



## Packaged Gas Division

# Technical Service Bulletin

**Trifecta® ½” Magnatrol Valves**

**Date: 3/31/2022 TSB-HPS-1036**

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**Issue:** 600 psig Solenoid Valves Not Fully Opening

**Models Affected:** Select Trifecta XPro-Series and Pro-Series Models

**Solution:** If issues are encountered with a valve, Chart recommends to replace the piston.

**Description:** Chart has received complaints on a small fraction of 600 psig ½” Magnatrol solenoid valves (**item 21331409**) used on select Trifecta models where the valve will not open fully, causing valve chatter. Each Trifecta is equipped with three ½” valves. This issue impacts models shipped Sept 2021 through March 2022. For units currently in operation, there is no need to replace valves or pistons if the units are operating within normal parameters. The Chart team is grateful for your understanding in this matter. Kit **item 21946443** includes one piston (21360544) and one replacement gasket (10963100).

500 psig valves and 600 psig 1” valves used on Trifecta are not impacted by this issue.

**Models Impacted:**

- 20900990 FNL TRIFECTA XPRO LIN-600 15K
- 21265659 FNL TRIFECTA XPRO LIN-600 15K
- 21438605 FNL TRIFECTA PRO LIN-600 15K

**Replacement Instructions:**

Tools required:

- ½” open end wrench
- Torque wrench (144 in-lb / 12 ft-lb) with ½” socket

Follow the instructions below for replacing piston **item 21360544** within the valve:

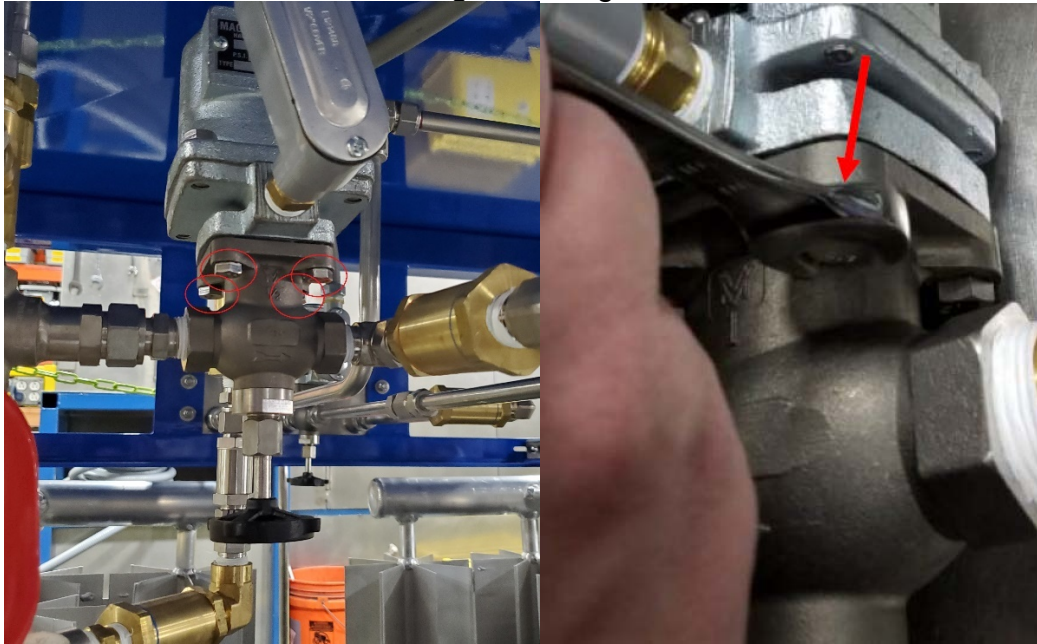
1. Close isolation valves on both pressure vessels, turn off supply from bulk tank, and vent off pressure from all the Trifecta plumbing lines

