HYDRAULIC AUTO BLEED DOWN REPAIR KIT (302008-1)

This service procedure is for the installation of the Hydraulic Auto Bleed Down Repair Kit to rebuild a Hydraulic Auto Bleed Down Valve (301013-1 or 301028-1)

The following parts are required to perform this rebuild:

302008-1 (Repair Kit, Hydraulic Auto Bleed Down)

302016-1 (Tool Kit, HP Valve Seal Insertion (100187-IN) and Extraction (100187-E))

400001-1 (Blue Anti-Galling Lubricant)

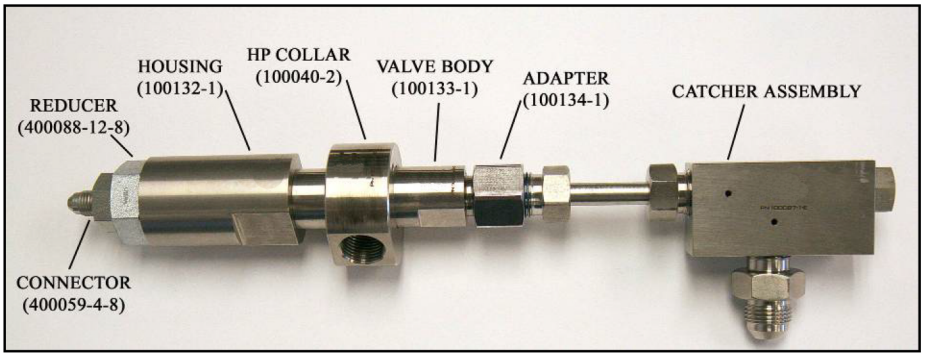

FIGURE 1

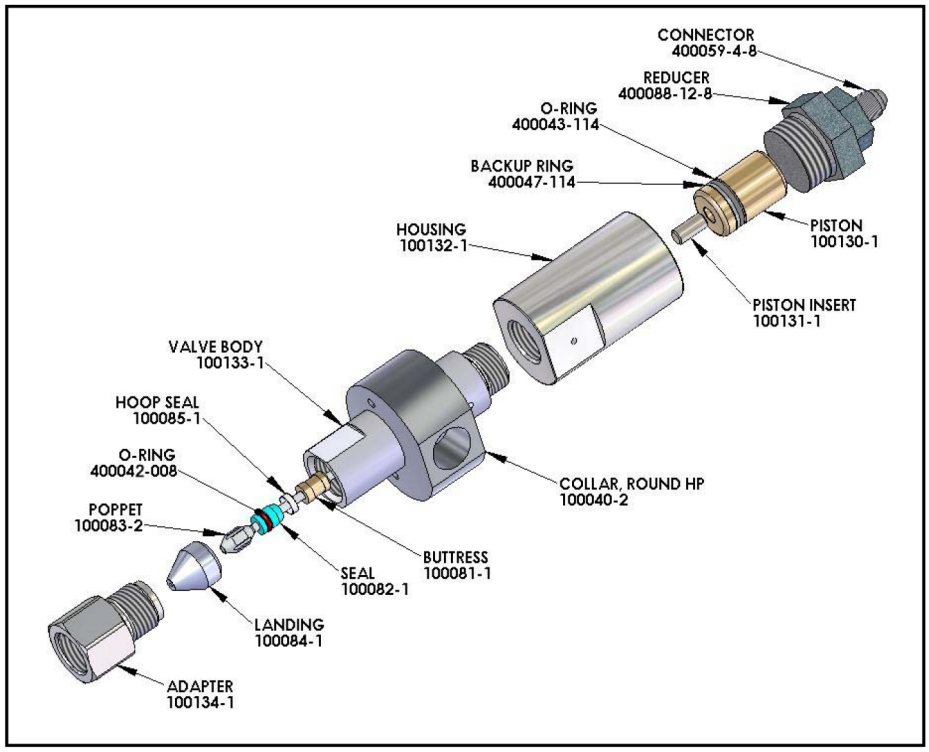

FIGURE 2

Disassembly:

1. Shut down the system.

WARNING

Place the main electrical disconnect in the OFF position and bleed down all high-pressure lines. Place an "Out of Service" tag on the main electrical disconnect and lock it out. Failure to do so may result in damage to equipment or injury to personnel.

2. Remove the Hydraulic Hose from the oil port of the Bleed Down Valve.

   Note: Some oil will leak out of hose and valve. Use an appropriate catch pan to contain the oil.

3. Remove the high pressure tubing from the inlet port, the water drain line from the Catcher, and the 2 bolts holding the High-Pressure Collar (100040-2) to the pump frame.

