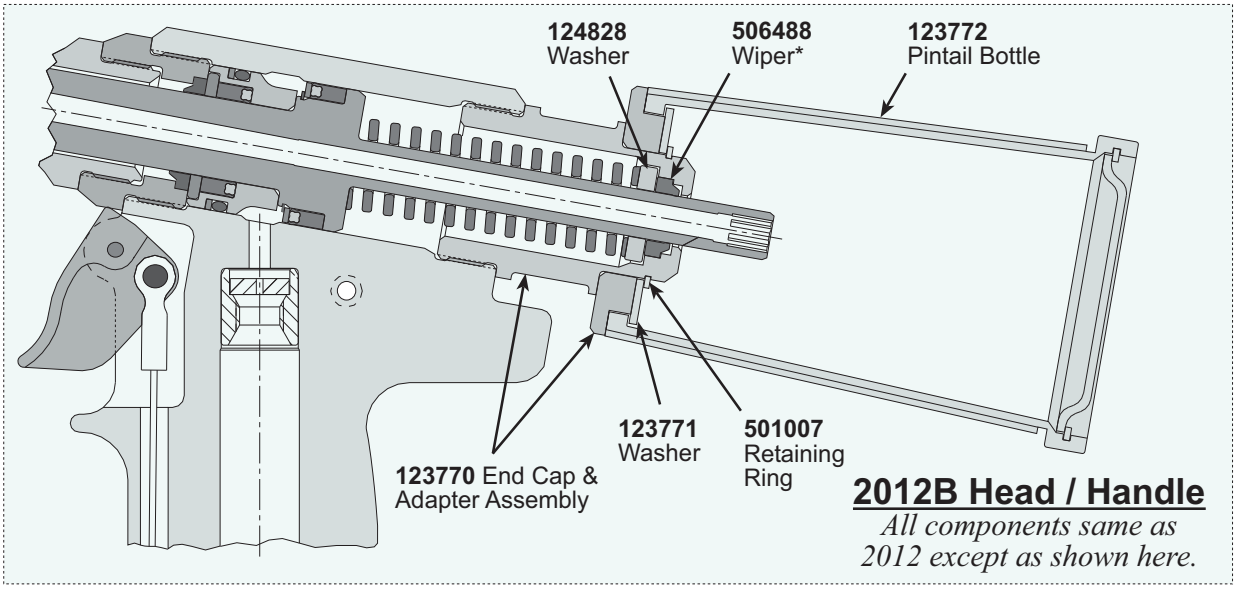
Notes:

1. Piston Assembly **123774** includes:
   124258 Piston (not sold separately)
   506160 Polyseal
   506653 Retaining Ring
   506654 Washer
2. 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
3. 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 Assembly Drawings

(pages 16-22)

