



Manual Over-ride: Motorized Flow Control Valves

Note: Valve adjust through full range in 90° rotation.

Procedure:

1. Make a witness mark on the motor can, lock collar and the valve hex. This will help when retiming the valve for normal operation.
2. Loosen the socket head cap screw using a 3/16" hex wrench.
3. Grab the motor can with your hand and turn the motor can clockwise to the desired flow setting. If the desired flow setting can not be reached then turn the can counter clockwise to the flow setting.
4. Tighten the lock collar to hold position.
5. If further adjustments are necessary repeat steps 2 through 4 as required.
6. Retime valve after manual adjustment by lining up the witness marks made in step 1 before returning to electric operation. See separate instructions for timing procedures if required.

**** Never turn more that a total of 1 turn counter clockwise****

Motor assembly may separate from hydraulic cartridge causing leaks or potential injury

Instructions for Timing a Source Fluid Power Motorized Flow Control Valve

If the lock collar has been unclamped and the motor drive assembly rotated to manually adjust the the valve or the valve has been disassembled for a seal kit installation, the valve must be "retimed" to align the motor drive limit switches with the cartridge metering slots before operating with electric power. The cartridge must be removed from the manifold. If the seals have been replaced follow steps 1 through 8. If the manual over-ride has been used, skip to step 4.

1. Check assembly of the metering spool stem. The order of the parts should be thrust washer, thrust bearing, thrust washer and 2-011 o-ring.
2. Hold the motor assembly with the cable down. Find the slotted recess in the face of the motor housing near the male threads. Place the lock collar over the male threads to the alignment pin engages the slotted recess.
3. Looking inside the end of the motor housing note the orientation of the drive slot. Insert the drive tang end of the metering spool assembly into the center of the motor housing. Rotate the metering spool while maintaining steady pressure pushing the spool into the motor housing. The drive tang will engage the slot in the motor and the metering spool will push into the motor housing until the thrust washer rests against the motor housing. The o-ring should slip into the counter bore in the nose of the motor housing.
4. With the socket head cap screw on the lock collar loose thread the hydraulic cartridge end of the valve assembly into the the motor can assembly until it bottoms out on the motor housing.
5. Connect positive power to the black wire and ground to the white wire lead. The motor will turn until the full open limit switch is open. The drive motor is now positioned in the "full open" position.
6. Looking at the hydraulic end of the assembly examine the alignment of the metering slot in the cartridge body to the metering hole in the metering spool. Turn the cartridge body counter clock wise as required to align the spools metering hole in the cartridge metering slot. In the full open position the drilled hole in the spool will completely open the metering slot in the cartridge body.
7. Tighten the socket head cap screw on the lock collar to 10-12 ft-lbs using a 3/16" hex wrench. Make sure the lock collar alignment pin has engaged the slot on the motor housing and that the lock collar is flush against the motor housing. Test the timing by reversing polarity on the black and white leads while observing whether the valve fully opens and closes. Adjust as required.
8. Reassemble into the manifold and torque to 35 ft-lbs for F10 series 65 ft-lbs for F16 series and 80 ft-lbs for F20 series. Torque only the hex on the cartridge body. Do not grip on to the motor housing or the lock collar.

