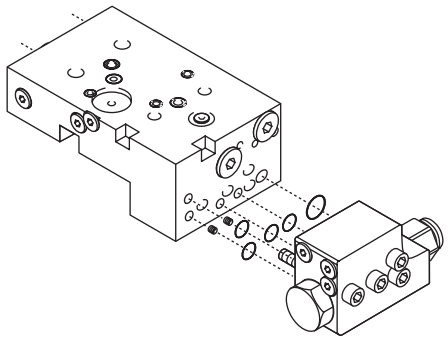
Service Kit Instructions

Series 51
Pressure compensator over-ride

PROCEDURE:

1. Install new O-rings on the pressure compensator over-ride valve block and retain with petroleum jelly.
2. Install the PCOR valve block on the multi-function block and install the screws.
3. Torque the screws to 11 Nm (8 ft•lbf).
4. Perform the PCOR pressure adjustments as described below.



ADJUSTMENT:

> WARNING
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> The following procedure will require the vehicle/machine to be disabled (wheels raised off the ground, work function disconnected, etc.) while performing the adjustments to prevent injury to the technician and/or bystanders.

The PCOR may be adjusted with the screw on the PCOR valve block attached to the multifunction block. The setting pressure is that system gauge pressure at which the PCOR causes the motor displacement to start to increase. On a test stand this point is when system flow begins to increase. On a machine, with the motor shaft locked from turning, this point is when maximum servo pressure becomes higher than minimum servo pressure.

In order to measure the PCOR setting pressure on a test stand, monitor system gauge pressure and system flow. Provide a signal to the motor control to maintain the motor at minimum displacement. Increase the system pressure until system flow just starts to increase. The system pressure at this point is the PCOR setting pressure. To adjust the setting, loosen the lock nut with a 1 $^{1}/_{16}$ inch hex wrench. Turn the adjusting screw, with a large screw driver or a $^{1}/_{2}$ inch hex wrench until the desired setting is established. Clockwise rotation of the adjustment screw will increase the pressure setting approximately 1200 psi (83 bar) per turn. While holding the adjusting screw from turning, torque the locknut to 52 Nm (38 ft•lbf).

In order to measure the PCOR setting pressure on a machine, monitor the system gauge pressure (M1 or M2 gauge port), minimum servo pressure (M3 gauge port), and maximum servo pressure (M4 gauge port). Apply the parking brake, block the load, etc. to keep the motor shaft from turning during this test. CAUTION: Take necessary precautions to prevent personal injury if machine or load should move during this test. While watching the gauges, very slowly increase the pump displacement, thereby increasing system pressure gradually (or use the pressure limiter adjustment screw on the pump to increase the system pressure gradually). Minimum servo pressure will increase with the system pressure. At about 50 psi below the PCOR set point the minimum servo pressure will stop increasing with system pressure and the maximum servo pressure will begin to increase. As system pressure is increased farther, minimum servo pressure will begin to decrease and maximum servo pressure will begin to increase. When maximum servo pressure becomes 50 to 100 psi higher than minimum servo pressure the motor servo piston will begin to move toward maximum displacement. The system pressure at this point is the PCOR setting pressure. To adjust the setting, loosen the lock nut with a 1 $^{1}/_{16}$ inch hex wrench and turn adjusting screw until the desired setting is established. Clockwise rotation of the adjustment screw will increase the pressure setting approximately 1200 psi (83 bar) per turn. While holding the adjusting screw from turning, torque the lock nut to 52 Nm (38 ft•lbf).

CAUTION

A stop pin is installed in the adjusting screw to prevent "over travel" of the PCOR valve spool. The stop pin must protrude from the "bottom" of the adjusting screw 24 mm (0.94 inch) for settings of 110 to 260 bar (1600 to 3750 psi) or 19 mm (0.75 inch) for settings of 270 to 370 bar (3900 to 5350 psi). Refer to the appropriate Service Parts Manual.

In order for the PCOR to function properly on motor controls equipped with a Break Pressure Defeat spool, the defeat spool must be positioned correctly. The signal pressure for the defeat spool should be applied to the appropriate port (XA or XB) as shown in the following table to shift the defeat spool and permit PCOR operation.

Rotation	High system pressure port	Control pressure on port
CW	A	XB
CCW	B	XA

Note: *Some motor controls may be configured for the PCOR to function on only one side of the closed loop. Refer to the nomenclature on the motor nameplate.*