

## Check Valve Replacement Summary and Checklist

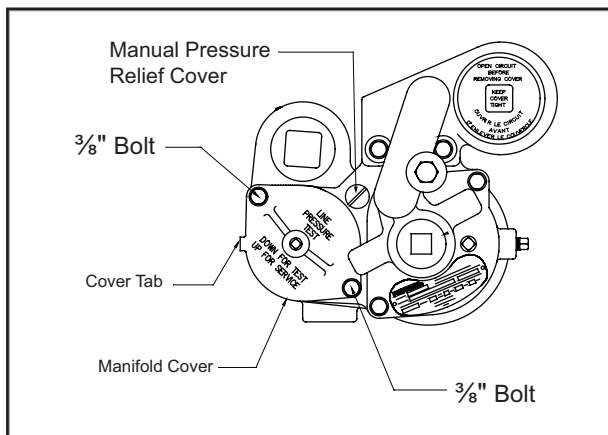
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Models 400988931, 400988932, 400988933 and 402459931

The check valve holds and maintains pipeline pressure when the STP is off. It allows product flow when the STP is on. Integral to each check valve is a pressure relief valve. When the line pressure exceeds the pressure relief threshold it opens and bleeds pressure into the tank. Four check valve models are available each with a different pressure relief threshold (See Technical bulletin TB010 for more information on check valve models). Follow these steps and precautions if replacing the check valve in the STP.

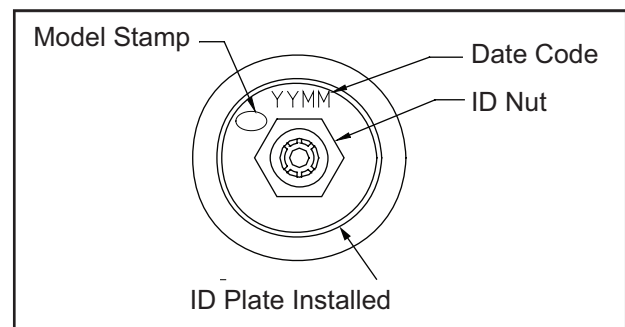
**Note: The summary below does not replace adherence and compliance with the full and complete installation instructions. Refer to those documents for complete instructions, illustrations, and important safety messages.**

1. Shut off and disconnect the power to the pump.
2. Open the Manual Pressure Relief valve (Figure 1), this will release the pipeline pressure to the tank.



**Figure 1: Manual Pressure Relief Valve Location**

3. Remove the brass cover.
4. Turn the Manual Pressure Relief valve up to the retaining ring, wait 5 seconds and turn it back down (do not over tighten).
5. Replace the brass cover on the Manual Pressure Relief.
6. Remove the two 3/8" manifold cover bolts (Figure 1).
7. Remove manifold cover and Check valve spring.
8. Use a pliers to grab the check valve by the ID nut and pull straight up (a vacuum under the check valve may be present when pulling the check valve. The vacuum is caused by product in the STP column pipe).
9. Verify the new check valve is correct for the application (see Figure 2 and table 1).



10. Insert the check valve so it slides freely in its opening and rests flat on the manifold seating surface.
11. Place the check valve spring over the check valve.
12. Replace the O-ring seal in the manifold cover with the new one provided with the check valve.
13. Remove any dirt or debris from the sealing surface of the manifold cover.
14. Grease the manifold cover o-ring.
15. Carefully place cover on the manifold. The cover will compress the check valve spring, as it is placed on the manifold.
16. Orient the manifold cover so the cover tab is toward the outside of the manifold.
17. Replace the 3/8" bolts and washers and using a 9/16" wrench tighten them down in an alternating pattern to a torque of 30 ft-lbs (40.7 Nm).
18. Verify that the manifold cover is tightly installed and there are no gaps between the manifold and manifold cover.
19. Turn the pump on and visually check for leaks around the entire surface of the manifold cover. If any leaks are detected turn off pump, lock out and tag the circuit breaker and make repairs.

Check Valve Model	Opening PSI	Reset PSI	Applications*	Identification
Standard (STD)	40	35	Mechanical Leak Detectors, Incon, Emco Wheaton electronic line leak detection	No Stamp Silver ID Nut
“R” Model	24	22	Veeder-Root PLLD	“R” stamp Black ID Nut
“W” Model	16	13	Electronic Line Leak detection that requires lower reset pressure	“W” stamp Silver ID Nut
65 psi	70	65	<b>Secondary Pump in manifolded line systems only</b>	Blue ID Plate

*Table 1*

\*Check valve models are not limited to the listed applications. See Technical Bulletin TB010 for more information.

## DO:

- Always follow industry standard safety procedures. Consult the STP/IST Fixed and VL Installation and Owner’s Manual, which is provided with STP, for additional safety information and warnings.
- Before removing fittings, pipe plugs, leak detectors, covers, or any other device from the piping system turn off the power at the load center. Lock out and clearly mark the circuit breaker in the OFF position so power is not accidentally turned on while servicing.
- Install 65-psi check valves only in secondary pumps in a manifolded system with more than one pump connected to the common pipeline. Install a standard, R, or W model check valve in the primary pump.
- Use a 9/16" wrench to tighten the 3/8" manifold cover bolts in an alternating pattern to a torque of 30 ft-lbs (40.7 Nm).

## DO NOT:

- x Install 65-psi check valves in the primary pump of a manifolded line system where more than one pump is connected into a common pipeline.
- x Leave any gaps between the manifold cover and manifold when reinstalling the manifold cover.
- x Continue to operate the pump if any leaks around the surface of the manifold cover are found during the initial pump startup after the check valve was replaced.

## Commissioning Checklist

- Manual pressure relief valve is closed.
- Brass cover is installed on the manual pressure relief valve.
- 3/8" manifold cover bolts are tightly installed.
- The check valve installed has been verified to be the correct type for the application and installed correctly along with the check valve spring.
- The new O-ring was previously greased and dirt and debris was removed from the manifold cover sealing surface.
- The manifold cover was reinstalled with the cover tab oriented toward the outside of the manifold.
- The 3/8" manifold cover bolts are tightened to a torque of 30 ft-lbs (40.7 Nm).
- No leaks are observed around the entire manifold cover surface when the pump is turned on.