

**TSB25-1002**

IMPORTANCE: MODERATE

V20 Bypass Orifice Seal

Technical Service Bulletin

CHEMICAL COMPATIBILITY WITH GASOLINE

SUBJECT

Some V20 series vane pumps may have a compound issue of swelling poppet valve o-ring and sharp feature on the machined surface of the poppet valve seat in the pump. A recent change in the types and amounts of chemical additives used in gasoline blends by some marketers has resulted in material swelling of the bypass orifice seal o-ring.

NOTE: Diesel pumping applications are not affected.

SYMPTOM AND CORRECTIVE ACTION

In some instances, with gasoline pumping applications the bypass poppet o-ring may swell and be cut by a sharp feature on the poppet valve seat of the pump housing. This results in pump priming issues. This issue has been isolated to gasoline applications only and the effects vary dependent upon additives used in the gasoline blend.

To address the swelling o-ring GPI has selected a replacement o-ring manufactured from an enhanced compound which is stable in a wider range of gasoline blends.

To address the sharp feature on the poppet valve seat GPI has updated the machining process to add a radius to the valve seat.

MODELS AFFECTED

V20 series transfer pumps manufactured within the following date range may be affected.

August 1, 2023 – July 31, 2025

All V20 product manufactured after August 1, 2025 are equipped with the new o-ring material and updated valve seat machining profile, making them suitable for use in Gasoline Applications.

REMEDY

Replace the bypass poppet assembly.

Part# 171500-10 KIT, CARTRIDGE BYPASS, V20

For V20 pumps that have exhibited issues with the bypass poppet valve GPI has designed a Cartridge Poppet Assembly. This is a drop-in replacement part which is compatible with all V20 pumps.

REPAIR OPTIONS

Repair on site:

GPI will provide the repair part to customers at no charge.

Estimated time to perform repair is 5 minutes

Contact GPI and request a replacement bypass poppet Item# 171500-10 KIT, CARTRIDGE BYPASS, V20

Repair by Factory:

Contact GPI and request a Return Material Authorization (RMA) to

return the pump to the factory for repair. In the continental United States, GPI will provide shipping arrangements for return of the pump to the factory. GPI will repair and return the pump to the customer at no charge.

REPAIR GUIDE

RECOMMENDED TOOLS AND SUPPLIES

Safety Glasses
Nitrile Gloves
Absorbent Cloth
10mm Hex Wrench

Instructions on page 2

⚠ DANGER Always disconnect power before repairing or servicing. Never apply electrical power to the system when any of the cover-plates are removed.

⚠ WARNING Avoid prolonged skin contact with petroleum fuels use protective goggles, gloves and aprons in case of splashing or spills. Change saturated clothing and wash skin promptly with soap and water

⚠ WARNING Smoking, open flames, fires, and open ignition sources are prohibited in the vicinity of this product.



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REPLACE BYPASS POPPET

1. Turn the pump OFF and disconnect from power.
2. Place cloth or container below bypass plug to collect fuel from pump cavity. With a 10mm hex wrench, remove the bypass plug from the pump and set it aside for reassembly. (see Figure 1)
3. Remove the bypass poppet spring, bypass poppet and bypass poppet o-ring and dispose of them.
4. Inspect bypass plug o-ring and replace as necessary.
5. Inspect the bypass chamber for any debris and using a clean cloth wipe clean. Wipe the new bypass poppet cartridge clean.
6. Confirm that the o-ring on top of the bypass poppet cartridge is seated.
7. Install the new bypass poppet cartridge. Insert with orifice o-ring on top. (see Figure 2)
8. Install bypass plug. Secure plug using 10mm hex wrench.

Figure 1

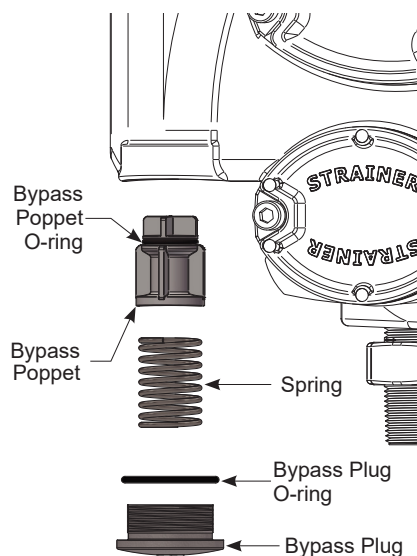


Figure 2

