

# Fresenius Medical Care

## SERVICE BULLETIN

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Equipment: 2008K Hemodialysis Machines  
Bulletin: 04-FRK-006 Rev. A  
Subject: Alternate Arterial Pressure Calibration

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### 1.0 PURPOSE

To provide all Field Service and Technical Support personnel with descriptions of an alternate method of calibrating the arterial pressure on the 2008K.

### 2.0 DESCRIPTION

The alternate arterial pressure calibration uses serial communication cable (P/N 670658-Q) between the functional board and the arterial blood pump main board (LP955).

**NOTE:** Before installing the cable to the Blood Pump, verify that the Arterial Blood Pump software must be v1.11 or later. If the Arterial Blood Pump software is not V1.11 or later, Blood Pump Upgrade Kit (P/N 190230) is needed.

**NOTE:** Functional Board P/N 190171 will not work with the Serial Communication to the Blood Pump. Functional Board P/N 190193 must be used.

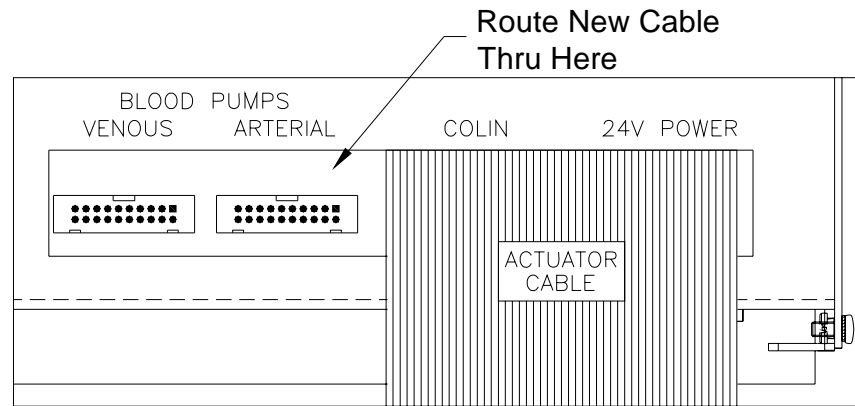
**NOTE:** The Functional software must be v3.17 or greater and the Actuator software must be v5.22.

### 3.0 PROCEDURE

#### **Installing the Serial Communication Cable on the Arterial Blood Pump**

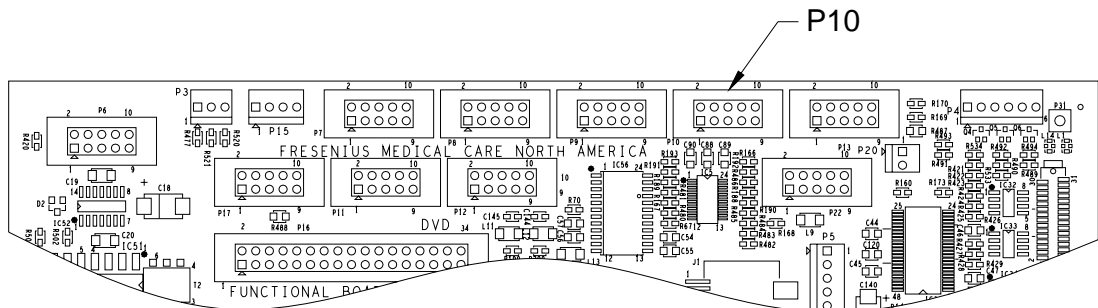
1. Remove the upper and middle rear panels of the machine cabinet.
2. Remove the Arterial Blood Pump from the machine and locate the 10 pin connector labeled "Serial Interface" on the Arterial Blood Pump's main board.
3. Plug one end of the new 10 Pin ribbon cable (P/N 670658-Q) into this connector.
4. Confirm the Arterial Blood Pump power cable is securely seated into its connector and route the new cable out the back of the machine.
5. Turn Dip Switch 7 on the blood pump to the On position.

- Open the card cage and route the new ribbon cable through the slot in the card cage chassis just above the blood pump connectors (see Figure 1).



**Figure 1**

- Locate connector P10 (see Figure 2) on the functional board (third board from the left).



Functional Board PN: 190193

**Figure 2**

- Connect the other end of the new 10 pin ribbon cable (P/N 670658-Q) to connector P10.

### **Verify Serial Communication**

- Turn the machine on into service mode.
- Wait 30 seconds and then go to the Calibrate Sensors / Arterial Pressure / Arterial Blood Pump screen.
- Verify that the title for instructions in the Arterial Pressure Calibration states "Calibrate by Serial Command:".
- If the title states to "Calibrate by Transducer:", check cable connections and troubleshoot accordingly.

### **Alternate Arterial Calibration Method**

1. Open the arterial transducer port **P<sub>ART.</sub>** on the arterial blood pump module to air (atmospheric pressure).
2. Verify the Arterial Pressure data box on the 2008K display indicate 0 mmHg.
3. Press the CONFIRM key and the 2008K display will change.
4. Attach a syringe and a calibrated pressure gauge to the **P<sub>ART.</sub>** port using a T- fitting. Push the syringe plunger in to show a pressure of 200mmHg on the external pressure gauge. While holding this pressure, press the CONFIRM key and the 2008K display will change.

Verify that the Arterial Pressure and Pressure at Actuator Board meter boxes are within 10 mmHg of each other.

**NOTE:** After pressing the CONFIRM key, a delay of approximately 8 seconds may occur before the Pressure at Actuator Board data box changes to be within 10 mmHg of the Arterial Pressure data box on the display screen

5. Pressurize the **P<sub>ART.</sub>** port by either pushing or pulling on the syringe.
6. Verify that the Arterial Pressure and Pressure at Actuator Board meter boxes can reach at least 290mmHg (510mmHg for postpump) and that they are within 10mmHg of each other.

Verify that the Arterial Pressure and Pressure at Actuator Board meter boxes can reach at least -310mmHg (-90mmHg for postpump) and that they are within 10mmHg of each other.

7. Press the CONFIRM key to save the data. The screen will change.

**NOTE:** To simplify future arterial pressure calibrations, the new cable can be left connected otherwise it can be removed.