


| REV | DATE    | BY  | DESCRIPTION     |
|-----|---------|-----|-----------------|
| A   | 1/23/15 | TGC | Initial Release |

## PROCESS SPECIFICATION T1011

### LEE SOLENOID VALVE INSTALLATION/UNINSTALLATION GUIDE: 3-WAY HI-FLOW



Unlimited Distribution

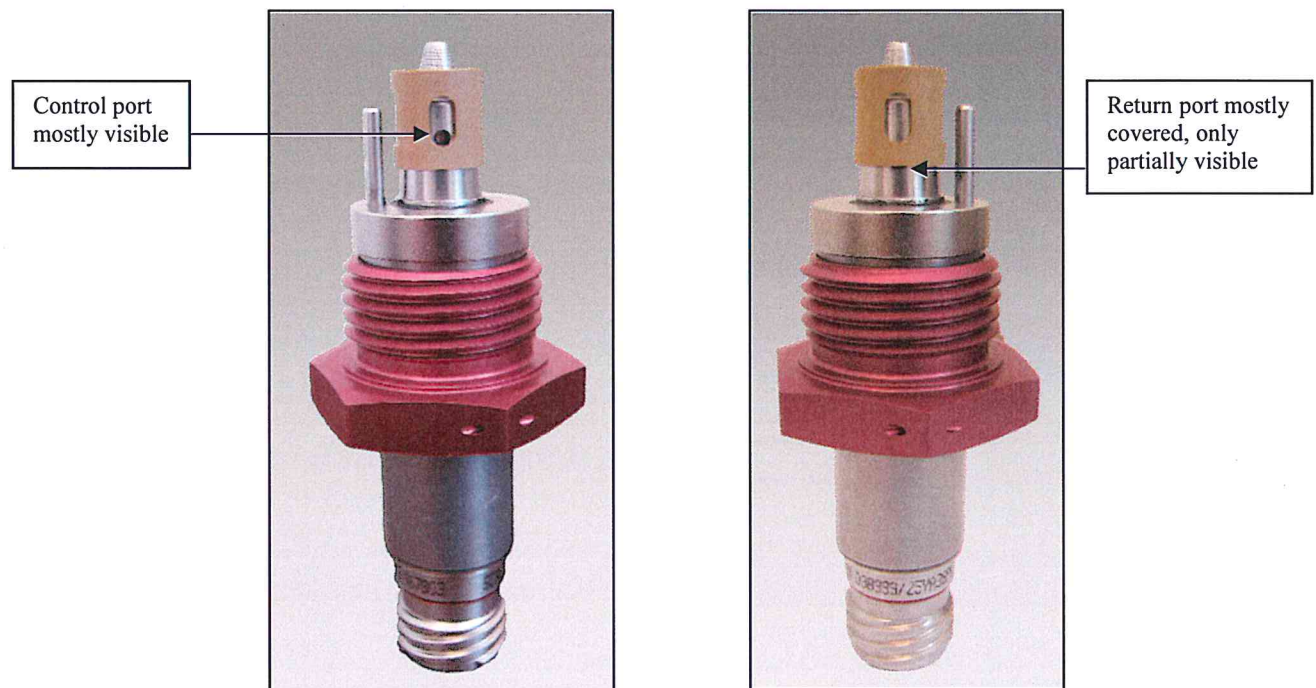
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|--|--|---|-----------|----------|-----|---|-------|------------|---|
|  | <b>CHK'D BY:</b>   |   |           |          |     |   |       |            |   |
|  | <b>APP'D BY:</b> BB    1/23/15   |  <b>THE LEE COMPANY</b><br>WESTBROOK, CT 06498 |           |          |     |   |       |            |   |
|  | <table border="1"> <tr> <th>SIZE</th> <th>CAGE CODE</th> <th>DRG. No.</th> <th>REV</th> </tr> <tr> <td>A</td> <td>92555</td> <td>P.S. P1291</td> <td>A</td> </tr> </table> | SIZE  | CAGE CODE | DRG. No. | REV | A | 92555 | P.S. P1291 | A |
| SIZE   | CAGE CODE  | DRG. No.  | REV       |          |     |   |       |            |   |
| A  | 92555  | P.S. P1291  | A         |          |     |   |       |            |   |



