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LMI™

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Research, Development and Manufacturing of Precision Measuring Systems

Configuration, Setup, and Mastering Instructions for the LMI 585 *PLUS*-560 Null Meter and Two LMI 200-S

Required Equipment:
1. LMI 585 PLUS-560 Null Meter
2. (2) LMI 200-S probes
3. (2) LMI 6009 4 pin to 4 pin cables
4. SK 4180 "Y" cable
5. LMI 210 master block
6. 585 power supply

**This instruction will outline:**

I   GAGE CONFIGURATION

Section I is a one time setup. After a successful gage configuration is finished there should be no need to repeat section I.

1. The LMI 585Plus-560 Null Meter has two power input options. The unit can be powered by 2 AA batteries or using D.C. wall adapter*, both included in the original shipment.
   *the wall adapter can be used without removing the batteries. The wall adapter is **not a battery charger.***

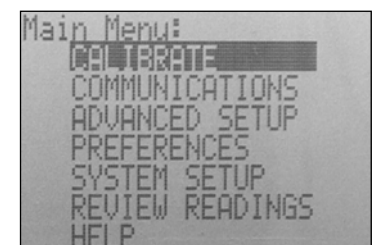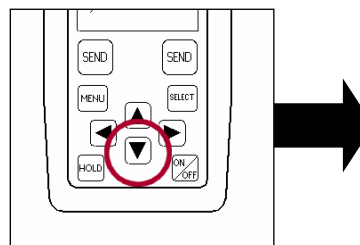2. Turn on the 585 Plus by pressing <ON/OFF> on the keypad.
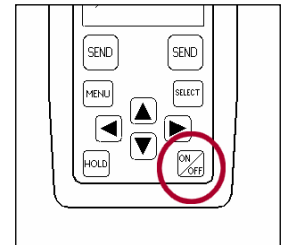
3. If the 585 Plus "Set Date" appears on refer to 585 Plus manual "Powering on for the First Time" section 2.5, then proceed to the next step.
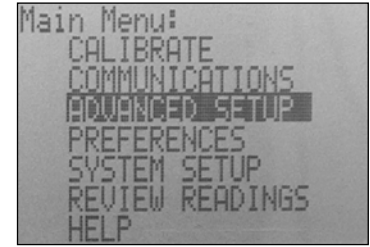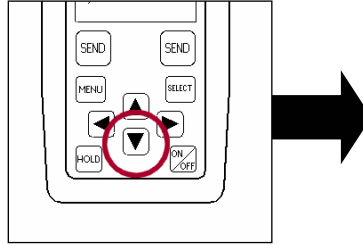
4. After the power up process the 585 Plus will default to one of 3 gage screens. Press the ◄ or ► on the keypad to move to the dual analog gage display, it will be the only screen to display two readings simultaneously.
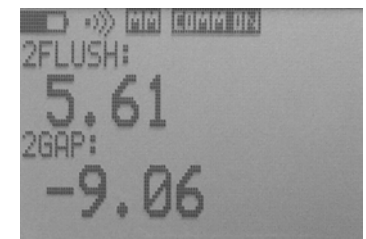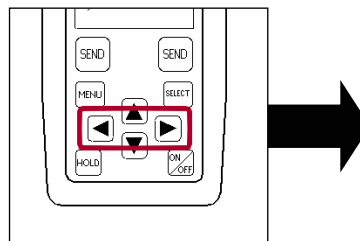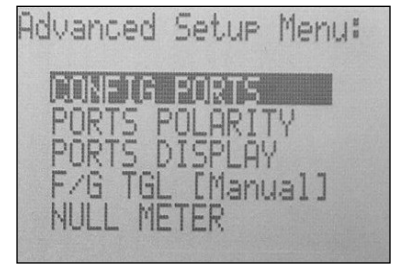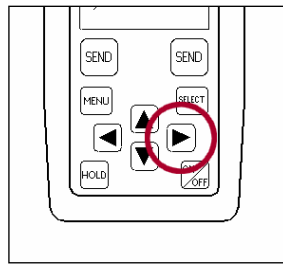
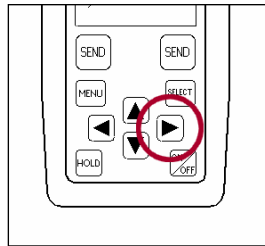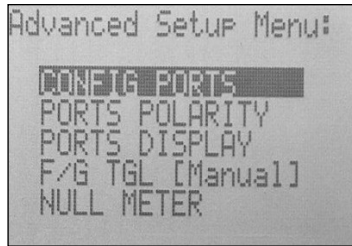4. From the gage display screen press ▼ to advance to the "Main Menu".

