

## MPC-11 DIVERSION VALVE STICKING

All MPC equipped systems have an electric solenoid actuated three way diversion valve in the product water line. The MPC controls monitor the salinity of the product water as it passes over the salinity probe. If the product water salinity is better than the preset upper limit, the valve will be energized and the product will go to boat's water tank. If the salinity is higher than the limit the valve will be de-energized and the product will be sent overboard in the brine.

When the system starts up and the product quality becomes good the green "GOOD" light will come on and the controls will send full "pull in" voltage (12 or 24 volts) to the valve for two seconds. After two seconds the voltage drops to 20% of full voltage for "Hold In".

If the good light is coming on but no water is going to the water tanks then either the valve is not receiving a signal or is not responding to the signal. First check to make sure the controls are sending the signal. Put your voltmeter on "GND" and "DVLV" on the printed circuit board. These are the first two terminals on the terminal strip next to the large BAT- terminal. Start the machine and watch the meter carefully. When the green light comes on the voltage should go to 12 or 24, then drop after two seconds to about 2 or 4 volts. If the voltage is good remove one of the wires from its terminal and use your ohm meter to check for continuity through the valve coil. 12 volt valves should read about 10 ohms, 24 volt valves around 38 ohms. 12 volt valves have black wires coming out of the, 24 volt valves have white wires. If the ohm reading is very high then there is a loose or broken wire or the solenoid coil has failed. Note: Newport Mk II systems use a 12 volt Burkert pilot activated diversion valve and have resistance reading of about 13 Ohms across the coil.

If the signal and coil are good but the valve still won't open the valve may be stuck shut and need to be cleaned. On Newport Mk II model systems, there is a manual bypass button located on top of the valve. Press the button several times to free up the valve.

On Mk I and Catalina systems, disconnect the black product tube from the hexagonal stainless steel port on the valve and unscrew the hexagonal port from the valve. You will now be able to pull the black solenoid coil off of the valve. Under the coil is a disc with two holes in it for a spanner. Use needle nose pliers or snap ring pliers to unscrew the disc. Inside the valve you will find a plunger, a spring, and a rubber o-ring. Try not to disturb the o-ring. Remove the plunger and spring and clean them thoroughly. Clean inside the plunger housing as well. Apply a light coat of waterproof grease before to the spring and plunger when reassembling.

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