Figure 9

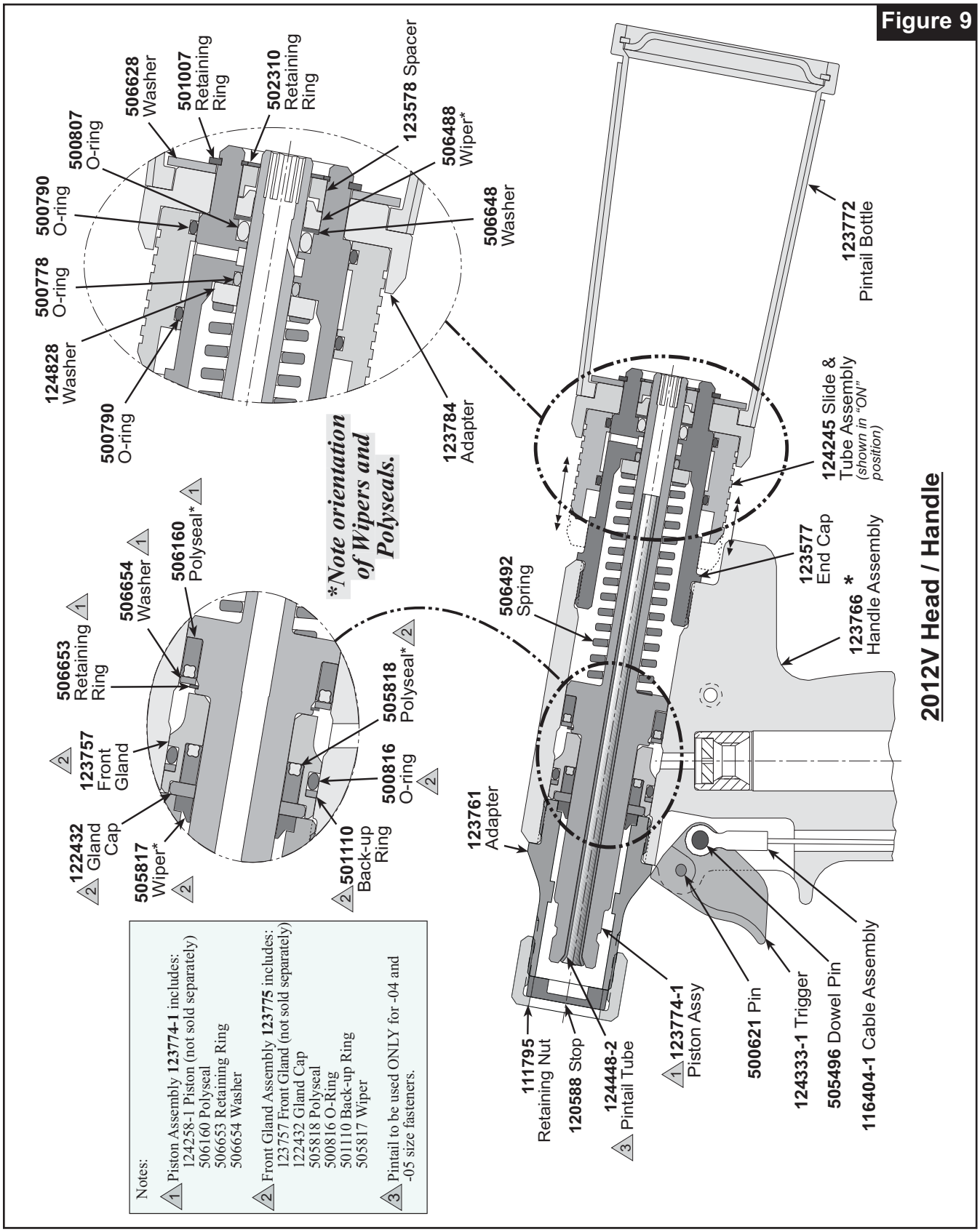