5. Press ▼ to highlight "ADVANCE SETUP".


```
Main Menu:
  CALIBRATE
  COMMUNICATIONS
  ADVANCED SETUP
  PREFERENCES
  SYSTEM SETUP
  REVIEW READINGS
  HELP
```

6. With "ADVANCE SETUP" highlighted press ► to the "ADVANCE SETUP MENU".


```
Advanced Setup Menu:
  CONFIG PORTS
  PORTS POLARITY
  PORTS DISPLAY
  F/G TGL [Manual]
  NULL METER
```

7. Verify "CONFIG PORTS" is highlighted and press ► to "CONFIG PORTS MENU".

```
Advanced Setup Menu:
  CONFIG PORTS
  PORTS POLARITY
  PORTS DISPLAY
  F/G TGL [Manual]
  NULL METER
```



```
Config Ports Menu:
  Port 1a
  Port 1b
  Port 2a
  Port 2b
```
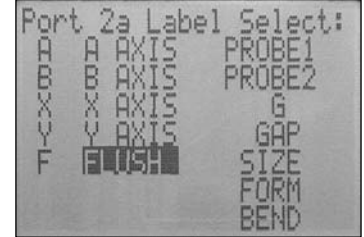
8. Press ▼ to highlight "Port 2a". Port 2a is the configuration for the first LMI 200-S.


```
Config Ports Menu:
  Port 1a
  Port 1b
  Port 2a
  Port 2b
```
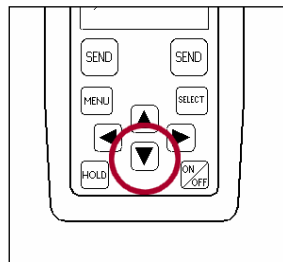
9. Press the ► to "Port 2a Config Menu".


```
Port 2a Config Menu:
  LABEL [FLUSH]
  CALSPAN [10.00mm]
  OFFSET [0.00mm]
  READ [Manual]
  DW RANGE [0.01mm]
  DW TIME [0.5]
```
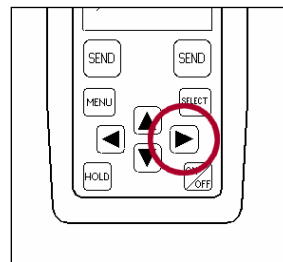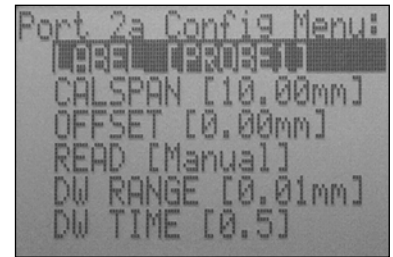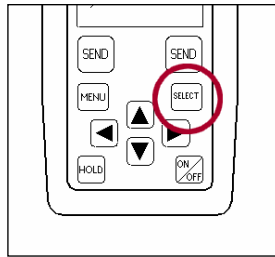
10. Verify "LABEL" is highlighted and press ► to "Port 2a Label Select".
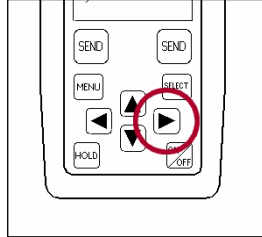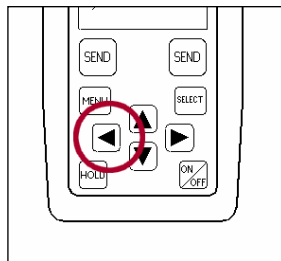

