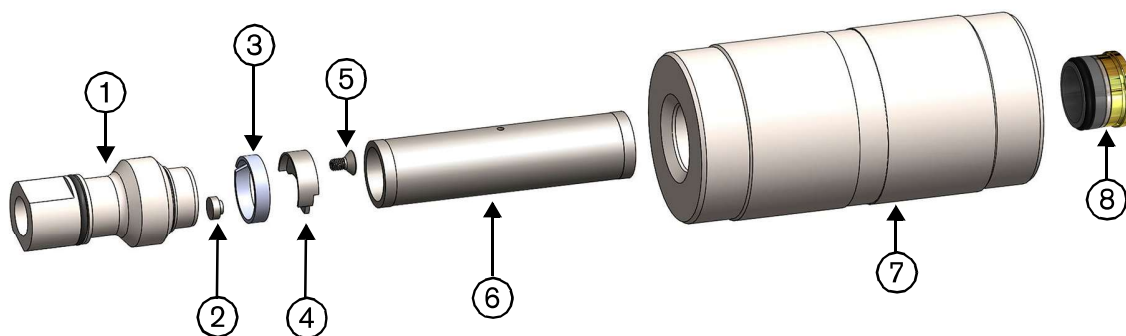


Repair the high-pressure cylinder, the check valve, and the low-pressure poppet

- Repair the high-pressure cylinders, the check valves, and the low-pressure poppets every 500 hours.
- Replace the high-pressure seal cartridges every 500 hours.
- Replace the low-pressure poppets every 1,000 hours.
- Replace the high-pressure cylinders every 3,000 hours or if a cylinder is chipped or cracked.
- Replace the check valve assemblies every 3,000 hours.

 CAUTION	Debris in the cylinder can cause the seals or the poppets to fail.
 CAUTION	If a low-pressure poppet screw seizes, the check valve body must be replaced.
	Clean and examine parts that are replaced to identify wear patterns or damage that can show other problems.
	Clean each part with a towel and isopropyl alcohol. Examine all parts for deterioration, corrosion, or damage. Do not use soap, detergent, or solvents.
	This procedure is for a moderately worn check valve. Replace very worn components.

1. Disassemble, clean, and examine the high-pressure cylinder and the check valve.



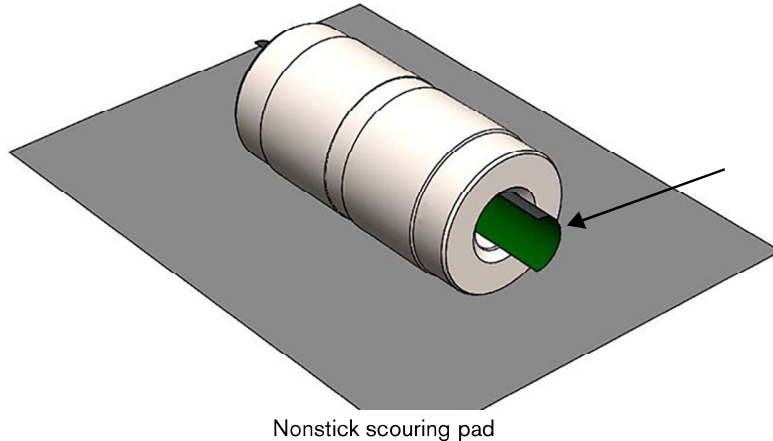
- | | |
|-------------------------|--------------------------------|
| 1 Check valve body | 5 Low-pressure poppet screw |
| 2 Low-pressure poppet | 6 Spacer tube |
| 3 Check valve wear ring | 7 High-pressure cylinder |
| 4 Poppet retainer | 8 High-pressure seal cartridge |

2. Disassemble the cylinder locator tool and the seal installation tool.
3. Put the high-pressure cylinder on the seal locator tool. Make sure that the spacer tube is inside the cylinder.
4. Put the end of the push tool against the spacer tube inside the cylinder.
5. Tap on the end of the push tool with a rubber mallet to push the bottom seal and the hoop out of the high-pressure cylinder.

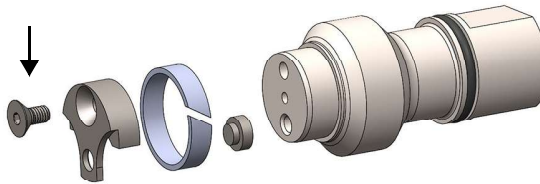
6. Take the spacer tube out of the cylinder.
7. Disassemble, clean, and examine all of the parts.

If the area around the cylinder bore is marked or pitted or has rough edges or burrs, remove the defects with a nonstick scouring pad.

- a. Cut a nonstick pad in half. Put half of the pad in the end of the cylinder. Put 1 thumb in each end of the cylinder and push down evenly on the pad while rolling the cylinder back and forth.



- b. Clean the inner surfaces of the cylinder with a towel and isopropyl alcohol.
- c. Use a 1/8-inch hex wrench to remove the low-pressure poppet screw from the check valve. Discard the low-pressure poppet screw.



8. Disassemble, clean, and examine all of the parts.

If the check valve face or the low-pressure poppet face are not smooth and shiny, repair the part.



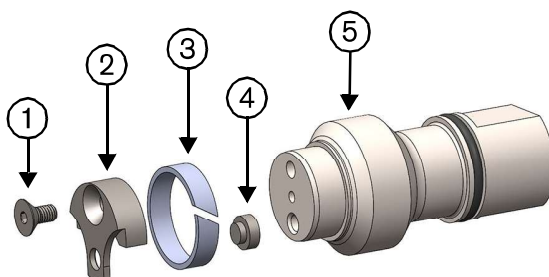
Do not rock the parts or use too much pressure. Doing so can cause damage to the part faces.

- a. Tape a sheet of lapping paper on a granite lapping block. Make sure that the paper is smooth and flat.
- b. Put the check valve face or the low-pressure poppet face flat on the lapping paper and move it back and forth. Use light pressure.
- c. Do this procedure until the face is smooth and flat and has a mirrorlike finish.

3 Preventive maintenance

Assemble the check valve

 CAUTION	Keep the low-pressure poppet and the poppet retainer clean. Grease can cause the poppet to stick.
	Do not put grease or lubricant on the check valve face or in the cylinder bore. These components are designed for dry contact.



- | | |
|-----------------------------|-----------------------|
| 1 Low-pressure poppet screw | 4 Low-pressure poppet |
| 2 Poppet retainer | 5 Check valve body |
| 3 Check valve wear ring | |

Assemble the check valve as shown.

1. Use a cotton-tipped applicator to put high-pressure antiseize lubricant on the threads of a new low-pressure poppet screw.
2. Use a 1/8-inch hex wrench to install the low-pressure poppet screw.
3. Use a torque wrench to tighten the low-pressure poppet screw to 4.5 N·m (40 lbf·ft).