## Lee Solenoid Valve Installation/Uninstallation Guide: 3-Way Hi-Flow

### Solenoid Valve Installation Procedure

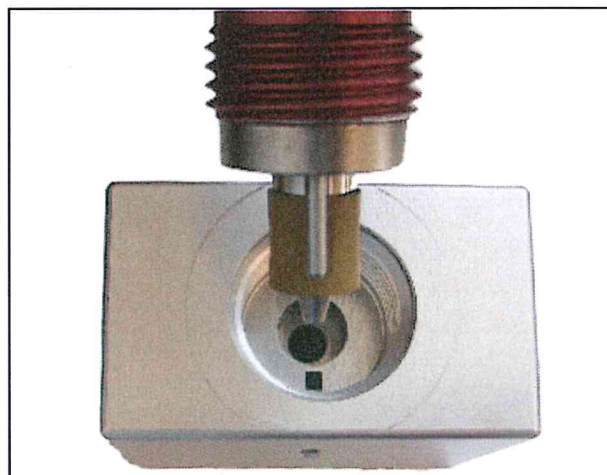
**Step 1:** Remove the solenoid (SOV) from its plastic shipping vial and take off the protective foam wrap. Remove the plastic webbing from around the SOV and the plastic cap covering the screen, MultiSeal, and valve body. The MultiSeal should remain on the valve. If the MultiSeal comes off when the cap is removed, lightly place it back on the valve body with the ports of the valve and seal aligned. The MultiSeal should be placed on the valve body with just enough force to make it not slip off when the SOV is turned upside-down. In this state, the majority of the C-port will be visible and the R-port will be only partially visible. During installation of the SOV, the MultiSeal is expanded by the valve body. The next time the SOV is installed, the MultiSeal will sit lower on the valve body than what is shown in the photos below.



**Step 2:** Install the SOV into a clean installation hole that is dimensionally correct to sheet 2 of the part's drawing. Be sure the locating pin is aligned with the locating pin hole. If the SOV is a front lead wire version, the lead wires should be carefully threaded through the lead wire passage in the manifold.



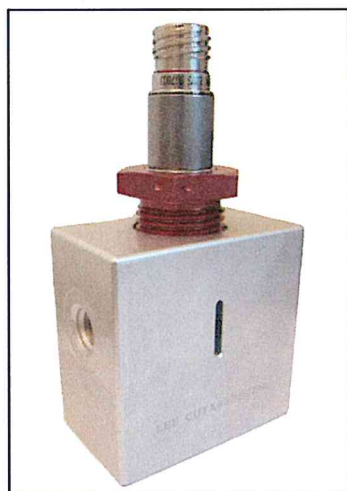
Installation hole is clean and free of debris.



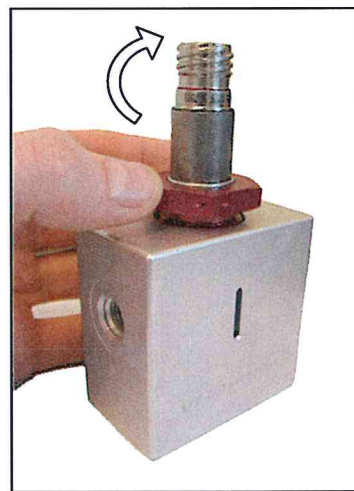
Locating Pin aligned with locating pin hole.

The MultiSeal should not be forced into the installation hole at this time. The MultiSeal will become fully installed during the tightening of the retainer.

**Step 3:** Turn the retainer clockwise, by hand, as much as possible to engage the threads with the threads of the installation hole. Be sure that the retainer is not cross threaded.



