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## TUS093 PT100 TEMPERATURE SENSOR INSTALLATION INSTRUCTIONS

### NOTE REGARDING THE AJUNC 3 BOARD CALIBRATION

The AJUNC 3 Board must be calibrated anytime the PT100 Temperature Sensor is replaced and to do so, it will require many of the tools and materials included in the RPI Diagnostic Smart Kit® (RPI Part #TUK108). If using the OEM test kit, use the components corresponding to RPI tools mentioned below.

**IMPORTANT NOTE** – The PT100 Temperature Sensor (RPI Part #TUS093) fits Tuttnauer automatic autoclaves using an AJUNC 3 Board (RPI Part #TUB154).

### Installation and Calibration Instructions for the Temperature Sensor in units with an AJUNC 3 Board

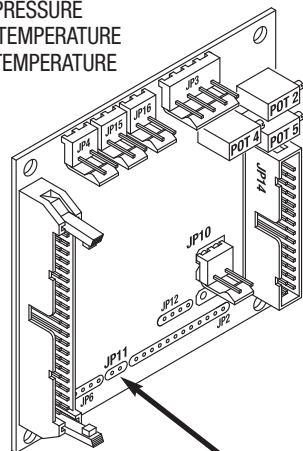
#### Installation Instructions

- 1) Turn the sterilizer power off and unplug the unit from the electrical source.

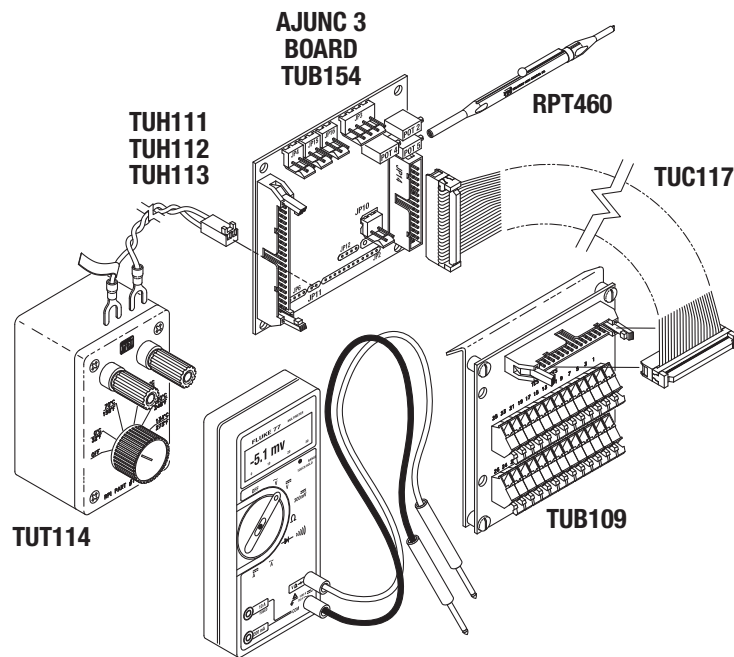
#### FIGURE 1 - Initial Setup

##### Close up view of AJUNC 3 Board (RPI Part #TUB154)

POT 2: GAIN PRESSURE  
POT 4: ZERO TEMPERATURE  
POT 5: GAIN TEMPERATURE

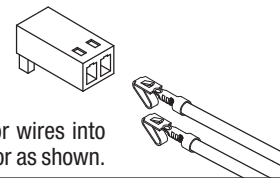


Disconnect the original Temperature Sensor by removing the connector at JP11 on the AJUNC 3 Board. (Note: The JP11 connector is the 2-pin connector on the back of the AJUNC 3 Board.)



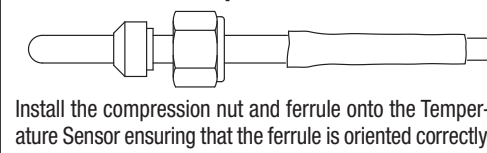
- 2) Remove the cover and put aside any hardware for use later in these instructions.
- 3) Disconnect the original Temperature Sensor by removing the connector at JP11 on the AJUNC 3 Board. See **Figure 1**. (Note: The JP11 connector is the 2-pin connector that plugs into the back of the AJUNC 3 Board.)
- 4) Remove the original Temperature Sensor from the manifold located on the back of the chamber and discard.
- 5) Locate the connector enclosed with the new Temperature Sensor (RPI Part #TUS093), and install the sensor wires into the connector. (Note: For this device, either wire can go into either position on the connector.) Locate the catch on the contact; it should be in the up position when inserted into the connector. The window in the connector should also be in the up position to receive the catch. Push the contact in until a click is heard. The contact should now be locked in position. See **Figure 2**.
- 6) Install the enclosed compression nut and ferrule onto the new Temperature Sensor ensuring that the ferrule is oriented correctly. See **Figure 3**.
- 7) Insert the new Temperature Sensor assembly into the manifold located in the back of the chamber. When positioning the Temperature Sensor in the manifold, ensure that the tip of the sensor is directed up to but not past the center of the manifold. See **Figure 4**. Secure the Temperature Sensor in place by tightening the compression fitting.

