

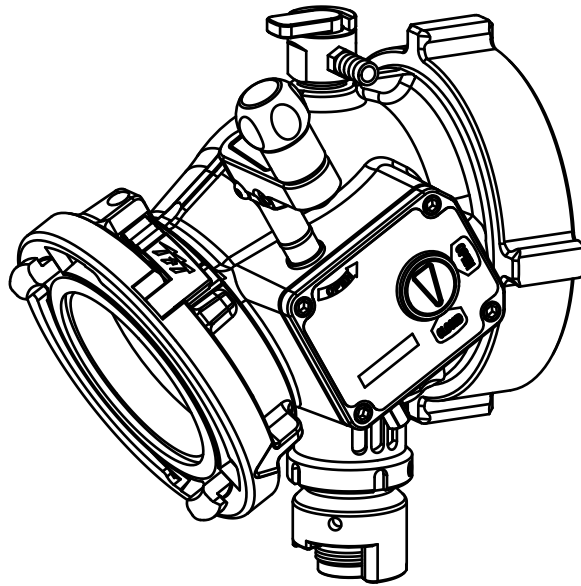
# BIV-LP Seal Replacement Maintenance and Service Procedure

## WARNING

It is the responsibility of service technicians to ensure the use of appropriate protective clothing and equipment. The chosen protective clothing and equipment must provide protection from potential hazards users may encounter while servicing equipment. Requirements for protective clothing and equipment are determined by the Authority Having Jurisdiction (AHJ).

## NOTICE

This publication is intended for those who prefer to perform service on their own equipment. Factory service is available. Factory serviced products are repaired by experienced technicians, fully tested, and promptly returned functioning to original specifications. Task Force Tips assumes no liability for damage to equipment or injury to personnel that is a result of user service.



## 1.0 GENERAL INFORMATION

### 1.1 REQUIRED TOOLS

Tools for Seal Replacement	
Retaining Ring Removal Tool <b>THA409</b>	Standard Hex Key Set
Valve Seat Repair Kit - <b>ABD1520-CRK</b>	Plastic Strip Removal Tool <b>THA401-ST</b>
Pointed Pick	Molykote #112 High Performance Silicone Grease
1/2" Drive Ratchet Wrench	Blue Loctite® threadlocker or equivalent
Retaining Ring Pliers	Red Loctite® threadlocker or equivalent

### 1.2 ORDERING PARTS

Always specify the serial number of the valve when ordering parts. Pricing information will be given at time of order.

## 2.0 VALVE SEAL REPLACEMENT

### **WARNING**

After any maintenance or service, equipment must be inspected and tested for proper operation and function per:

- NFPA 1962 test procedures.
- FLOW CHARACTERISTICS and OPERATION and INSPECTION CHECKLIST in the equipment's original operator manual.

Product operating and safety information is available in the original operator manual or at [tft.com](http://tft.com).

### **NOTICE**

The valve may be mounted in a vise for better leverage when removing and installing the SEAL RETAINER.



1. Remove the GASKET from the inlet coupling.



2. Position the THA409 so the wrenching features align with the corresponding features on the SEAL RETAINER. Use a 1/2" drive ratchet to unscrew and remove the SEAL RETAINER.



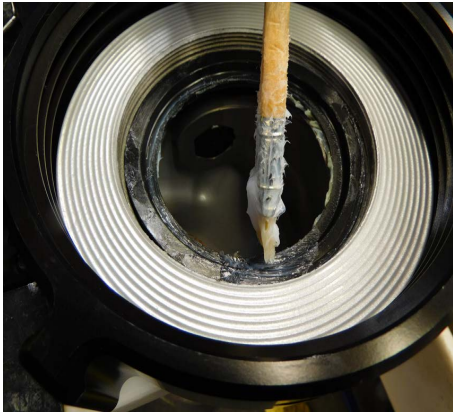
3. Using a pointed pick, remove the VALVE SEAT. Use caution not to score the metal surfaces with the pick.



