



Change Order #5567

Operation Manual for Lee AAJX Manual Pilot Tools To Accompany Lee Fill & Drain Valves

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Revision Status

Sheet	Revision	Date	By	Approved	Description
1 - 6	A	10/30/2024	JPB	ELJ	Initial Release
1 - 5	B	12/17/2024	JPB	ELJ	Change format and update figures



1.0 Scope

The purpose of this document is to outline the proper procedures for the manual actuation and retraction operations of Lee Manual Pilot Tools for Zero Leak Chek Fill & Drain Valves.

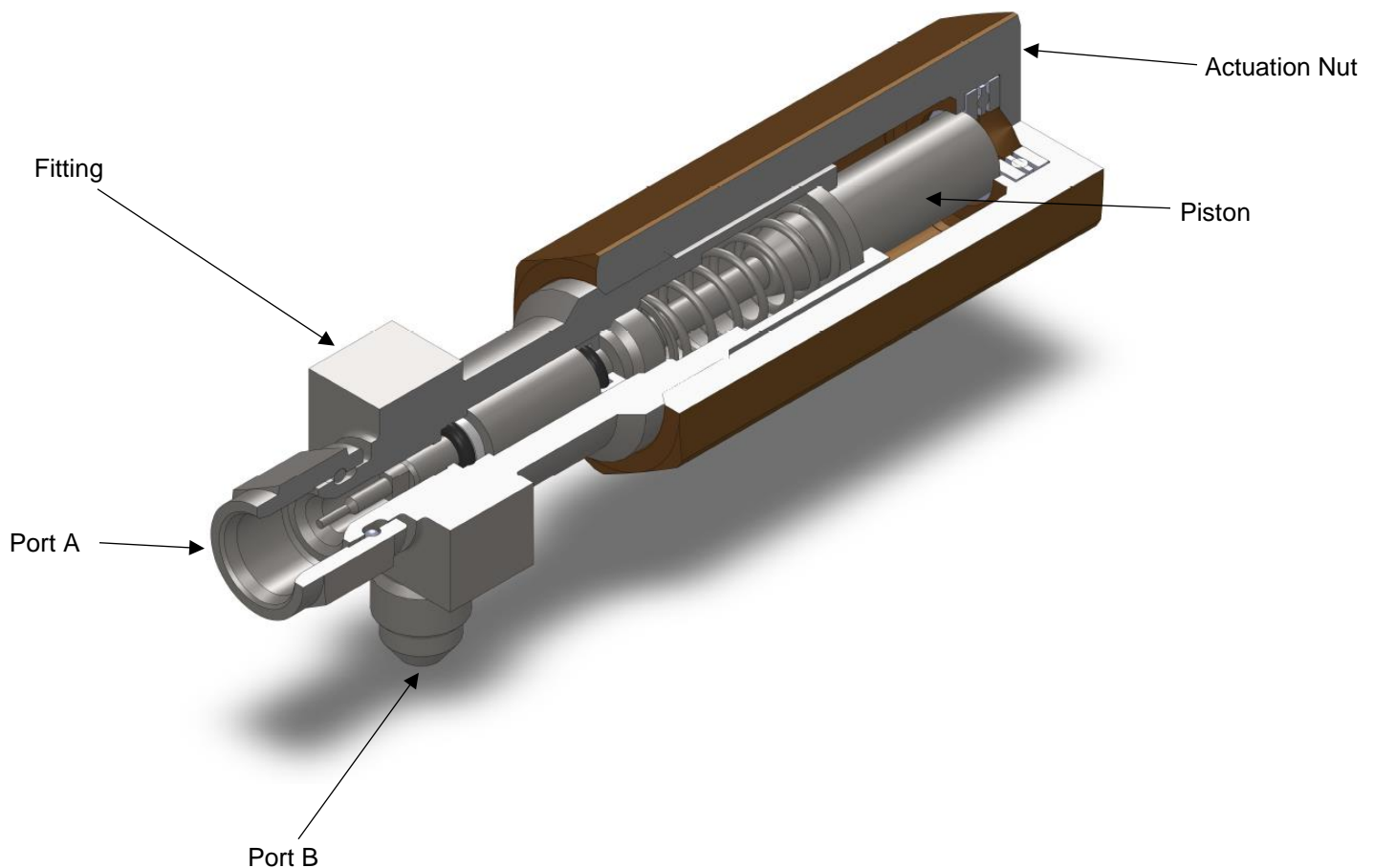
2.0 Definitions

Gasket – refers to the replaceable gasket used between the tool and valve. Not applicable to all valves and tools, refer to associated inspection drawing for clarification.