#### FIGURE 2 - Sensor Wire Installation



Install the new sensor wires into the enclosed connector as shown.

#### FIGURE 3 - Compression Nut and Ferrule



Install the compression nut and ferrule onto the Temperature Sensor ensuring that the ferrule is oriented correctly.

- 8) Connect the negative probe of a voltmeter to TP25 and the positive probe to TP26 on the Test Point Board.
- 9) Plug the sterilizer into the electrical source and turn the sterilizer power on.
- 10) Using the Trim Pot Adjustment Tool (RPI Part #RPT460), adjust Pot 4 on the AJUNC 3 Board so the voltmeter reads -5.1 mv DC (negative 5.1 mv DC). (Note: If Pot 4 cannot be adjusted to -5.1 mv DC then replace the AJUNC 3 Board.)
- 11) On the Simulator, select 273°F (134°C).
- 12) Connect the negative probe of the voltmeter to TP1 and the positive probe to TP7 on the Test Point Board.
- 13) Using the Trim Pot Adjustment Tool, adjust Pot 5 on the AJUNC 3 Board so the voltmeter reads +2.385 volts DC. (Note: If Pot 5 cannot be adjusted to +2.385 volts DC then replace the AJUNC 3 Board.)

#### Calibration Instructions

(See **Figure 1** for initial setup)

This procedure needs to be done anytime the PT100 Temperature Sensor is replaced.

- 1) Connect the Test Point Board (RPI Part #TUB109) using the Ribbon Cable (RPI Part #TUC117) to the JP14 connector located on the front of the AJUNC 3 Board.
- 2) Connect the Simulator (PT100) (RPI Part #TUT114) to the JP11 connector using either Harness No. 1 (RPI Part #TUH111), No. 2 (RPI Part #TUH112), or No. 3 (RPI Part #TUH113) depending on the sterilizer model number.
- 3) On the simulator, select 32°F (0°C).

- 4) Connect the negative probe of a voltmeter to TP25 and the positive probe to TP26 on the Test Point Board.
- 5) Plug the sterilizer into the electrical source and turn the sterilizer power on.
- 6) Using the Trim Pot Adjustment Tool (RPI Part #RPT460), adjust Pot 4 on the AJUNC 3 Board so the voltmeter reads -5.1 mv DC (negative 5.1 mv DC). (Note: If Pot 4 cannot be adjusted to -5.1 mv DC then replace the AJUNC 3 Board.)
- 7) On the Simulator, select 273°F (134°C).
- 8) Connect the negative probe of the voltmeter to TP1 and the positive probe to TP7 on the Test Point Board.
- 9) Using the Trim Pot Adjustment Tool, adjust Pot 5 on the AJUNC 3 Board so the voltmeter reads +2.385 volts DC. (Note: If Pot 5 cannot be adjusted to +2.385 volts DC then replace the AJUNC 3 Board.)

#### Final Check

- 1) Turn the sterilizer power off and unplug the unit from the electrical source.
- 2) Disconnect the Ribbon Cable and the Test Point Board from the AJUNC 3 Board.
- 3) Route the new Temperature Sensor cable to the back of the AJUNC 3 Board making sure to keep it well away from the chamber. Plug the Temperature Sensor connector onto JP11 located on the back of the AJUNC 3 Board.
- 4) Place a shaken-down Max Register Thermometer (RPI Part #RPT113) into the tray inside the sterilizer.
- 5) Close the sterilizer door and start an unwrapped cycle.
- 6) Check the fittings at the manifold mounted on the back of the chamber for steam leaks. Tighten the fittings if necessary.
- 7) Note the maximum temperature that is displayed on the sterilizer's front display panel during the run.
- 8) Verify that the maximum temperature displayed is equal to the maximum temperature registered on the thermometer.
- 9) Turn the sterilizer power off and unplug the unit from the electrical source.
- 10) Replace the top cover and install any removed hardware.
- 11) Retest the final assembly repair by running an additional cycle before returning the sterilizer to service.

#### FIGURE 4 - Temperature Sensor Placement

Insert the new Temperature Sensor assembly into the manifold. Ensure that the tip of the sensor is directed up to but not past the center of the manifold.