***Warning: Ensure supply valves are closed and plumbing is de-pressurized prior to performing service on any valves.***



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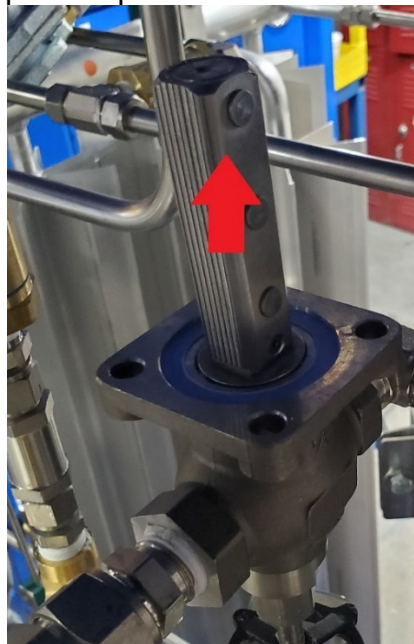
2. Remove the bolts shown in Figure 1 to disassemble the valve. Set aside the solenoid valve, leaving the wiring connected.



*Figure 1. Disassembling Valve*

**Important Note:** Care must be taken to avoid damaging the sealing surfaces of the valve body and gaskets to prevent any leaks when the valve is re-assembled.

3. Lift the existing piston up and out and set aside.

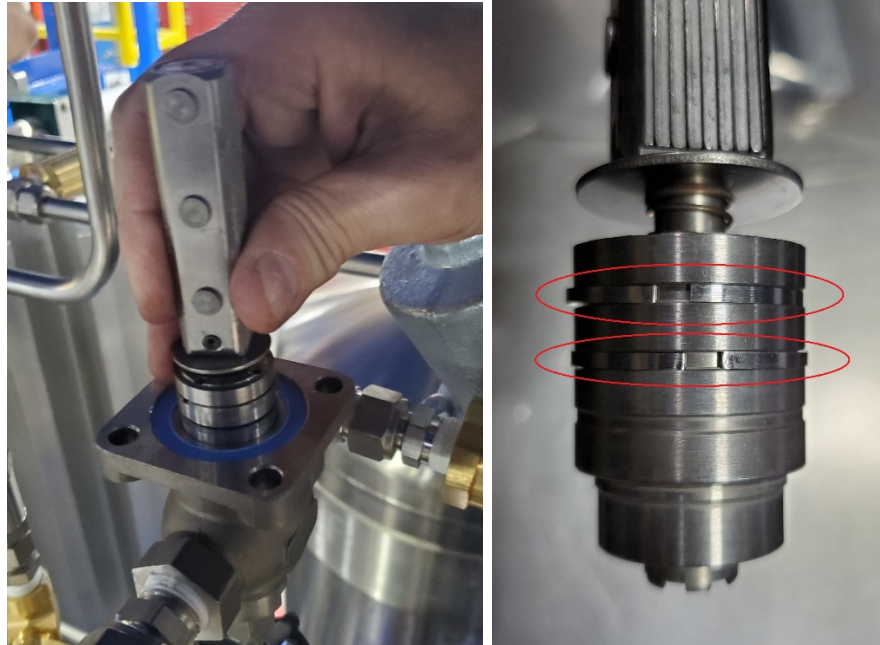


*Figure 2. Piston Removal*



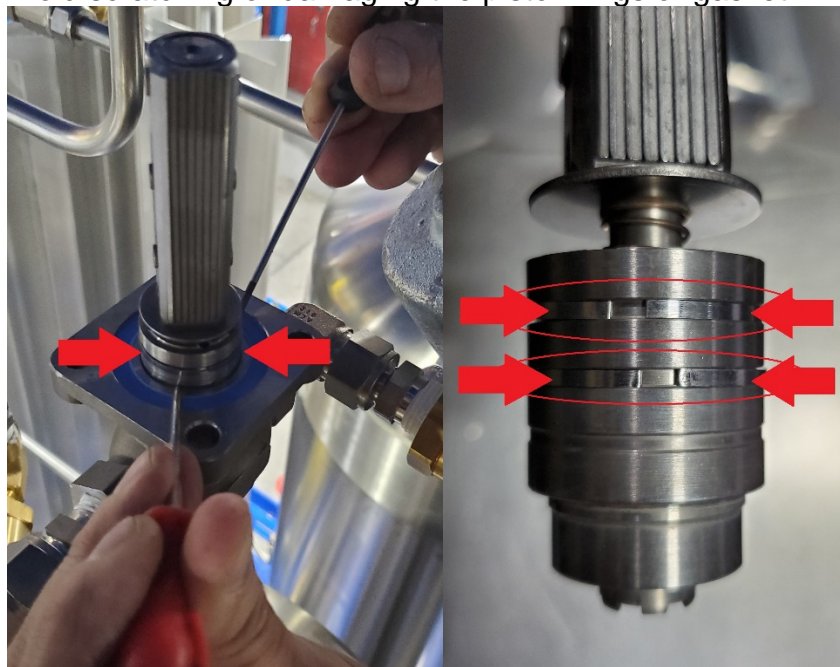
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4. Place new piston into valve. **Do not** force piston into the piston seat. Ensure that the two piston rings remain set properly in their channels and are not lost or damaged.



