

GPL Odorizers

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5.1.1 Pump Removal

To remove the pump from the mechatronic enclosure:

1. Ensure that the 24VDC power is disconnected from odorizer. ****Failure to disconnect power will void GPL Odorizers Warranty****
2. Open the electronic assembly door, and disconnect the wires leading from the motor/gear box (F) to the motor controller (MM). Remove the ground wire.
3. Close the electronic assembly door and also close the two hydraulic isolation valves on either side of the pump (AA).
4. Using an 11/16th or adjustable wrench, loosen the nuts connecting the isolation valves (AA) to Piston chamber outlet fittings (T).
5. Loosen and remove the two #10-32 Socket Head cap screws from the bottom of the pump (RR).
6. The pump body can now be pulled out of the mechatronic enclosure. Note that hydraulic fluid can leak out of the pump body at this point; take care to minimize spills and drops of the fluid.

5.1.2 Piston Seal Service

To replace the piston seals within the pump housing:

1. Using a ¼" Allen wrench, loosen and remove the 4 socket head cap screws (S) from the pump housing lid (U).
2. The lid (U), which is bolted to the Drive shaft housing (V) and motor/gearbox (F), can now be pulled up from the pump body. Note that the inner hydraulic chamber is filled with hydraulic fluid and the cam roller bearing (K) and crankshaft (X) are covered in oil. Take care to avoid drips and spills.
3. The hydraulic fluid in the pump body can now be poured into a large bowl or container. Dispose of the fluid in the proper manner.
4. Remove the Scotch Yoke bearing housing (J) by pulling the part straight upwards from the body. Inspect and clean the bearing housing, and look for signs of excessive wear.

5. Remove each of the pistons (H) by pulling straight back from the cavity they are inserted in. Take care that the pistons are not scratched or damaged during disassembly. Inspect and clean the pistons, and look for signs of excessive wear.
6. Using a 1- 1/16" or adjustable wrench, loosen and remove the Piston Chamber outlet fittings (T) on either side of the pump.
7. Using a 5/16" Allen wrench, loosen and remove the Hydraulic seal cartridge housings (M) from each side of the pump body. Ensure that the O-rings that are at the end of each housing are removed with the seal cartridges. Dispose of the used cartridges.
8. Unpackage the new Hydraulic seal cartridges and using Loctite 222, install and torque the new housings to 5 ft. - lbs. (6.8 N-m) in each end of the pump body.
9. Reinstall the pistons (H) into each cavity, making sure to lubricate the pistons before insertion.
10. Reinstall the Scotch Yoke bearing housing (J), making sure that each piston is reattached to the housing.
11. Using a 1- 1/16" or adjustable wrench, install the Piston Chamber outlet fittings (T) on either side of the pump, and torque to 1 ft-lb (1.4 N-m).
12. Fill the pump body with Hydraulic fluid #41 (6-05488R), moving the piston back and forth, priming each chamber. This results in some hydraulic fluid being pumped out of each Piston Chamber outlet fitting (T).
13. Reinstall the pump lid (U), which contains the crankshaft (X), cam bearing (K), and motor/gearbox (F). Ensure the cam bearing is inside the scotch yoke bearing housing (J).
14. Align the pump lid (U), with the four holes for the ¼"-20 Socket head cap screws(S).
15. Install with Loctite 222 the 4 socket head cap screws(S), and torque to 6 ft.-lbs.
16. Move the pump assembly back into the main mechatronic enclosure.
17. Reinstall the wire leads from the motor (F) to the motor controller (MM).
18. Reinstall and tighten the two nuts from the piston chamber outlet fittings (T) to the hydraulic isolation valves (AA).
19. Open the hydraulic isolation valves (AA).
20. Follow instructions in section 3.7 for bleeding of the hydraulics.