Tool – refers to the Lee Pilot Tool, prefix AAJX-

Valve – refers to the Fill and Drain Valve (FDV), Lee Zero Leak Chek in fitting.

Checked Pressure – The pressure applied in the checked direction, as shown in Figure 2, during which there is no leakage as defined on the associated Lee inspection drawing.



3.0 Storage & Cleanliness

- 3.1 Outside of use, the tool should be stored in the original packaging at room temperature (60°-80°F) in a temperature-controlled environment.

4.0 Unpackaging

- 4.1 Open the hard plastic container and remove the bag with the tool inside from the container.
- 4.2 Using clean scissors or equivalent, carefully cut the packaging and remove the tool from the bag.

5.0 Actuation Procedure

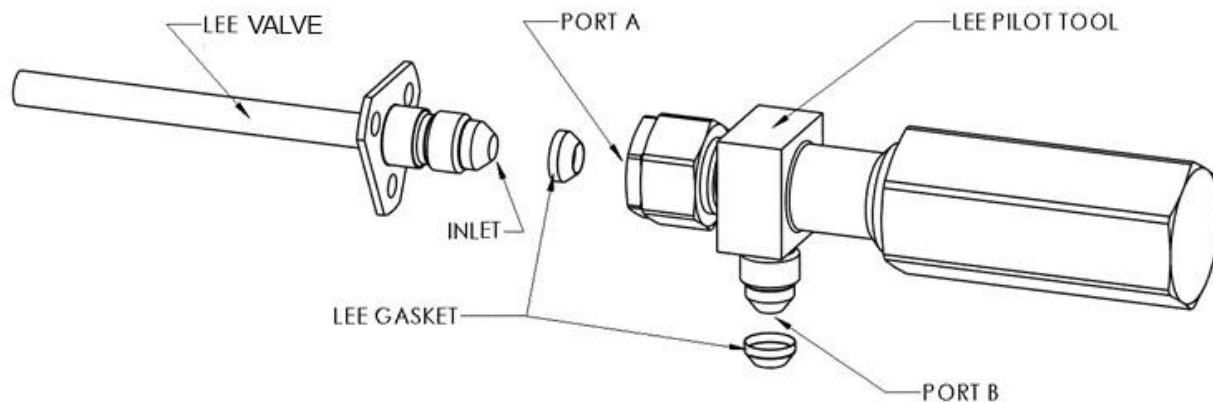


Figure 1: Connecting Tool to Valve and Supply

- 5.1 Clean the sealing surfaces of the valve and tool with isopropyl alcohol and a lint free cloth.
- 5.2 Ensure that a new gasket has been installed on the sealing surface of the inlet fitting end of the FDV and Port B of the Tool (if applicable), as shown in Figure 3. Refer to Section 7.0 for gasket installation.

Note: The gasket is intended to single use only. **DO NOT** reuse a gasket.

- 5.3 Connect the tool to the valve by threading the tool nut at Port A in the clockwise direction onto the inlet of the valve and required torque shall not exceed 163 inch-lbs.
- 5.4 Connect the supply line to the tool at Port B.

Note: If the customer intends to proof test the valve, they are encouraged to connect the tool first then proceed to fill the system through the actuation tool.