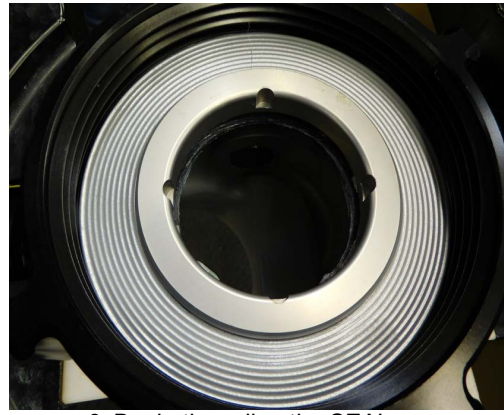
This side toward the valve ball      This side facing out



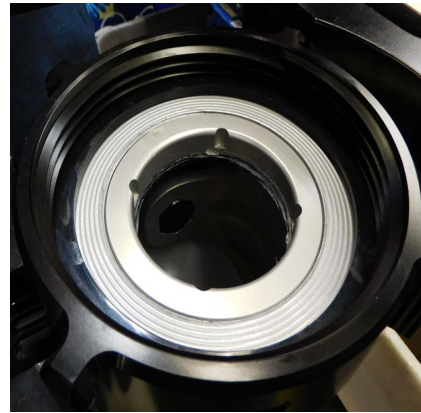
4. Install a new VALVE SEAT into the BACK RING with the lip on the seat toward the VALVE BALL.



5. Apply Molykote #112 High Performance Silicone Grease over the VALVE SEAT.



6. Begin threading the SEAL RETAINER by hand to avoid cross-threading.



7. Use THA409 to screw the SEAL RETAINER into the BACK RING to 1/16" below flush.



8. Replace the HOSE GASKET.



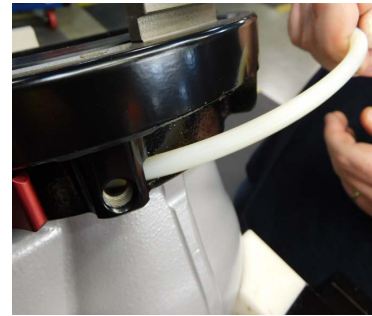
### 3.0 COUPLING CUP SEAL REPLACEMENT



1. Use a hex key to remove the LOCKOUT SCREW from the Coupling.



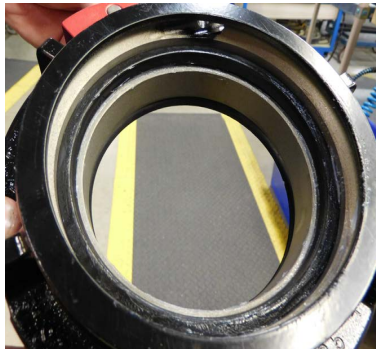
2. THA401-ST to hook the end of the BEARING STRIP. Pull the strip out of the groove.



3. Remove the CUP SEAL from the Storz Coupling.



4. Note that one side of the seal includes an O-ring, and the other is smooth.



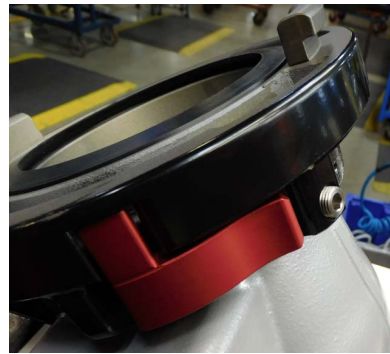
5. Install the new CUP SEAL with the O-ring down and apply Molykote #112 High Performance Silicone Grease.



6. Firmly press the coupling onto the Valve Body. Verify the seal is not protruding from the joint.



7. Push the BEARING STRIP back into the groove, blunt end first. Rotate the coupling to help pull the strip in.



8. Re-install the LOCKOUT SCREW for the desired connection type.

#### **For a SWIVEL Connection:**

Install the Lockout Screw until the coupling moves freely.

#### **For a RIGID Connection:**

Rotate the coupling until the Lockout Screw is aligned with the Air Vent/ Bleed Valve on the top of the body.