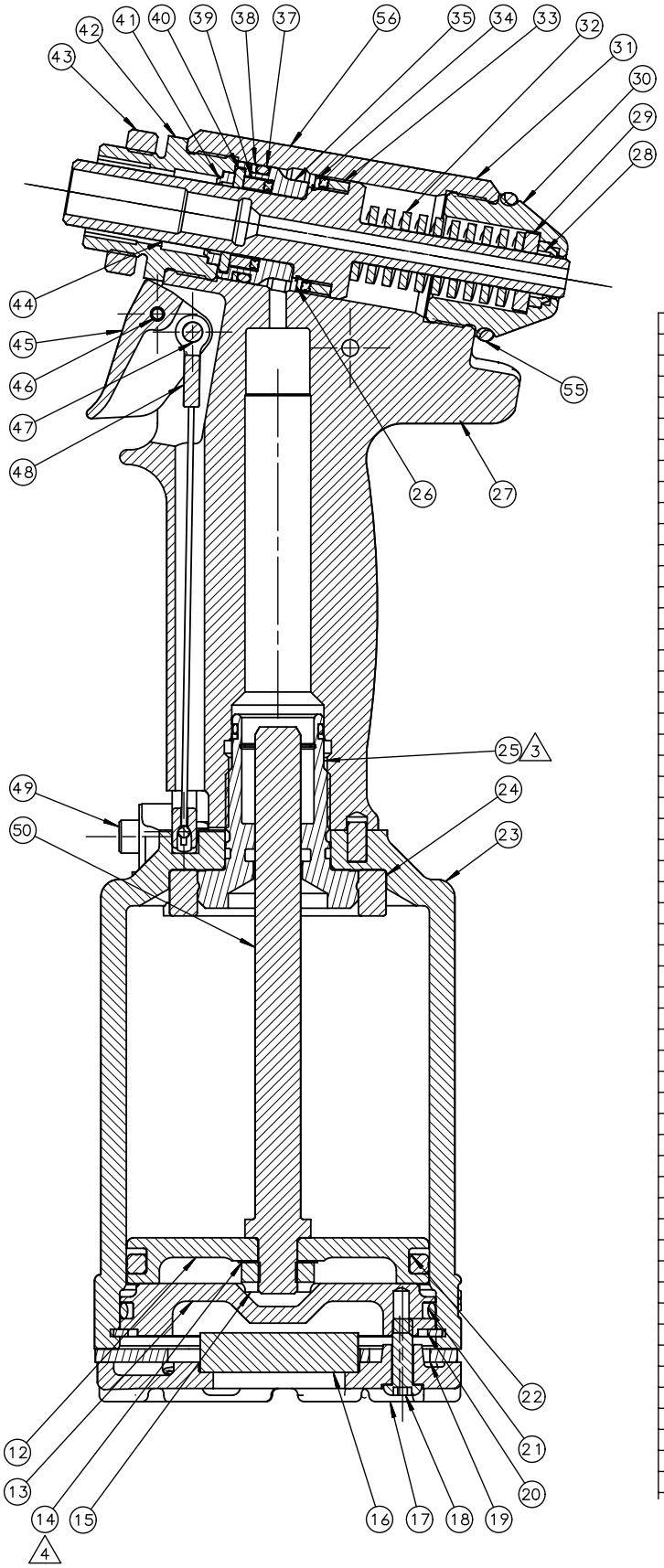


