PRESSURE TRANSDUCER CALIBRATION PROCEDURE

Items needed to complete the procedure:

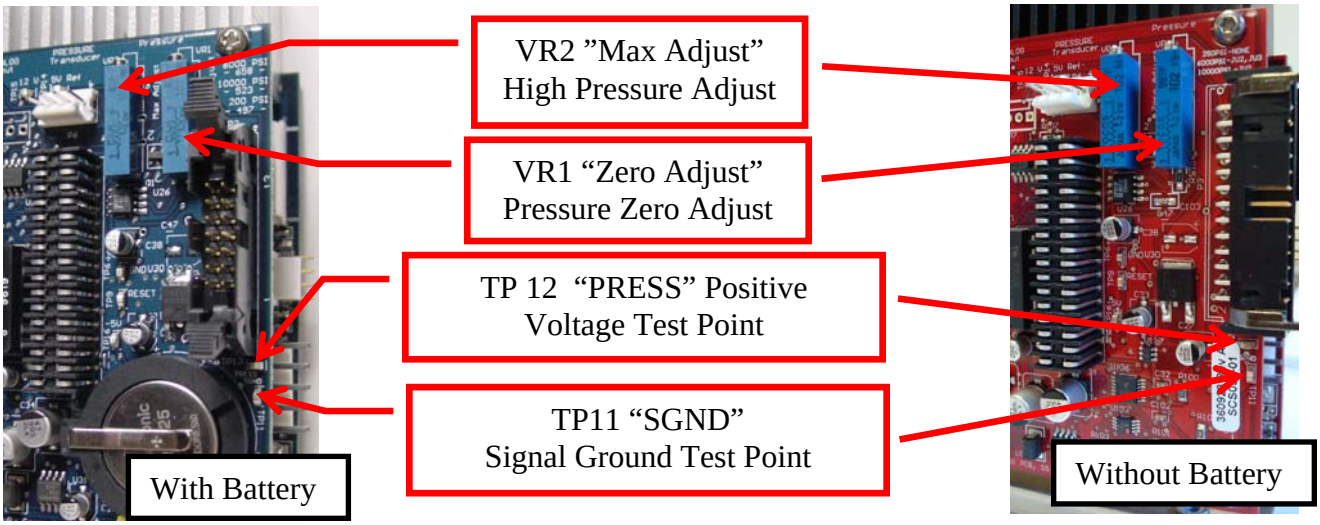
DC Volt Meter (DMM) Inline-Pressure Gauge Small Screwdriver

Pressure Transducers and component tolerance variations require the circuit board to be matched to the transducer. SSI/LabAlliance will match replacement Boards to a Transducer/Pulse Damper as a replacement part. In the event a simple adjustment could correct a problem quickly at a customer site, the controls for matching the transducer to a circuit board are included here. Testing is done with voltage present, so caution is strongly advised.

- Turn power off to pump assembly. Connect the pump's inlet port to the solvent bottle using an inlet line and filter and connect the pump's outlet port to the inline-pressure gauge.

- Verify jumper JU1 in lower right corner is set ON position to enable reading of the pressure transducer. NOTE: Jumper information applies only to RoHS-compliant PCA sets, which are distinguishable by the color **RED**.

- Connect a voltmeter to the pressure board with the black lead on TP11 and the red lead on TP12.



- Apply power to the pump and verify that the lower pressure limit is 0 PSI and the upper pressure limit is set to the max PSI for the unit. If they are not at these values, change them.

- Start the pump and prime the pump at its Prime/ Purge Valve with a syringe.

- Stop the pump and open the prime-purge valve so the pump reaches atmospheric pressure, adjust the "Zero Adjust" VR1 trimpot until the voltmeter reads approximately -0.015 volts.
  Note: The syringe must be removed from the Prime/Purge Valve to obtain an accurate zero.

- Close the Prime/Purge Valve. Set the pump to run at 1.00 ml/min. Start the pump. The external pressure gauge may take some time to fill before it indicates pressure.

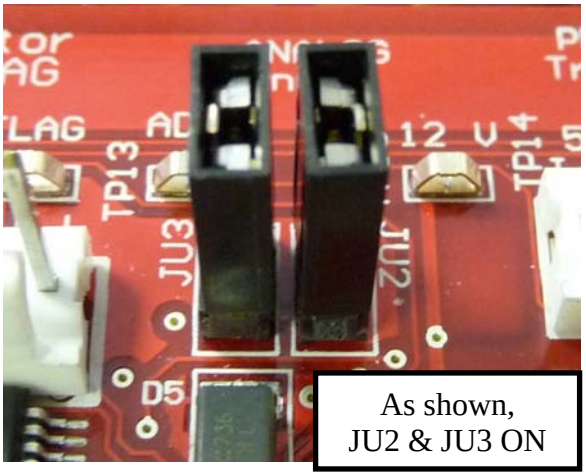
- Once the pressure reaches the max pressure that was set in bullet 4, the pump should shut off. Let the pressure in the pump settle until the pressure on the external gauge stabilizes. Adjust the "Max Pressure" VR2 trimpot so the display on the pump matches the pressure on the external gauge.

- Open the Prime/Purge valve **very** slowly. (A rapid release of pressure will damage the Pulse Damper or Pressure Transducer.) Make adjustments to the zero pot if needed.

- Close the Prime/Purge and start the pump. Continue checking the max pressure and zero until no further adjustments are needed.

Jumper Selection for Pressure Transducer Scaling

Jumpers JU2 and JU3 adjust settings to allow for a variety of transducer options. The jumpers affect the gain of the amplifier circuit while the transducer A/D scaling is controlled by the EPROM. Do not make changes to these jumper settings unless transducer calibration cannot be achieved.



As shown,
JU2 & JU3 ON

- For Transducers Scaled to **6000 PSI** upper limits (6142 max reading) set JU2 and JU3 to ON.

- For Transducers Scaled to **10,000 PSI** or **2500 PSI** upper limits (9999 max or 2512 PSI max reading) set JU2 to ON and JU3 to OFF.

- For Transducers Scaled to **200 PSI** upper limits (204 max reading) set JU2 and JU3 to OFF.