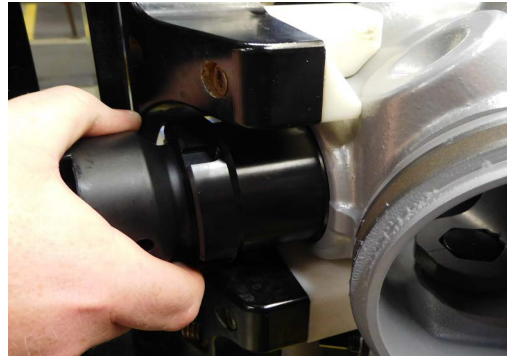
Tighten the into the divot.

DO NOT over tighten into the Bearing Strip.

## 4.0 PRV SEAL REPLACEMENT



1. Remove the set screw holding the PRV in place.



2. Unscrew the PRV from the valve body.



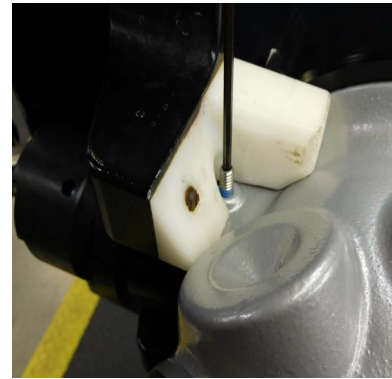
3. Use a seal pick to remove the VO-135 O-ring.



4. Install a new O-ring and apply Molykote #112 High Performance Silicone Grease.



5. Screw the PRV into the valve body until tight. Then, back off until the drain slots are positioned to face the female truck side coupling. Finally, rotate the PRV until the closest slot in the threads (see step 4 photo) is aligned with the set screw hole.



6. Apply Blue Loctite threadlocker or equivalent to the set screw. Install in the casting opposite the drain slots until bottomed out.



## 5.0 TRUNNION AND GEAR BOX SEAL REPLACEMENT



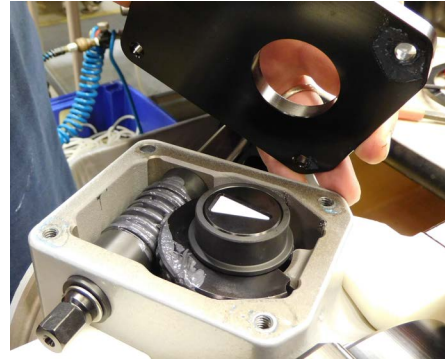
1. Use a hex key to remove the trunnion from the casting.



2. Use a seal pick to remove the VO-115 O-ring from the trunnion.



3. Use a hex key to remove the (4) screws from the gear box cover.



4. Remove the gear box cover.



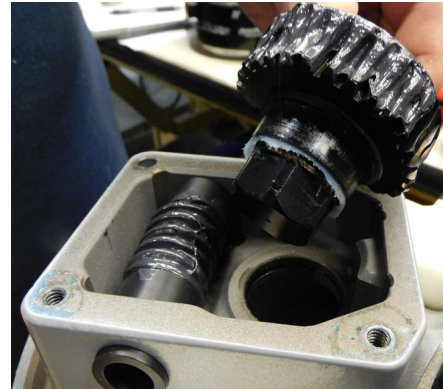
5. Remove the bearing from the gear.



6. Use retaining ring pliers to remove the retaining ring from the end of the shaft. DO NOT over stretch the retaining ring.



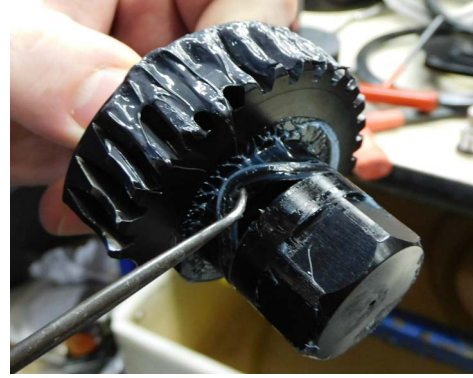
7. Pull the shaft out of the casting. Verify key remained in the key slot.



