

To: All Distributors
Regional Sales Managers and National Sales Manager

From: Technical Support

Model: Labrie Automizer, Expert with Helping Hand Arm

Subject: Main Control Valve Resealing

The following work instructions outline the procedure to reseal the main control valve on the Labrie, Wittke and Leach product models. Please note that these repairs should be performed only by trained, experienced Technicians.

Please contact LabriePlus at (800) 231-2771 with any questions or for further information.



Labrie, Wittke, Leach Main Control Valve Resealing

Tools Required

- Ratchet
- $\frac{3}{4}$ " socket
- $\frac{1}{2}$ " socket
- 6" extension
- Torque Wrench
- $\frac{3}{4}$ " combination wrench
- O-ring pick
- Large Phillips Driver
- Lifting device, minimum 500 lb. capacity (overhead winch, shop crane, etc.)
- Nylon sling, minimum 500 lb. rating
- Lint free rags
- Petroleum jelly

Parts Required

- LabriePlus part number HYJ4104 Section Seal Kit, one kit required for each section (does not include plug or port relief seals)
- LabriePlus part number HYJ04107 Inlet Section Seal Kit, one kit required per valve assembly

Thoroughly clean the valve, connecting hoses and the area directly surrounding the valve.

Valve Removal

Remove the hydraulic tank fill cap to relieve any air pressure from the reservoir. Remove the hoses (label them prior to removal to aid in re-assembly). Attach the lifting device to the valve using the nylon sling, then using the $\frac{3}{4}$ " socket, 6" extension and ratchet, and remove the four $\frac{3}{4}$ " bolts attaching the valve to the body; on Labrie product models, remove the valve and mounting plate. Drain the oil from the valve and set it on a clean, flat surface. On Labrie product models, using the $\frac{1}{2}$ " socket and ratchet, remove the valve mounting plate from the valve.

Valve Resealing

1. Using the $\frac{3}{4}$ " socket & ratchet, and a $\frac{3}{4}$ " combination wrench, remove the four tie rods holding the valve assembly together, and remove the tie rods. Thoroughly clean the tie rods, nuts and washers, and lightly lubricate the threads of the tie rods.
2. On the inlet section of the valve assembly, use an o-ring pick to remove and discard the old o-rings, clean the inside face of the plate, and inspect for cracks, abnormal wear, rust or uneven sealing surfaces. Slide the tie rods through the inlet cover and stand it upward (on end). Lubricate the o-rings with petroleum jelly and install them into their corresponding seat in the inlet section. Ensure the o-rings are pushed fully and evenly into their seats.



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3. Starting with the first valve work section, clean the sealing surface of the valve work section, and inspect for cracks, abnormal wear, rust or uneven sealing surfaces. Carefully lower the valve work section over the tie rods and mate it to the end plate. Using an o-ring pick remove and discard the old o-rings. Clean the seats in the o-ring seal face and inspect for cracks, abnormal wear, rust, or uneven sealing surfaces. Using petroleum jelly, lubricate and install the new o-rings, ensuring they are seated fully into their corresponding seats; refer to the attached diagram for seal configuration.
4. Repeat step 3 with the remaining valve work sections.
5. Ensure that the flat sealing surface of the valve end cap is clean and inspect it for cracks, abnormal wear, rust, or uneven surfaces. Carefully lower it over the tie rods and mate it to the valve work section. Install the washers and nuts on the tie rods. Using a 3 step torque method, torque the tie rods to 75 lbs./ft. (102 Nm).
6. Starting with the first valve section, use the ½" socket and ratchet and remove the bolts attaching the spool actuator to the valve work section. Using the large Phillips driver remove the 2 screws attaching the spool eye end dust boot and seal plate; remove the dust boot and seal plate. Pull the spool out of the valve work section by grasping the valve spool actuator and gently pulling it out.
7. Using an o-ring pick, remove and discard the o-rings and back-up rings from the spool and/or valve body. Clean and inspect the valve spool, the bore and seal seats in the valve body, and the seal & dust boot retaining plates for cracks, abnormal wear, rust, or uneven surfaces. Clean and inspect the dust boot for damage, cracking or swelling. The dust boots are not included with the seal kits; replace if necessary with Labrie part number HYV02887 dust boot.

Please note that LabriePlus part number HYJ04104 seal kit contains an o-ring marked with a red or orange dot; this is not used, and should be discarded.

8. Lubricate a spool backup ring and seal with petroleum jelly and install them onto the valve spool, backup ring first, using care not to cut them on the spool lands. Slide the backup ring and seal against the seal retainer plate on the actuator. Lubricate the spool with clean hydraulic oil and slide it into the valve body gently, seating the o-ring into the valve body seal recess.
9. Using petroleum jelly, lubricate and install the o-ring then back-up ring onto the spool eye end of the valve spool. Using the seal retaining plate, press the spool seal and backup ring into the valve body recess.



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10. Ensure the actuator is properly attached to the valve spool, and position the actuator with the breather hole in the actuator sleeve pointing toward the bottom of the valve, and pneumatic ports correctly positioned (air actuated models). Tighten the actuator retaining hardware to 32-36 lbs./in. (3.6-4.1 Nm).
11. Install the spool eye end seal retaining plate and dust boot, and tighten the retaining hardware to 32-36 lbs./in. (3.6-4.1 Nm).
12. Repeat steps 6 through 11 with the remaining valve work sections.

Valve Installation, Testing and Adjustment

On Labrie product models, clean the valve mounting plate and install it to the valve assembly; tighten the hardware securing the valve to the mounting plate to 85 lb./ft. (118 Nm). Using a suitable lifting device, reinstall the valve assembly to the body. Tighten the hardware securing the valve or valve mounting plate to the body to 85 lb./ft. (118Nm). Install the hoses that were previously labeled to their respective fittings. Install and tighten the hydraulic tank fill cap.

Operate all functions until the hydraulic fluid is at operating temperature, and check for leaks. Attach a 0-4,000 PSI hydraulic gauge on the test port of the inlet cover, start the truck, and engage the pump. Check and adjust pressures; refer to the corresponding product model Maintenance Manual for detailed instruction. Add hydraulic fluid as required to the hydraulic tank.