Figure 10a

2012OS

figures 10a and 10b



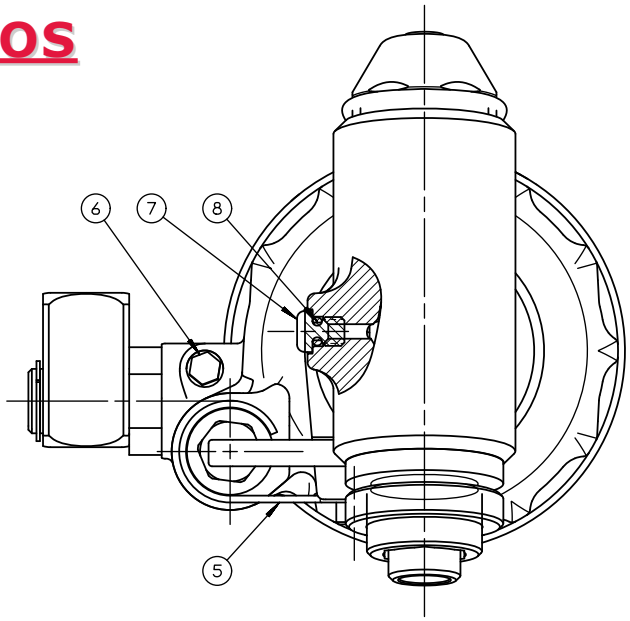
SECTION A–A

590517	1	STICKER	56
506079	1	O-RING	55
			54
590347	1	STICKER	53
590351	1	STICKER	52
590350	1	STICKER	51
111803-1	1	PISTON ROD	50
125118	1	PIVOT SCREW	49
116404-1	1	CABLE ASSEMBLY	48
505496	1	DOWEL PIN	47
500621	1	PIN	46
124333-2	1	TRIGGER	45
126320	1	PISTON	44
126321	1	JAM NUT	43
126319	1	NOSE ADAPTER	42
505817	1	WIPER	41
122432	1	GLAND CAP	40
505818	1	POLYSEAL	39
501110	1	BU-RING	38
500816	1	O-RING	37
			36
123757	1	FRONT GLAND	35
506654	1	WASHER	34
506160	1	POLYSEAL	33
507604	1	SPRING	32
590240-1	1	STICKER	31
129590	1	BACK CAP	30
124828	1	WASHER	29
506488	1	WIPER SEAL	28
123766	1	HANDLE ASSEMBLY	27
506653	1	RETAINING RING	26
116134-1	1	GLAND ASSEMBLY	25
116408	1	BUMPER	24
125471	1	CYLINDER ASSEMBLY	23
501451	1	QUAD RING	22
500864	1	O-RING	21
506878	1	RETAINING RING	20
126941	1	GASKET	19
504127	3	SCREW	18
128791	1	BOTTOM PLATE	17
115554-2	1	MUFFLER	16
505420	1	LOCK NUT	15
506493	1	WASHER	14
111959-2	1	CYLINDER HEAD	13
123753-1	1	AIR PISTON	12
500778	1	O-RING	11
500779	2	O-RING	10
507164	1	SWIVEL ASSEMBLY	9
505438	1	O-RING	8
100309	1	PLUG	7
506576	1	PLUG & GASKET ASSY	6
125116	1	GUARD	5
123754-1	1	THROTTLE ARM	4
125467-2	1	THROTTLE VALVE	3
507396	3	O-RING	2
116272	1	SPRING	1

TOOL ASSEMBLY DRAWINGS
(pages 16-22)