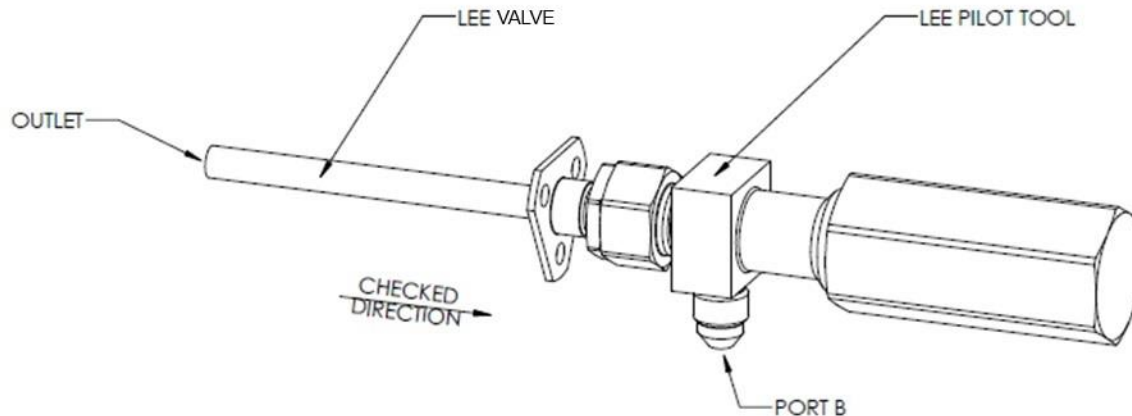


Figure 2: Tool Connected to Valve with Supply Connected at Port B

- 5.5 Ensure that the actuation nut has engaged the piston before pressurizing the tool. **DO NOT Fully actuate the piston.** This is best done by unthreading the actuation nut and then threading the actuation nut back on until a sudden increase in torque is observed (approximately 2-3 turns), this is an indication that the actuation nut has engaged the piston. Thread the actuation nut an additional ¼ turn in the clockwise direction after it has engaged the piston.
- 5.6 Increase the pressure at Port B until the internal pressure of the tool is within 100 psi of the valve checked pressure (i.e. if the checked pressure of the valve is at 3000 psi, increase the internal pressure of the tool until it is within 2900-3100 psi)
- Note: Pressure differential does not have to be within 100 psi if the FDV utilizes a plastic seal. Refer to note 2 of the tools inspection print if seal material is uncertain.
- 5.7 Once the pressure has stabilized, slowly rotate the actuation nut in the clockwise direction until the valve has been fully actuated. A sudden increase in torque is an indication that the valve has been fully actuated. This should take approximately 5-6 full rotations.
- 5.8 With the valve fully actuated by the tool, any fill or drain procedures can be executed. Actuation tool is not required to fill the system but can be used to aid the operation.

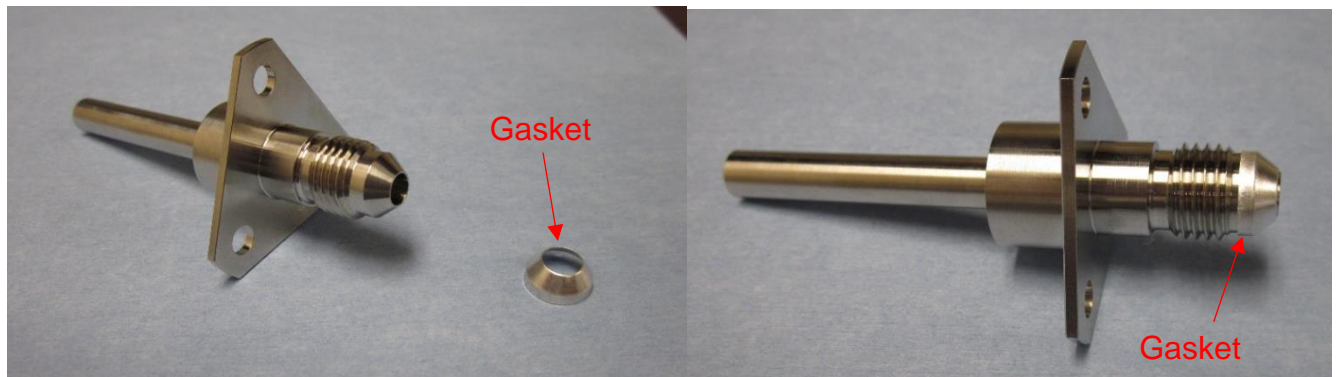


6.0 Retraction Procedure

- 6.1 Ensure that the pressure inside the tool and the valve has stabilized.
- 6.2 Slowly rotate the actuation nut in the counterclockwise direction until the valve has closed and the piston has been fully retracted into the tool fitting. This should take approximately 5-6 full rotations. **DO NOT** unthread the actuation nut completely. Actuation resistance will have a noticeable decline once the piston has been fully retracted.
- 6.3 With the piston fully retracted into the tool fitting, reduce the pressure inside the tool to atmosphere through Port B.
- 6.4 Once the pressure inside the tool has stabilized at atmosphere, the tool can be removed from the valve.

7.0 Gasket Replacement (if applicable)

- 7.1 Remove the used gasket and discard.
- 7.2 Remove replacement gasket from packaging. Clean the gasket with isopropyl alcohol and a lint free cloth. Visually inspect the gasket for any defects. Refer to note 1 of the associated valve drawing for replacement gasket part number.
- 7.3 Carefully place the new gasket over the sealing surface of the proper flared fitting end. The gasket should be centered and securely fastened onto the flared fitting end sealing surface, as shown in Figure 3.



8.0 Troubleshooting

This section is intended to provide troubleshooting for problems that occur during use of the tool. If any problems are encountered, contact the cognizant Lee Sales Engineer. Once problems are identified and solved, the relevant information will be added to this section.