

Sampling Pump Replacement Instructions for CA-CALC CA-6000 Series Single Gas Monitors and CA-CALC CA-6100 Series Combustion Analyzers.

Introduction

The following instructions describe the removal and installation of the sampling pump used in the Model CA-6000 Single Gas Monitors and Model CA-6100 Series Combustion Analyzers. When performing operations described here, also refer to your instrument instruction manual for part descriptions and supplemental information.

Pump Removal

Remove the sensor cover screw and remove the sensor cover. Refer to Figure 1.

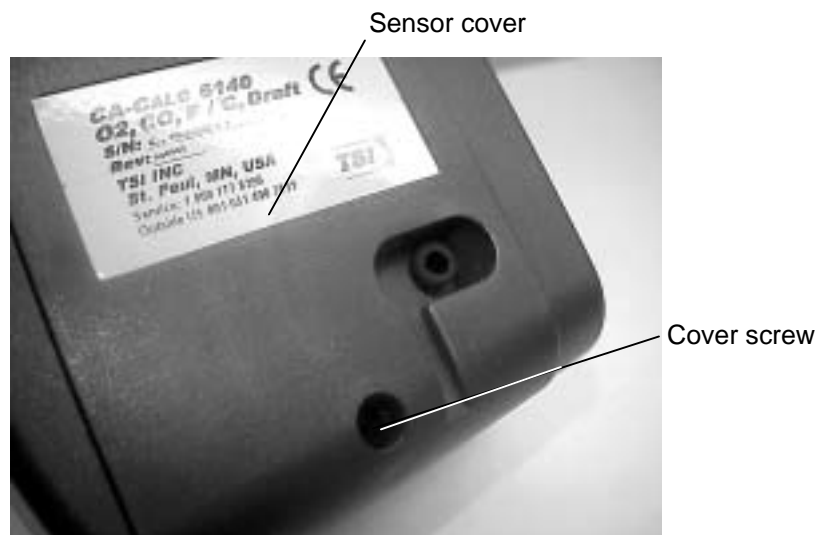


Figure 1. Sensor Cover

Carefully lift the rubber sensor manifold up as shown in Figure 2. **Do not** attempt to remove the manifold by pulling on the connecting tube.



Figure 2. Sensor Manifold and Sensors

Remove both sensors, or one sensor and the plastic “dummy” sensor plug. If present, also remove the foam gasket for the CO sensor (see Figure 2).

Figure 3 shows the instrument after the items, described above, are removed.



Figure 3. Sensors Removed

Move the rubber manifold down into the case to reveal the pump wire and power connection.

Refer to Figure 4. Grasp the ferrite, and wiggle the pump wires while pulling up, separating the power connector from the power connection. If necessary, use a small screwdriver to pry the connector up, but avoid bending the pins on the power connection.

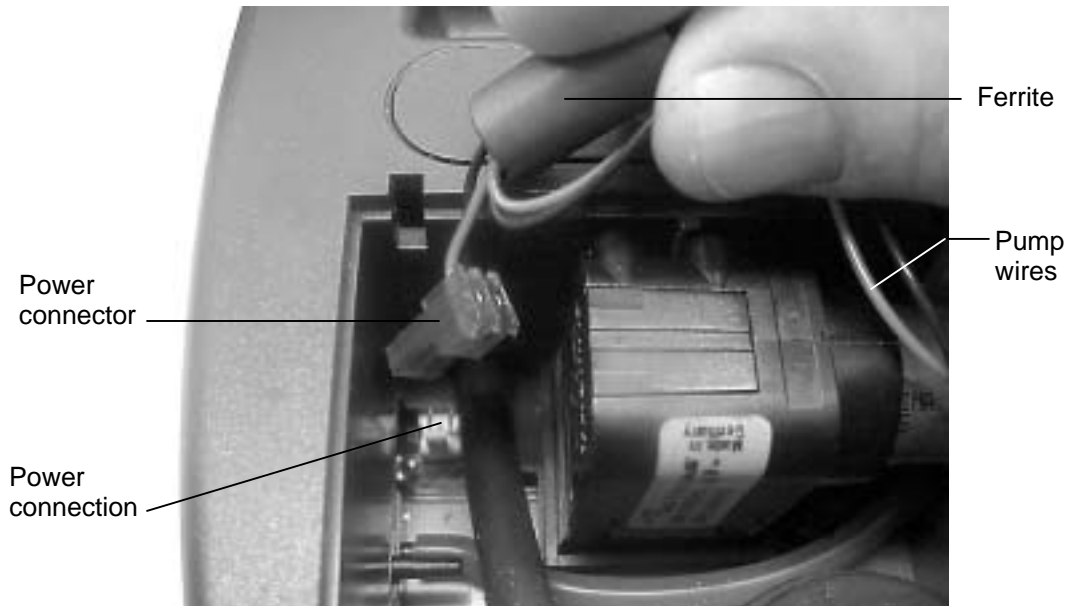


Figure 4. Disconnecting the Pump Power Wire

Refer to Figure 5. Use your thumb and pull up on the back of the pump as shown, pivoting on the front of the pump. This action pulls the pump ports out of the *twin tube* assembly shown in Figure 6.