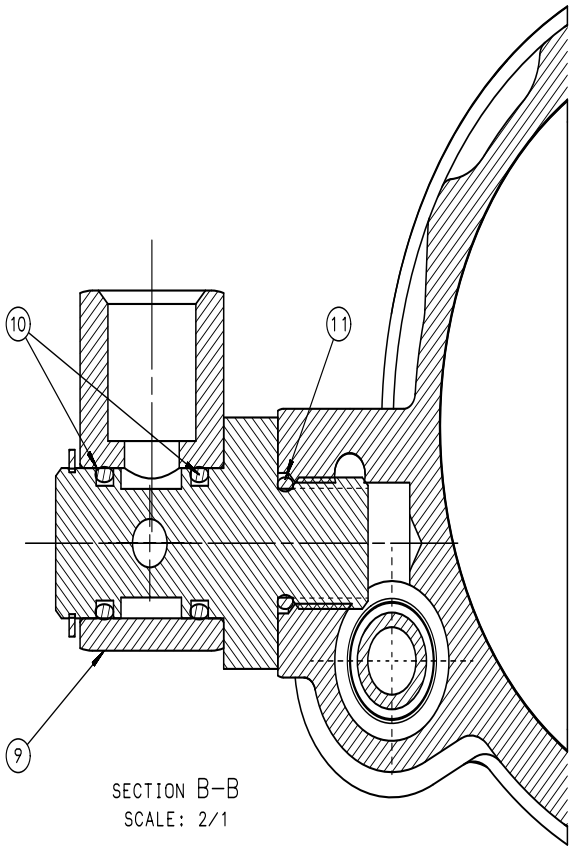
Figure 10b

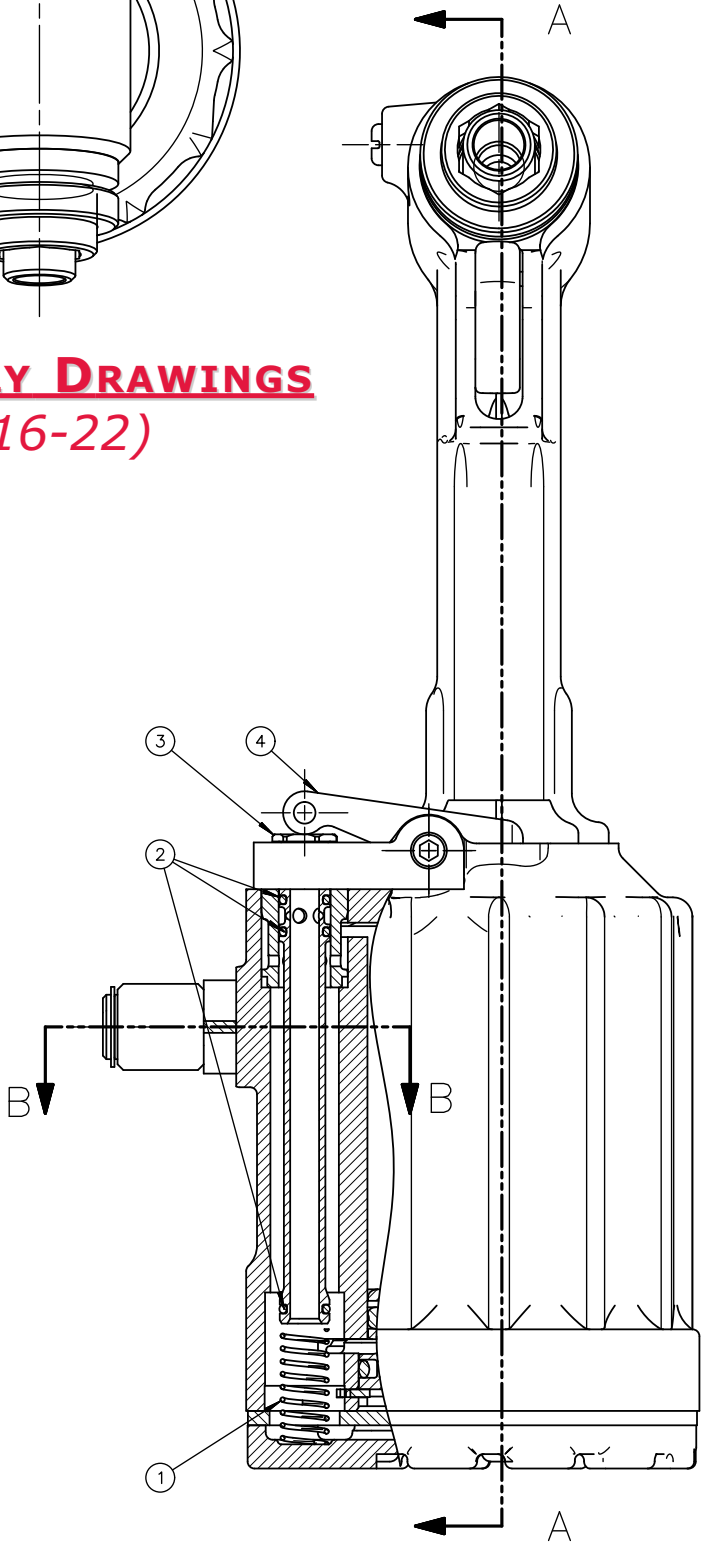
2012OS



Tool Assembly Drawings

(pages 16-22)