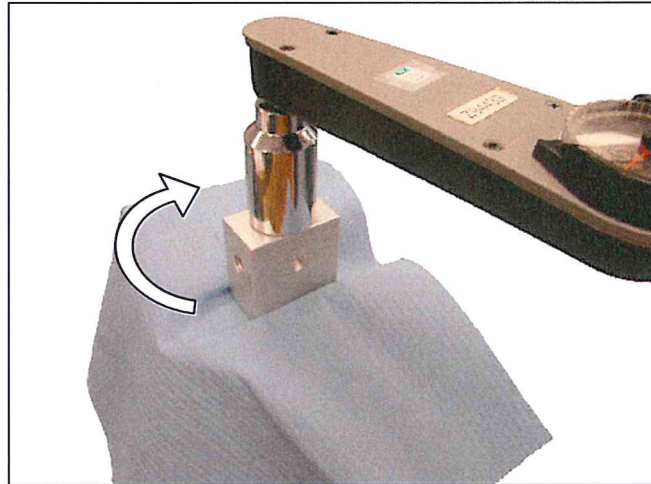
Approximate height of the SOV prior to hand tightening the retainer.



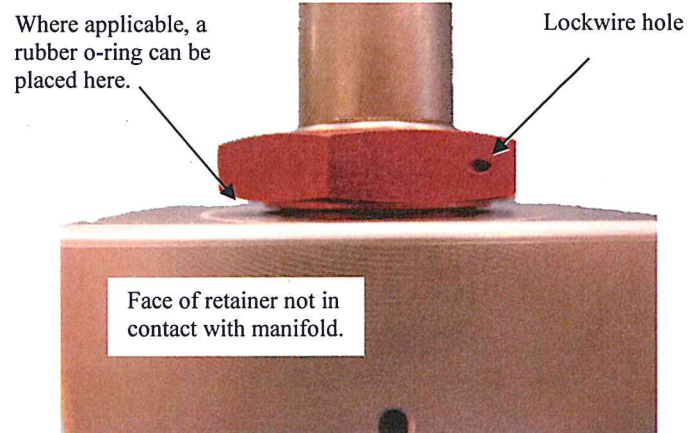
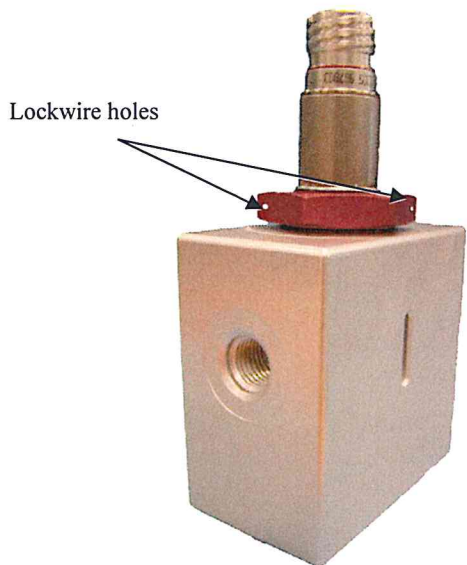
Hand tighten the retainer. Be sure the threads are not cross threaded.



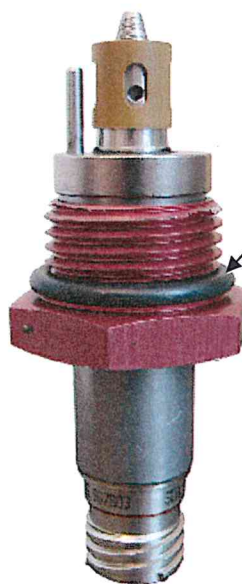
**Step 4:** Using a torque wrench and socket, continue to tighten the retainer until 35ft-lbs +/- 2.5ft-lbs of torque has been applied. Do not over tighten the retainer.