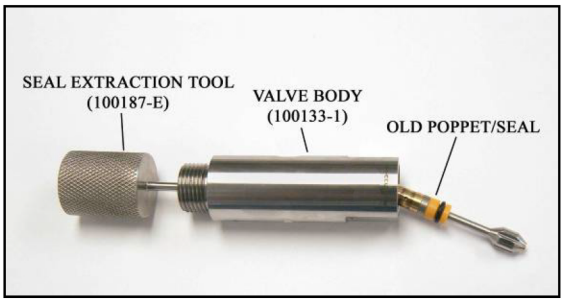

FIGURE 3

4. Place the valve on a suitable clean workbench for disassembly.
5. Separate the Bleed Down Valve from the Catcher Assembly by removing the connecting high pressure tubing.
6. Remove the Adapter (100134-1) and the High Pressure Collar (100040-2) from the Valve Body (100133-1).

   Note: It is not necessary to remove the High Pressure Collar from the Valve Body.

7. Remove and discard the Poppet Landing (100084-1) from the end of the Valve Body (100133-1).

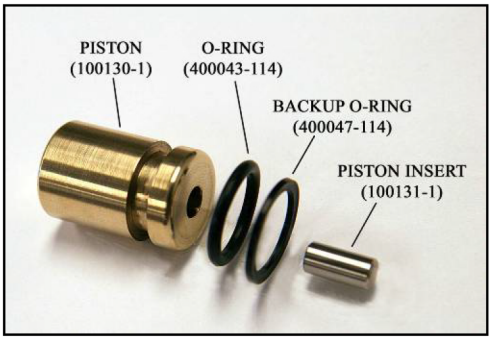

FIGURE 4

8. Separate the Housing (100132-1) from the Valve Body (100133-1).
9. Slide the Seal Extraction Tool (100187-E) into the externally threaded end of the Valve Body (100133-1), being careful not to damage the Oil Seal. Press on the Seal Extraction Tool to remove the Poppet, Seal, Buttress, and Hoop Seal. Discard at this time. **See Figure 3.**

   Note: DO NOT remove the Oil Seal unless damaged.

10. Remove the Reducer (400088-12-8) from the Housing (100132-1).
11. Press the Piston (100130-1) assembly out of the Housing (100132-1) through the oil port side.

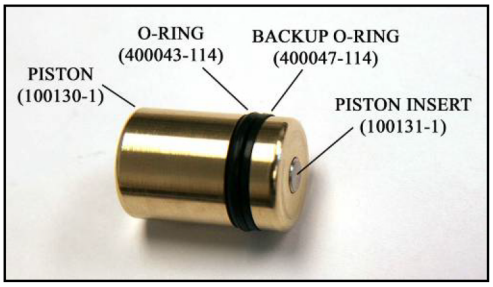

FIGURE 5

12. Remove the O-Ring (400043-114), Backup O-Ring (400047-114) and Piston Insert (100131-1) from the Piston (100130-1). Discard the O-Rings at this time.
13. Thoroughly clean any foreign material from the remaining parts. Inspect the parts for scratches, pitting, or wear. Replace if necessary.

Assembly:

14. Apply a light coat of Food Grade O-Ring Lube (400034-2) to O-Ring (400043-114), Backup O-Ring (400047-114), Piston Insert (100131-1), and Piston (100130-1).
15. Install the O-Ring (400043-114) and Backup O-Ring (400047-114) onto the Piston (100130-1) in the order shown. Slide the Piston Insert (100131-1) into the Piston until seated. **See Figure 4 and 5.**
16. Slide the Piston Assembly (Piston Insert end first) into the Housing (100132-1) until seated. **See Figure 6.**

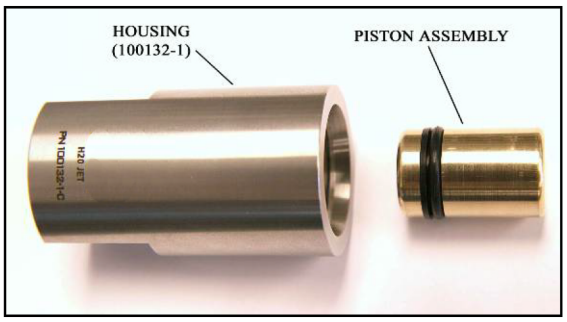

FIGURE 6

17. Apply a light coat of Food Grade O-Ring Lube to the O-Ring (400043-008), Seal (100082-1), Hoop Seal (100085-1) and Poppet (100083-2).
18. Slide the Buttress (100081-1) onto the Seal Insertion Tool (100187-IN). Ensure that the chamfer end of the Buttress is facing away from the tool. Using the Tool, Slide the Buttress into the Valve Body (100133-1) until it bottoms. **See Figure 7.**

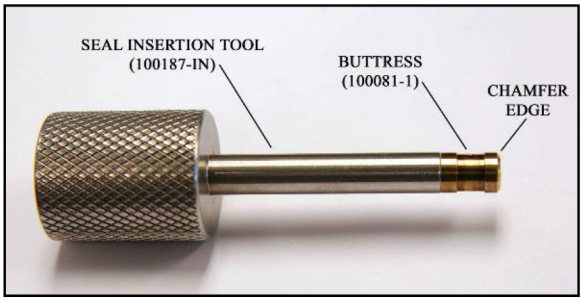

FIGURE 7

19. Install the O-Ring (400042-008) onto the groove of Seal (100082-1). **See Figure 8.**
20. Slide the Seal (100082-1) onto the Seal Insertion Tool, with the taper end facing away from the tool. Slide the Hoop Seal (100085-1) onto the Seal Insertion Tool, sharp edge facing the Seal. **See Figure 8 and 9.**
21. Press the Seal Insertion Tool/Seal Assembly into the Valve Body (100133-1) until it bottoms. **See Figure 9.**