8. Pull the gear out of the casting.



9. Remove the bearing from the gear.



10. Use a seal pick to remove the VO-214 O-ring from the gear. Install a new O-ring and apply Molykote #112 High Performance Silicone Grease over.



11. Use a seal pick to remove the VO-128 O-ring from the casting.



12. Install a new VO-128 and apply Molykote #112 High Performance Silicone Grease over.



13. Reinstall the bearing.



14. With the ball in the open position (top side of valve, not blocking the waterway or PRV), align the side having the hex with the hole in the gear box.



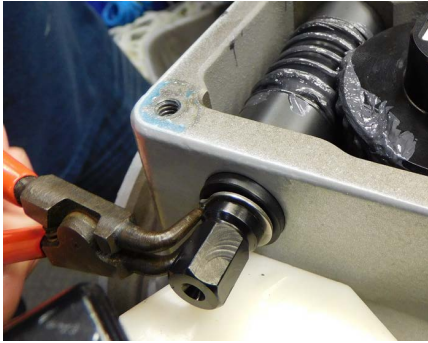
15. Firmly reinstall the gear with the arrow pointing away from the meshed gear teeth.



16. Insert the shaft through the worm gear. The key in the shaft will engage the slot inside the gear.







17. Use retaining ring pliers to reinstall the retaining ring on the end of the shaft.



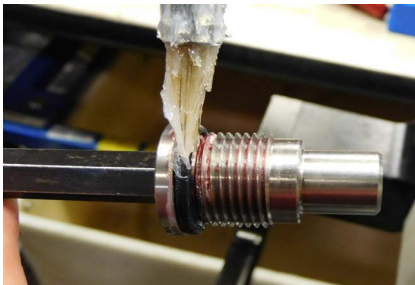
18. Reinstall the bearing over the gear.



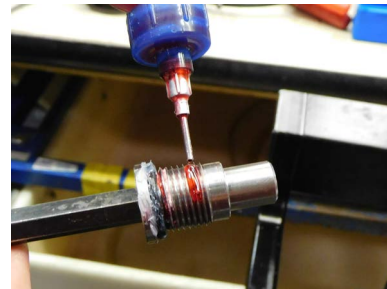
19. Place the cover on the gear box.



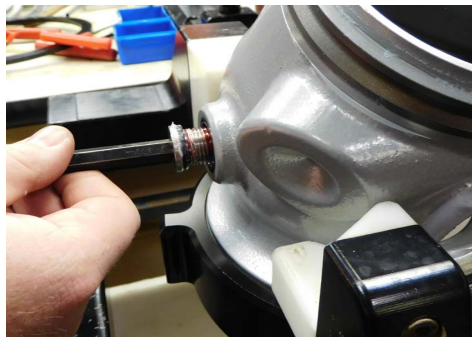
20. Apply blue Loctite thread locker or equivalent to (4) screws and install until tight.



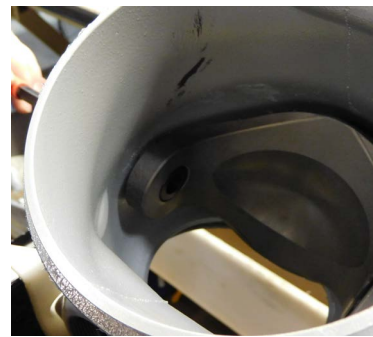
21. Install a new VO-115 on the trunnion and apply Molykote #112 High Performance Silicone Grease.  
**DO NOT GET GREASE ON THE THREADS.**



22. Apply red Loctite thread locker or equivalent to the trunnion threads.



23. Install the trunnion through the casting and into the hole in the side of the ball until tight.



**For questions regarding troubleshooting, parts, or repair, contact your local dealer or TFT's service department.**

**TASK FORCE TIPS LLC**  
MADE IN USA · [tft.com](http://tft.com)

3701 Innovation Way, Valparaiso, IN 46383-9327 USA  
800-348-2686 · 219-462-6161 · Fax 219-464-7155