When the pump is free, lift it out of the case.

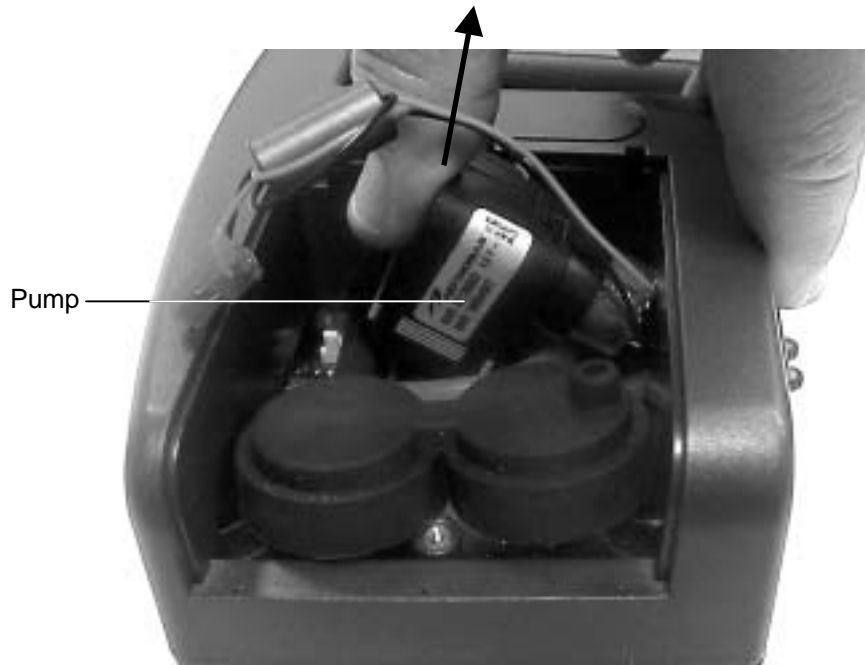


Figure 5. Removing Instrument Pump

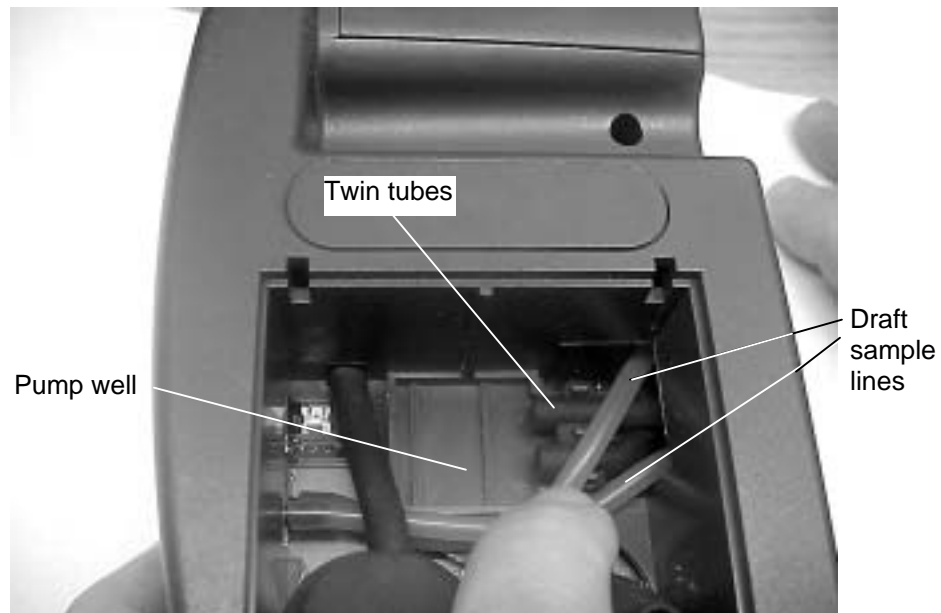


Figure 6. Pump Removed

Pump Installation

Find your replacement pump.

If you have an instrument with a draft sensor, disconnect the topmost blue draft tube from the draft port as shown in Figure 7 below. This eases installation of your new pump.

Move the rubber sensor manifold up and out of the way as indicated in Figure 7, but **do not** pull hard on the manifold tube.

If available, place a small bit of silicone lubricant on the surface of the pump ports. This eases pump port insertion into the twin tubes.

Make sure the twin tube assembly, identified in Figures 6 and 7, is pushed down over the retaining tabs. Insert the pump ports into the tube openings as shown in Figure 7. Push the pump in the direction shown by the arrow, until the pump seats in the retaining well (identified in Figure 6).

Refer again to Figure 4. Plug the power connector into the power connection, noting the orientation of the connector. The connector plugs in only one way, wires to the back.

Replace the draft tube shown in Figure 7 by pushing it over the draft port. Pull the pump wires down to the side of the pump. When complete the assembly should appear as in Figure 3.