*Figure 3. Installing new piston*

5. To fully insert the piston, gently pinch the piston rings (either by hand or using small screwdrivers) closed and the piston will drop into place. The piston should drop slightly for each piston ring once it is seated properly. Avoid scratching or damaging the piston rings or gasket.



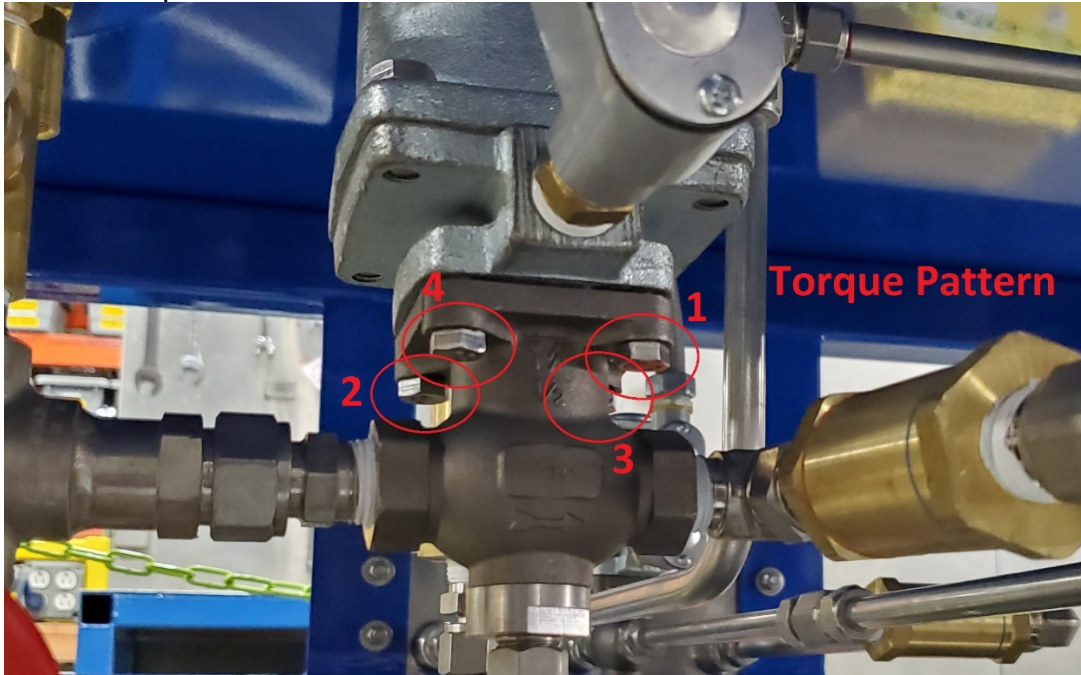
*Figure 4. Piston Insertion*

**Note:** Valve gasket can be replaced if needed using **item 10963100**.



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6. Re-install solenoid onto the valve body and hand-tighten bolts into place in a diagonal pattern. Once all bolts are hand-tight, use a torque wrench with  $\frac{1}{2}$ " socket to tighten bolts down one quarter turn at a time until each bolt is torqued to **144 in-lb.**



*Figure 5. Torque pattern for re-assembling valve*

7. Open tank isolation valves and leak check all valves to ensure no leaks are present.
8. Re-open supply from bulk tank to the Trifecta and return the Trifecta to service.

**Contact:** Chart's continuous attention to product improvement and customer satisfaction has resulted in this design modification. We will continue to listen to our customers and look for ways to improve our designs and streamline our processes. If you have concerns or questions relative to this action, please contact your Chart Customer Service Representative at (800) 400-4683. Thank you for depending on Chart to provide high product quality and service.