

Calibration Procedure
For Parks Flo-Labs
Model 2015
Rev. A

Notice:

This manual has been added to assist you in meeting the new accreditation standards set forth by the Intersocietal Commission for the Accreditation of Vascular Laboratories. To perform the calibration procedure it will be necessary to purchase the calibration test fixture. The test fixture is available from the factory at the phone number listed below. When you order we will ask you for the model number of your Parks instrument. This will enable us to send you the proper calibration test fixture for your instrument.

Parks Medical Electronics, Inc.

(503) 649-7007 (in Canada or Oregon)

1-800-547-6427 (toll free)

2015 CHECK-OUT PROCEDURE (in field) Rev. A

These procedures are to aid in checking each function of the Flo-Lab.

Important: Before you get started, you should make a note of the positions of all controls so that when you are finished with these procedures you can put them back where you had them.

1. Chart recorder model 2302-A:

This unit is used to measure all of the functions so it must be checked first. If the check-out does not pass this section then the other sections cannot be checked.

This test will require a test fixture that is available through the factory.

- a. Connect the test cable from the test fixture to the jack located on the back panel of the Flo-Lab labeled **(3) AUX IN**. (Refer to the diagram of the Model 2015 back panel on the last page of this document.)
- b. Adjust the **INPUT SELECT** switch located on the recorder module to position labeled **3**.
- c. Adjust the **SIZE** control to the position labeled **0** (full CCW).
- d. Power up the Flo-Lab, and turn the recorder power switch to **ON**.
- e. Turn the **CHART SPEED** switch to **5mm/sec**.
- f. Adjust **POSITION** controls on the recorder so that each trace is centered on its own grid.
- g. Adjust the **SIZE** control to the position marked **10** (full CW).
- h. Press the **SQUARE WAVE** button on the test fixture for 3-4 seconds.
- i. There should be a square wave signal coming out on the paper that is approximately 5 major divisions in amplitude going up from baseline on both channels.
- j. If the squarewave is not the right amplitude please replace the 9 volt battery inside the test fixture. If the trace looks too thick you will need to adjust the **PEN HEAT** control, which is located inside the chart recorder. Please call the factory and we will assist you in making the adjustment.
- k. Turn the **CHART SPEED** to the center position (standby). Disconnect the test cable from the jack marked **(3) AUX IN**.

2. Doppler Module model 2109:

Set-up: Locate and adjust the following controls as listed. **CALIBRATION cm/sec at 10, OUTPUT SELECT at A/B, OUTPUT FILTER at 7, VOLUME at 0, METER MULTIPLIER at 1.**

- a. Set the **INPUT SELECT** switch on the chart recorder to the **#1** or **DOP** position.
- b. Turn the **CHART SPEED** on the recorder to the **5mm/sec** position.
- c. Adjust the **SIZE** control to **10** (fully CW)
- d. Adjust the **POSITION** controls on the recorder above each trace so that the trace is positioned at the bottom edge of the grid (to the right edge).
- e. Turn the **HI, OFF, LO** switch on the doppler to the **LO** position.
- f. Push and hold the **CAL.** switch on the doppler module to the **CAL. A** position.
- g. The A strip on the recorder should move up on the grid approximately 1 major division per 1 MHz. E.g. If the **LO** probe is 4.1, the line on the strip should move up approximately 4 major divisions. Now push down on the **CAL. B** switch and the B strip should do the same as A did. Let go of the switch.
- h. Turn the **HI, OFF, LO** switch on the doppler module to the **HI** position.
- i. Push and hold the **CAL. A** switch and the line on the recorder should move up on channel A, approximately 1 major division per 1 MHz. E.g. If the **HI** probe is marked with 8.1 the line should move up approximately 8 divisions. Now push down on the **CAL. B** switch and the line on the B grid should move up as it did on A.
- j. Set the **CHART SPEED** to the **STANDBY** position. This completes the doppler section.

3. Plethysmograph model 2203/2205:

Note: Some of the earlier models of plethysmographs did not have the absolute pressure option. If you have a plethysmograph model 2203 it does not have an **IPG** section but it has 2 channels of **MSG**. So some of the checks will not apply to all plethysmographs.

- a. Check the **PPG** section by placing the sensor on your thumb and see if there is a signal. Do this with the **MODE** switch at the **PPG** position, the **GAIN** switch at the **XI** position, the **TIME CONSTANT** switch at the **SHORT** position. Push the **RESET** switch and wait for **READY** light. When the **READY** light is on there should be a waveform present on the screen. Do this for both **A** and **B** channels.
- b. The **MSG** section will require a test fixture. Connect the **MSG** leads on the test fixture to the gage terminals on the plethysmograph. If the plethysmograph has 2 channels do channel **A** first, then do channel **B**.
- c. Set the **GAGE LENGTH** switch to the **LONG** position, the **MODE** switch to the **MSG** position and the **TIME CONSTANT** switch to the **DC** position.
- d. Press the **RESET** switch and wait for the **READY** light to come back on. Then momentarily press the **MSG** button on the test fixture. The trace on the Chart Recorder should move up approximately 6 major divisions.
- e. If this unit has 2 channels of **MSG** you will need to check the **B** channel as you did the **A** channel.
- f. (Model 2205 only)
To check the **IPG** section you will need to connect the test fixture to the **IPG** electrodes connector.
- g. Set the **MODE** switch to the **IPG** position, the **TIME CONSTANT** switch to the **DC** position and the **GAIN** switch to the **XI** position.
- h. Press the **RESET** switch and wait for the **READY** light. Now press the **CAL 0.8 %** switch on the plethysmograph. The line on the Chart Recorder should move up approximately 6 major divisions. The **BASELINE IMPEDANCE** display should read between 41 and 45 ohms.
- i. Disconnect the test fixture. This test is complete.