Replace the sensor or sensors you removed, and the sensor plug, if used. If one of your sensors is a CO sensor, such as that shown in Figure 2, also replace the CO foam gasket, aligning the tab on the sensor manifold with the notch in the gasket. Refer to Figure 8. Sensor replacement is described in your instrument instruction manual.

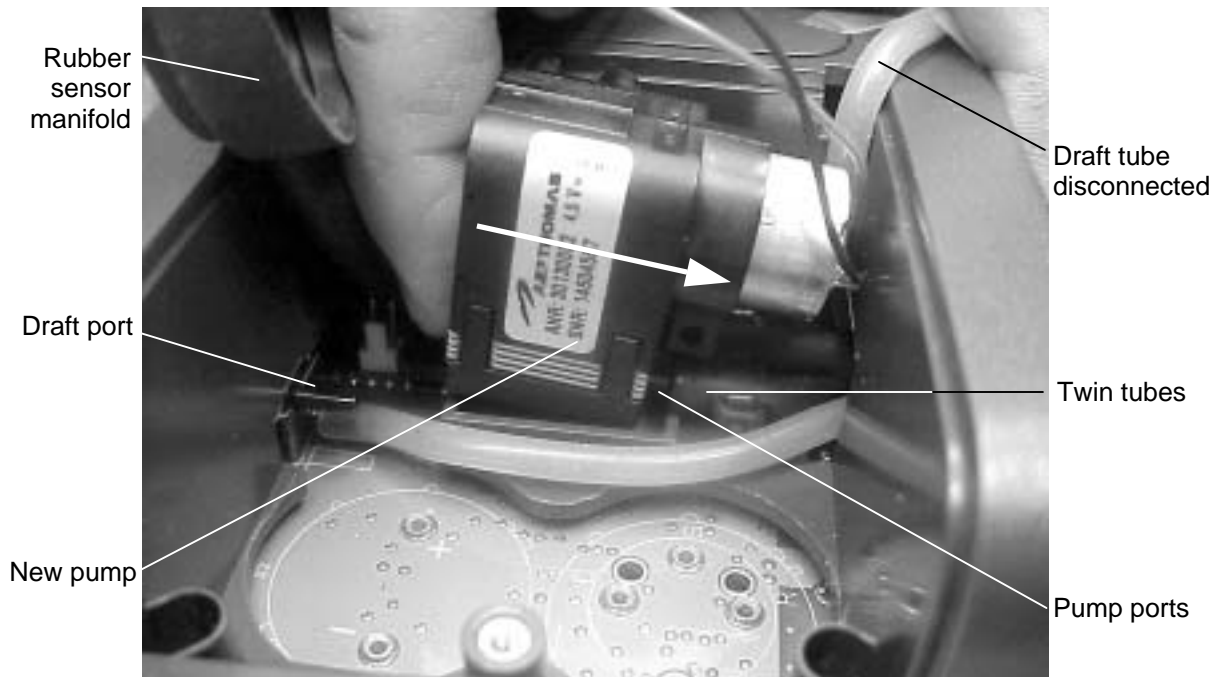


Figure 7. Installing the New Pump

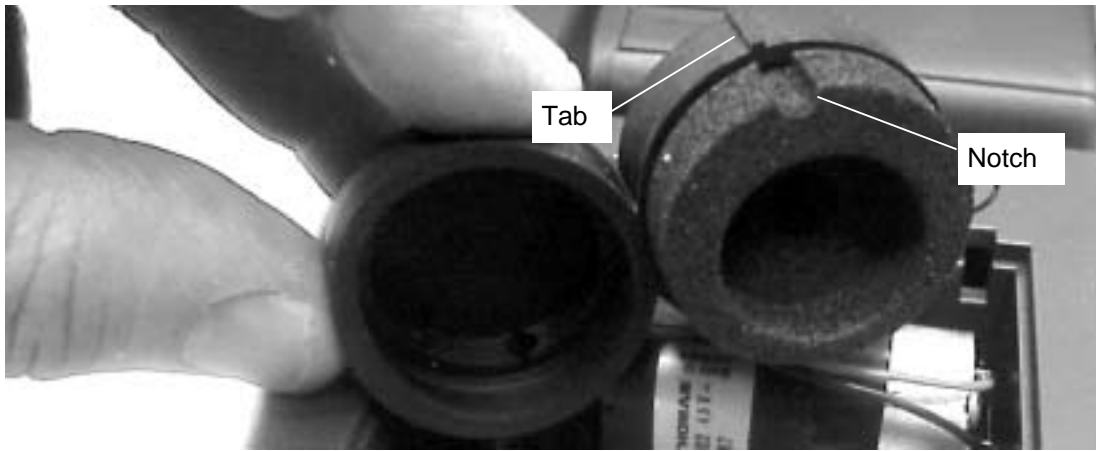


Figure 8. CO Sensor Gasket Alignment

Push the sensor manifold down carefully over the sensors.

Replace the sensor cover, making sure the vent collar protrudes fully through the hole in the case.

Replace the sensor cover screw.



Figure 9. Replacing the Sensor Cover