    Note: Visually make sure the seal assembly is installed past the high-pressure inlet port on the Valve Body. **See Figure 11.**

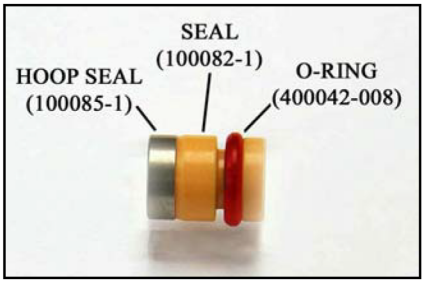

FIGURE 8

22. Slide the Poppet (100083-2), shaft end first, into the Valve Body (100133-1). Make sure that the shaft is lined up with the seal assembly. Using a plastic or wood dowel, press the Poppet tip through the seal assembly until it sits flush with the Valve Body inner face. **See Figure 10.**
23. Apply a light coat of Blue Goop to all threaded surfaces.
24. Thread the Valve Body (100133-1) to the Housing (100132-1). Torque to 22-25 ft-lbs (30-34 N-m)

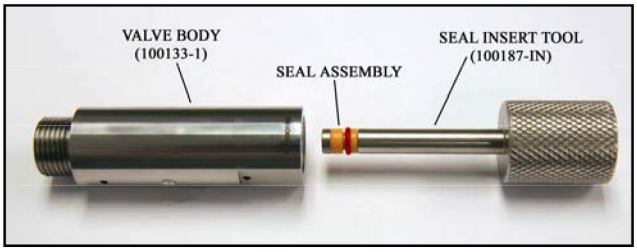

FIGURE 9

25. Thread the Reducer (400088-12-8) into the Housing (100132-1). Tighten at this time.
26. Slide the High Pressure Collar (100040-2) onto the Valve Body (100133-1), with the threaded holes facing away from the Housing (100132-1). Thread the Set Screw (400085-258-20-.375) into the Collar. Align the Set Screw with the small drill point on the Valve Body by carefully moving the Collar up and down slightly. You should feel the Set Screw align with the drill point. Torque to 50 in-lbs (6 N-m). (Cont'd on page 4.)

Note: This step is only required if the High Pressure Collar was removed in step 6.

27. Apply a small amount of Blue Goop to the Landing (100084-1). Drop the Landing into the Valve Body (100133-1), with the large tapered end facing out. **See Figure 11.**
28. Thread the Adapter (100134-1) into the Valve Body (100133-1). Torque to 30-35 ft-lbs (40-48 N-m).
29. Thread the Catcher Assembly into the Adapter (100134-1). Torque to 15 ft-lbs (20 N-m).

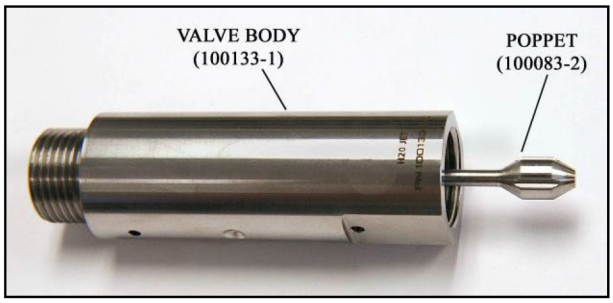

FIGURE 10

30. Install the assembled Bleed Down Valve (**Reference Figure 1)** onto the pump frame by bolting the High Pressure Collar (100040-2) to the frame. Install the high pressure inlet tube, the water drain line, and the hydraulic hose.
31. Turn on the high-pressure source and slowly raise the pressure, checking for leaks. Ensure the valve is operating properly.

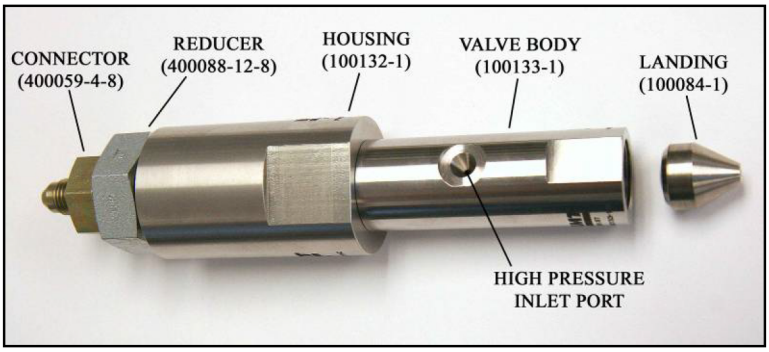

FIGURE 11