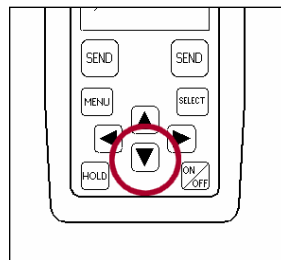11. Press the ▲ or ▼ to highlight the desired label; suggested label is "PROBE1".
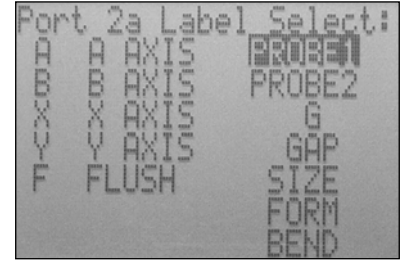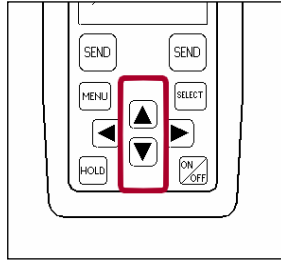
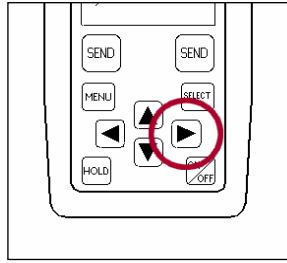12. Press <SELECT> on the keypad and the 585 Plus returns to "Port 2a Config Menu" with the new "LABEL" defined.

13. Press ◄ to "Config Ports Menu".

14. Press ▼ to highlight "Port 2b". Port 2b is the configuration for the second LMI 200-S.

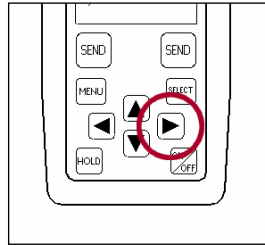15. Press the ► to "Port 2b Config Menu".

Port 2b Config Menu:
LABEL [GAP]
CALSPAN [10.00mm]
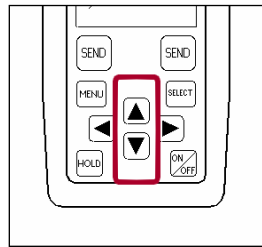OFFSET [0.00mm]
READ [Manual]
DW RANGE [0.01mm]
DW TIME [0.5]

16. Verify "LABEL" is highlighted and press ► to "Port 2b Label Select".

Port 2b Config Menu:
LABEL [GAP]
CALSPAN [10.00mm]
OFFSET [0.00mm]
READ [Manual]
DW RANGE [0.01mm]
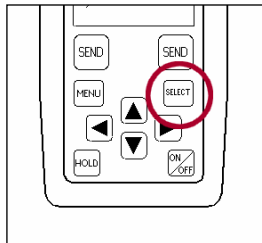DW TIME [0.5]

Port 2b Label Select:
A   A AXIS   PROBE1
B   B AXIS   PROBE2
X   X AXIS   G
Y   Y AXIS   GAP
F   FLUSH   SIZE
            FORM
            BEND

17. Press the ▲ or ▼ to highlight the desired label, suggested is "PROBE2"

Port 2b Label Select:
A   A AXIS   PROBE1
B   B AXIS   PROBE2
X   X AXIS   G
Y   Y AXIS   GAP
F   FLUSH   SIZE
            FORM
            BEND

18. Press <SELECT> on the keypad and the 585 Plus returns to "Port 2b Config Menu" with the new "LABEL" defined.
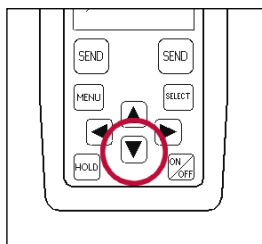
Port 2b Config Menu:
LABEL [PROBE2]
CALSPAN [10.00mm]
OFFSET [0.00mm]
READ [Manual]
DW RANGE [0.01mm]
DW TIME [0.5]