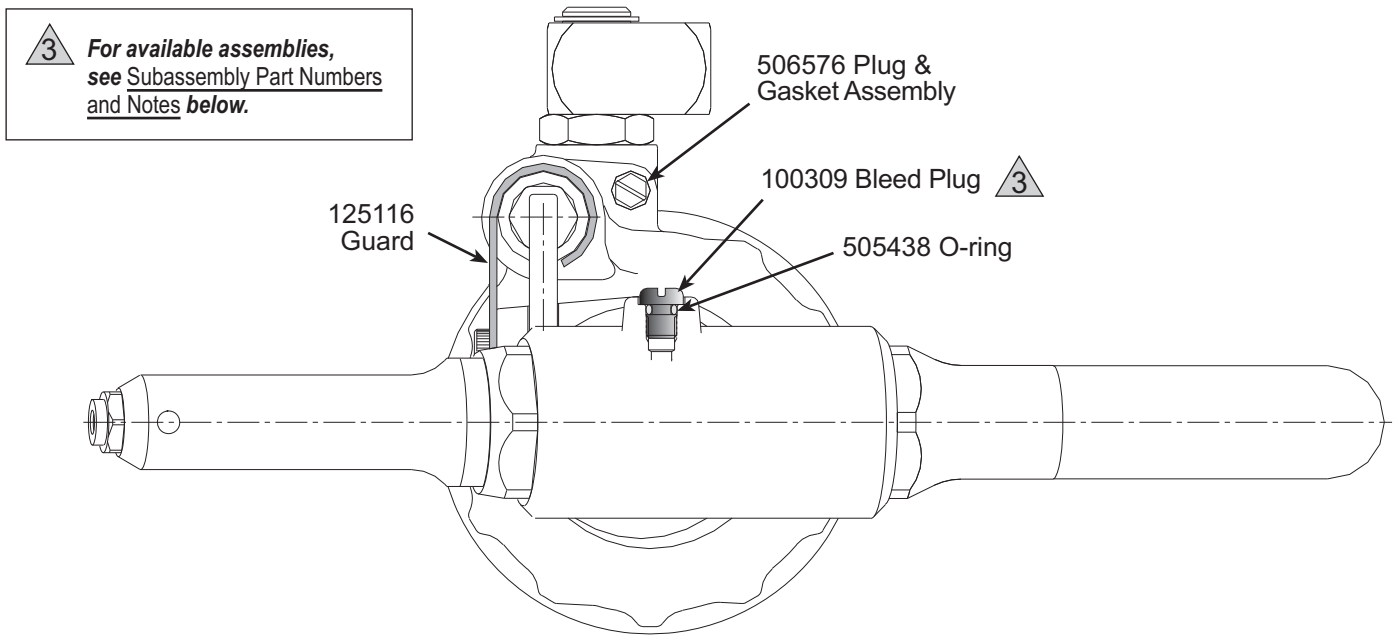




Tool Assembly Drawings

(pages 16-22)

Figure 11



Swivel Bolt Subassembly
Fill Plug and O-ring Subassembly

Subassembly Part Numbers and Notes

Some parts are available separately as well as in subassemblies. Refer to Assembly Drawings on the previous and following pages for these parts listed below.

1	**123775**	**Front Gland Assembly** contains:
	123757	Front Gland
	500816	O-ring
	501110	Back-up Ring
	505818	Polyseal
	122432	Gland Cap
	505817	Wiper
2	**123777-2**	**Air Piston and Rod Assy** contains:
	123776-1	Air Piston Assembly
	111803-1	Piston Rod
	506493	Washer
	505420	Self-locking Nut
3	**104293**	**Bleed Plug Assembly** contains:
	100309	Bleed Plug
	505438	O-ring
4	**123778-1**	**Cylinder Head Assy** contains:
	111959-2	Cylinder Head
	500864	O-ring
5	**125472-2**	**Throttle Valve Assembly** contains:
	125467-2	Throttle Valve
	507396	O-rings (qty. 3)

NOTE: **Install cups of POLYSEALS positioned as shown. Position wipers as shown.**

Tool Assembly Drawings

(pages 16-22)