**Step 5:** Lockwire may be used to secure the retainer to the installation manifold. At this point the installation of the solenoid valve is complete. Notice the face of the hex on the retainer is not in contact with the manifold.



**Note:** As an option and where applicable, prior to installation, an o-ring can be added to the groove above the threads on the retainer. The purpose of this o-ring is to protect the threads of the installation hole from the environment; it is **NOT** meant to be a secondary hydraulic seal. The correct o-ring for the application is noted on the part drawing.

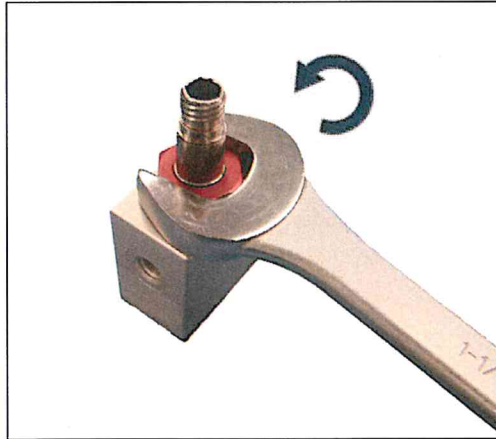


Optional o-ring installed. The o-ring protects the installation hole from debris while the SOV is installed. The o-ring is not a hydraulic seal.

## Solenoid Valve Uninstallation Procedure

**Step 1:** If applicable, remove any lockwire securing the retainer in place.

**Step 2:** Using a wrench or socket, slowly turn the retainer counter-clockwise until the SOV is free of the installation hole.



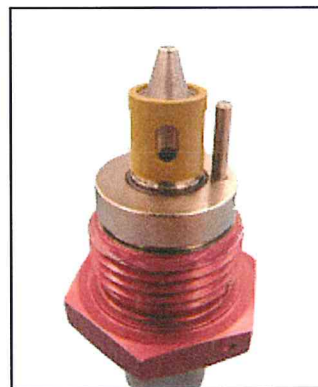
The solenoid and MultiSeal should easily come free of the installation hole. If the SOV gets stuck inside the installation hole and the retainer is fully backed off, pull on the retainer by hand, away from the manifold, until the SOV comes out.

**Step 3:** The MultiSeal may remain on the valve body upon uninstalling the SOV as shown in the images below. If this is the case, proceed to steps 4 - 8.

If the MultiSeal does not stay on the valve and remains in the installation hole, Lee customer tool CUTA4330221B may be used to extract the seal without damaging the sidewall of the installation hole. If the SOV is going to be reinstalled within a few hours, the MultiSeal may remain in the installation hole. Verify the port holes of the MultiSeal are correctly aligned prior to reinstalling the SOV. The MultiSeal should not remain in the installation hole without the SOV for more than 8 hours.



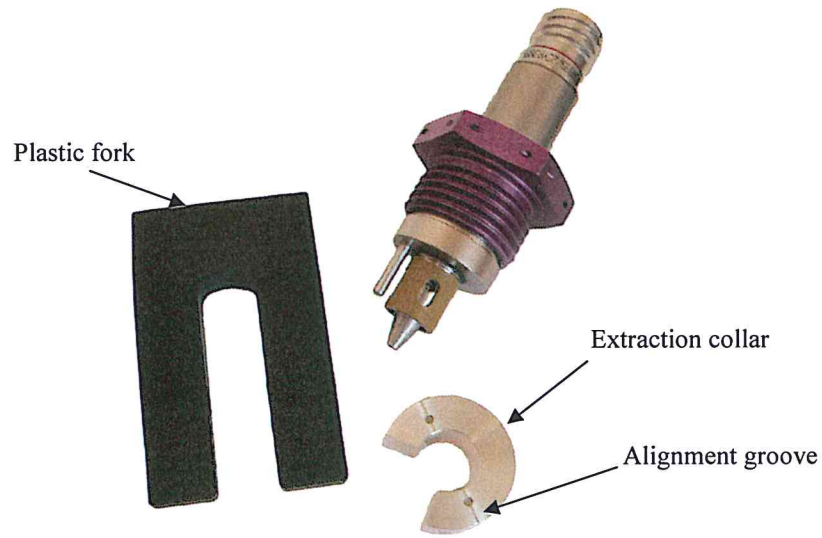
Uninstalled view of C-port.  
MultiSeal remains securely on valve body.



