Testing and Replacing the Transducer

This procedure outlines the steps necessary to test and replace the transducer on the 510, 590, and 600 pumps.

Parts Required

You will need the following part for this procedure:

Part Number	Description	Qty
WAT060328	Bourdon Tube Transducer	1

Tools/Materials Required

- 1 small slotted screwdriver
- 1 medium-size slotted screwdriver

Procedure

This procedure is divided into three sections:

1. Checking the transducer
2. Replacing the transducer
3. Zeroing the transducer

Checking the Transducer

Common symptoms of a defective transducer are an inability to zero the pressure meter (display) or no response on the pressure meter (display). In some cases the pump will not run.

To determine if the problem is due to the transducer or the electronics unit, turn the pump off and disconnect the transducer. Turn the pump on and observe the pressure meter. If the electronics are functioning properly, the meter should read 3000 psi.

***Model 590*:** Remove the outer cover of the pump. Disconnect the transducer connector from the Interconnect board at the rear of the electronics unit. Turn the pump on again and observe the pressure display. If the transducer was malfunctioning, the display should now read approximately 2600. If not, the problem is in the electronics unit.

The transducer will also have to be replaced if it leaks. If the transducer develops a leak, solvent will be visible leaking down the front of the pump.

Replacing the Transducer:

To replace the transducer assembly, refer to Figure 1 and proceed as follows:

1. Turn the pump off and disconnect the power cord. If the pump is installed in a cabinet, remove it from the instrument.

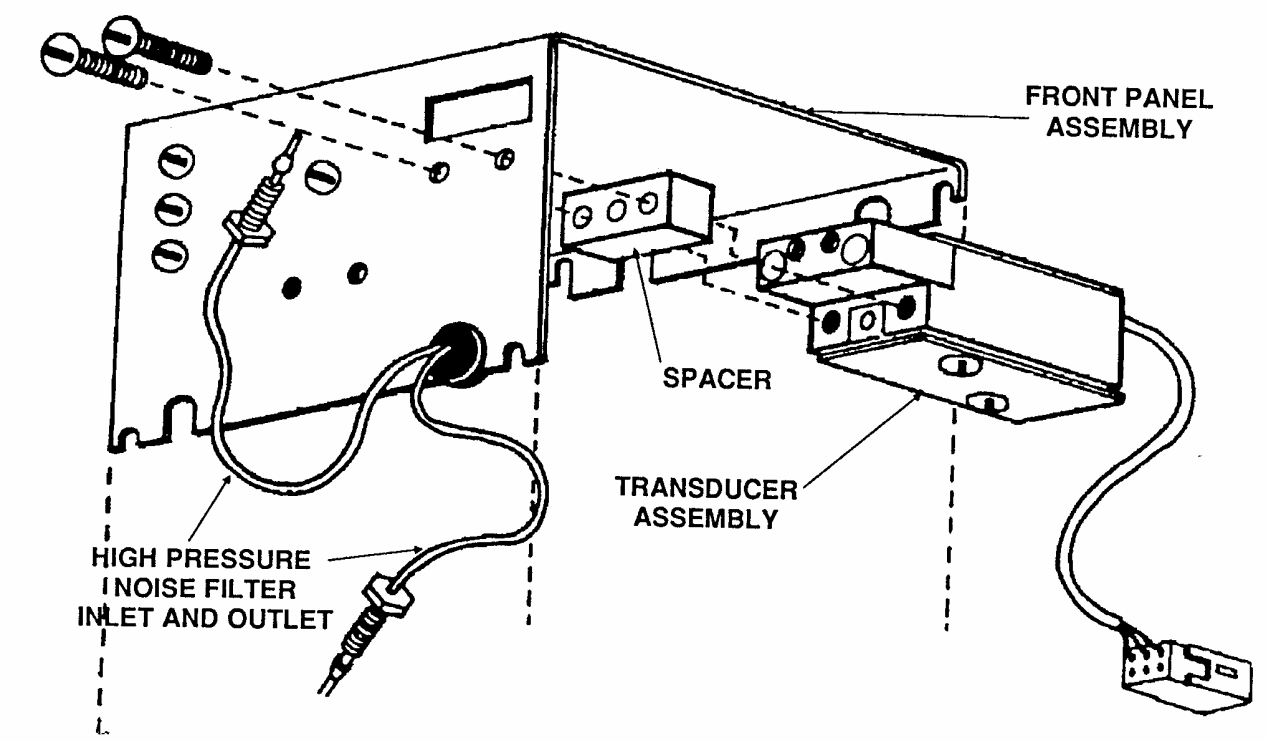

Figure 1 – Replacing the Transducer

2. Disconnect the solvent tubes from the transducer assembly and the pump head outlet tubes from the pump heads.
3. Loosen the four front-panel mounting screws and lift the front panel assembly off the pump.
4. Remove the two transducer mounting screws.
5. Remove the transducer spacer, slide the transducer assembly out, and disconnect the transducer cable from the electronics unit.
6. Slide the new transducer assembly into place in the front panel assembly, replace the transducer spacer, and secure with the two mounting screws. Reconnect the transducer cable to the electronics unit.
7. Replace the front panel and secure with the four front-panel mounting screws.
8. Reconnect the two pump head outlet tubes and the inlet and outlet tubes to the new transducer assembly.

Zeroing the Transducer

1. Turn on the pump. Enter a flow rate of 0.0 ml/min. The pressure meter should read zero. On the Model 590, the display should show all zeros. If it doesn't, adjust the transducer.
2. The transducer adjustment potentiometer is located on the front panel just below the transducer. Adjust the pot very slowly, using a small screwdriver, until the pressure meter just reaches zero.

***Model 590*:** Adjust the pot very slowly, using a small screwdriver, until the pressure display just reaches zero. Turn the pot in the opposite direction until the reading goes from 0 to 6. Then turn the pot back just enough to change the reading to 0 again. Because this is a digital readout, it is a very sensitive adjustment. Also, the digital display does not go below zero so it is important to stop turning the pot as soon as the display reaches zero.