Figure 12

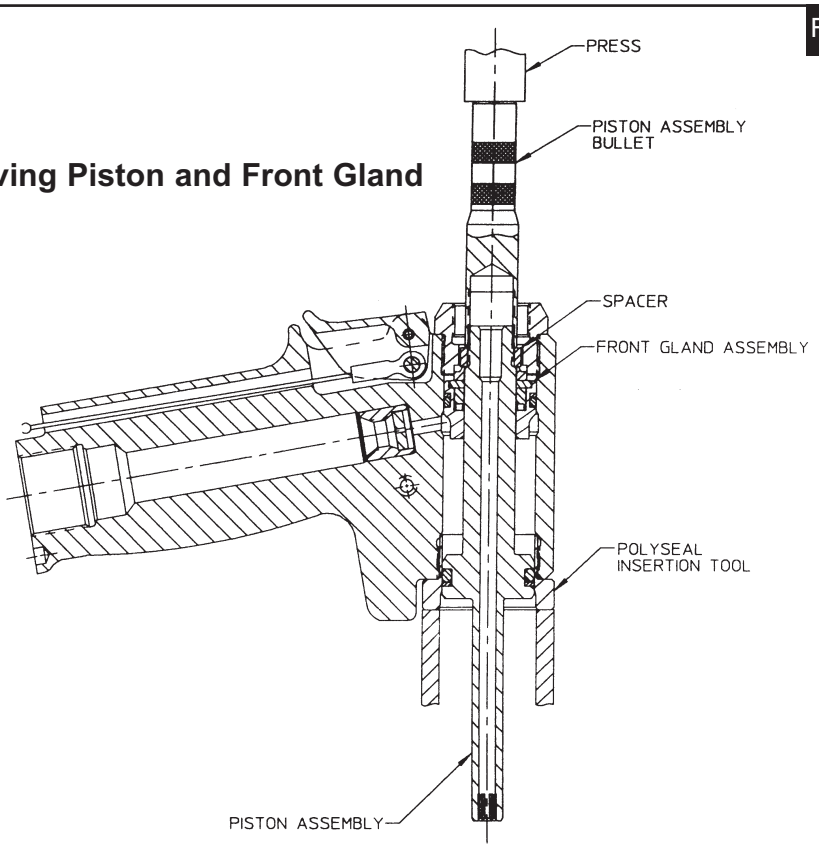
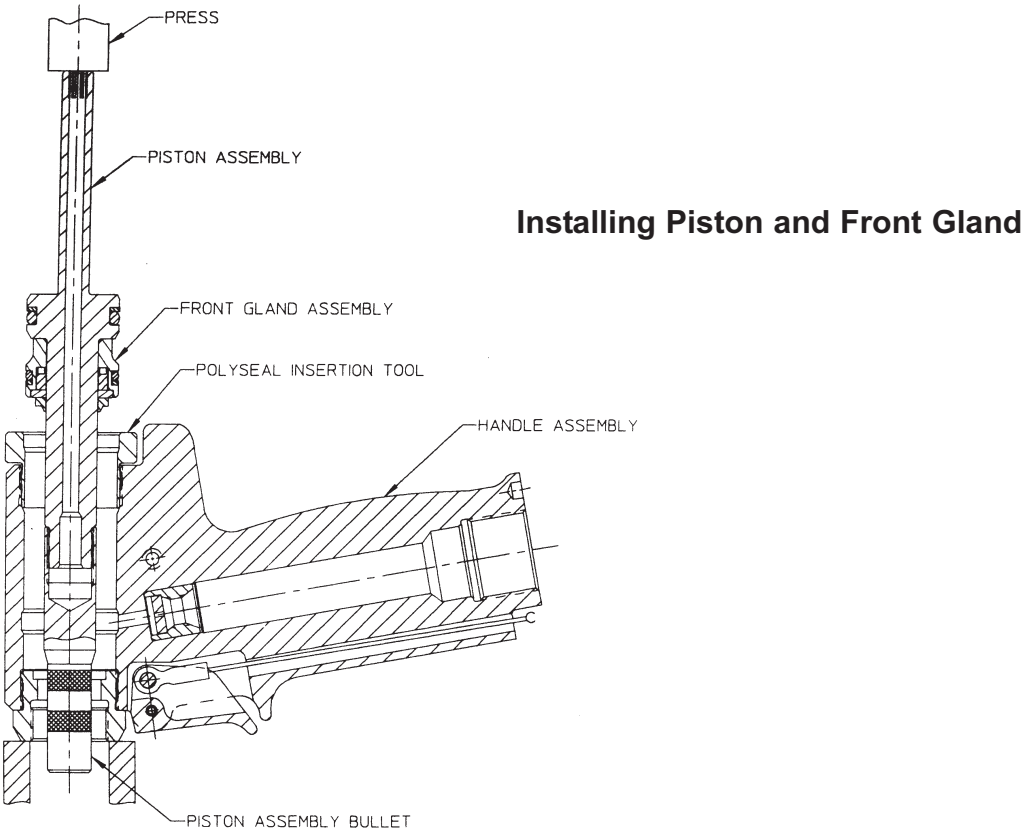


Figure 13



Accessories

Pintail Collection Bag:

>Tailor made to fit the tool
>Made from tough, lightweight material.
>Fits over the Pintail Deflector.
>Velcro closure for secure fit /easy removal.