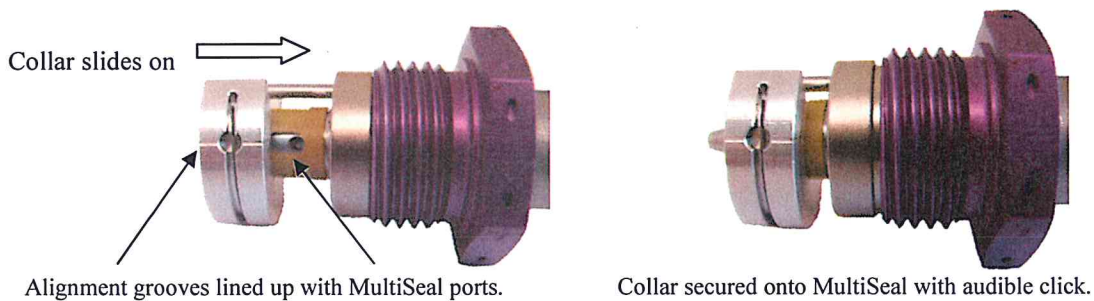
Uninstalled view of R-port.

**Solenoid Valve Uninstallation Procedure**

**Step 4:** Remove the seal from the valve body. This can be achieved by using the Lee MultiSeal removal tool, CUTA4330121B. CUTA4330121B consists of an extraction collar and a plastic fork.



**Step 5:** Align the MultiSeal port holes with the alignment grooves on the extraction collar, then slide the collar over the MultiSeal and valve. There should be an audible click when the collar's pins have snapped into the MultiSeal ports. The collar will only slide onto the MultiSeal in one direction. If the collar does not slide on initially, flip it over and slide it on from the other direction.

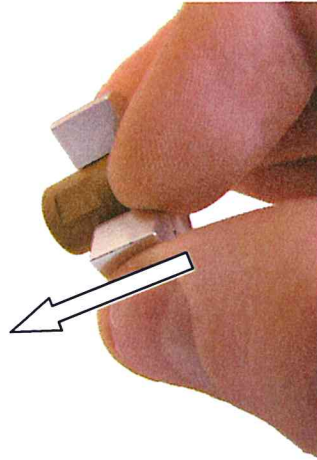
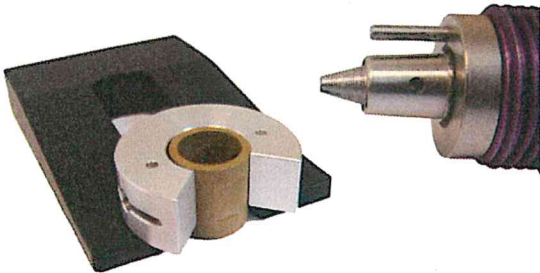




**Step 6:** Place the plastic fork between the front flange of the solenoid and the extraction collar as show below. Using the plastic fork as a lever, pry the collar and MultiSeal off of the valve.



**Step 7:** The MultiSeal will come off with the collar and be held in the collar's ID. To remove the MultiSeal, continue to push it through the collar, away from the surface with the alignment grooves.



**Step 8:** After the MultiSeal is free from the collar, clean off any oil remaining on the seal with isopropyl alcohol. The MultiSeal should be stored in a sealed container with desiccants until it is time for it to be reused. When the SOV is ready to be reinstalled, remove the MultiSeal from the container and follow steps 1-5 of the solenoid valve installation procedure.