125652 Pintail Collection Bag

Accessory Spring:

124447 Suspension Spring (Figure 12)

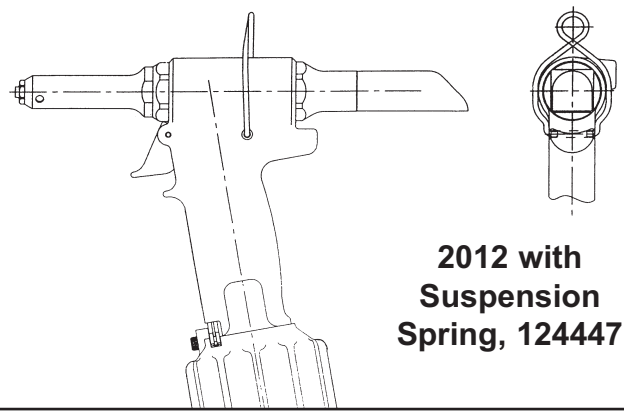
Assembly Tools:

124090-2 Stall Nut Assembly
123110-4 Assembly Tool Kit Includes:
121694-202 POLYSEAL Insertion Tool
123111-4 Piston Assembly Tool
123112-3 Spacer

Service Kits:

2012KIT Seals kit for 2012 and 2012B
2012VKIT Seals kit for 2012V

Figure 14

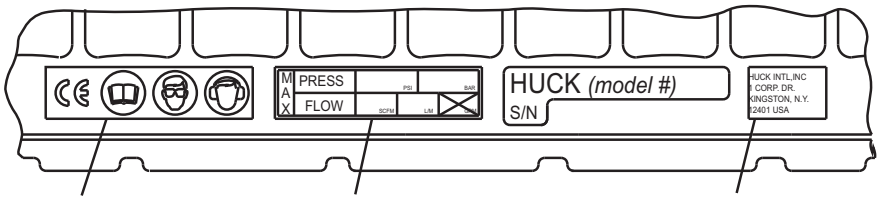


2012 with Suspension Spring, 124447

Sticker Locations

Figure 15

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



590350
CE Sticker

590351
Max Pressure and Flow Sticker

590347
HUCK Address Sticker

Troubleshooting

Always check out the simplest possible cause of a malfunction first. For example, an air hose not connected. Then proceed logically, eliminating each possible cause until the defective part is located. Where possible, substitute known good parts for suspected bad parts. Use this chart to help locate and correct malfunction:

Symptom	**Probable cause**
1. Tool fails to operate when triggered.	a. Throttle valve O-rings (3) worn or damaged. b. Air pressure too low. c. Throttle cable assembly broken.
2. Tool does not complete fastener installation or break pintail.	a. Air pressure too low. b. Hydraulic fluid low, causing short stroke. c. Air piston QUAD ring worn or damaged. d. Air in hydraulic system. see *FILLING AND BLEEDING*. 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, 116134-1.
4. Hydraulic fluid leaks at Cylinder Head End Cap.	a. Worn or damaged Pull Piston O-ring/back-up ring.
5. Hydraulic fluid leaks at Pull Piston Rod.	a. Worn or damaged Front Gland POLY-SEAL 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. Cylinder Head O-ring damaged.

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Huck warrants that tooling and other items (excluding fasteners, and hereinafter referred as "other items") manufactured by Huck shall be free from defects in workmanship and materials for a period of ninety (90) days from the date of original purchase.

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

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Contact your nearest Huck International Office, see back cover.

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