19. Press the ◄ to "Advanced Setup Menu".
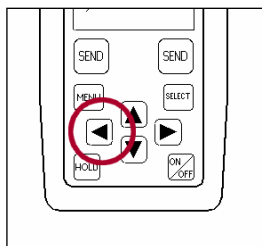
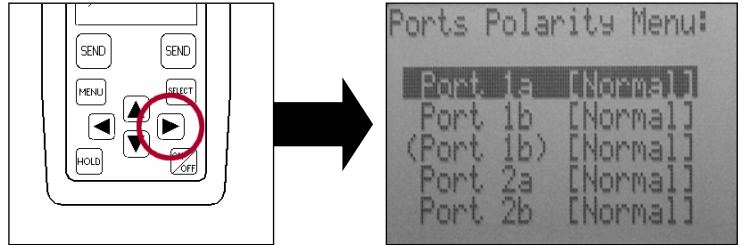Advanced Setup Menu:
CONFIG PORTS
PORTS POLARITY
PORTS DISPLAY
F/G TGL [Manual]
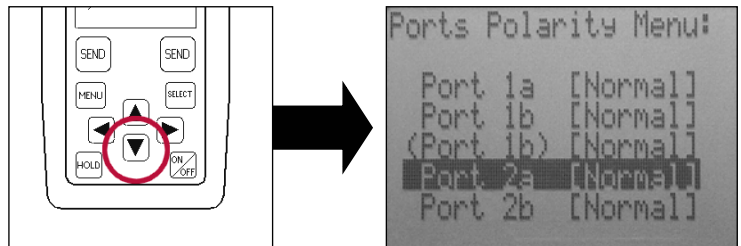NULL METER

20. Press the ▼ to highlight "Ports Polarity.

Advanced Setup Menu:
CONFIG PORTS
PORTS POLARITY
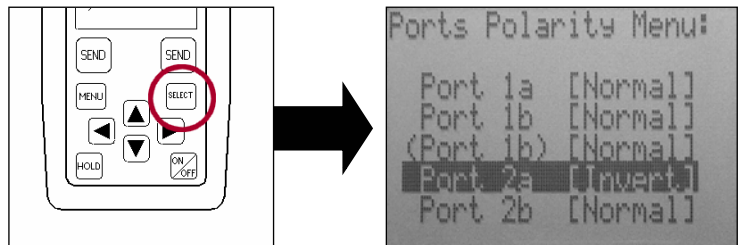PORTS DISPLAY
F/G TGL [Manual]
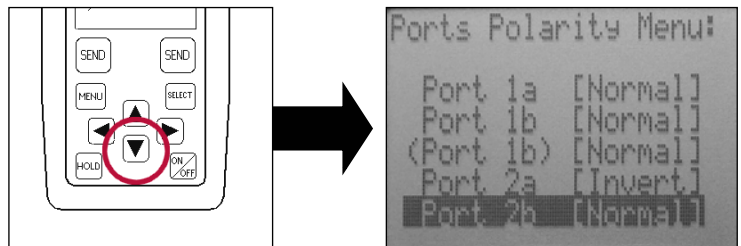NULL METER

21. Press the ► to "Ports Polarity Menu".
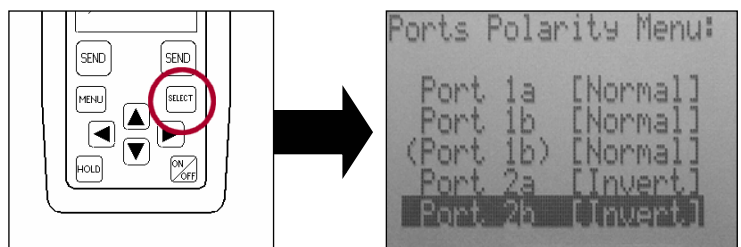
22. Press the ▼ to highlight "Port 2a [Normal]".

23. Press the <SELECT> button, this will change "Port 2a" from "Normal" to "Invert".

24. Press the ▼ to highlight "Port 2a [Normal]".

25. Press the <SELECT> button, this will change "Port 2a" from "Normal" to "Invert".
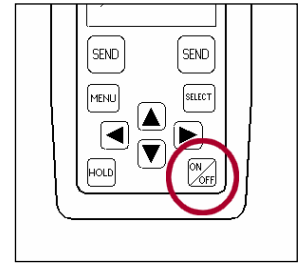
26. Press the <MENU> button to exit menu.

Configuration complete

II.   MASTERING INSTRUCTIONS

This process will master (2) LMI 200-S probes to be used for null meter
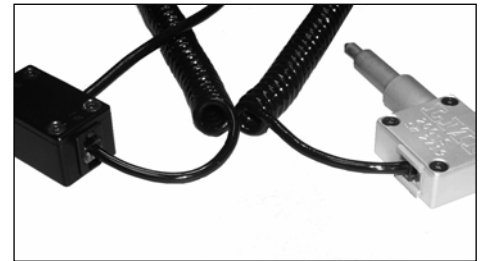
1. Turn on the 585 Plus by pressing <ON/OFF> on the keypad.

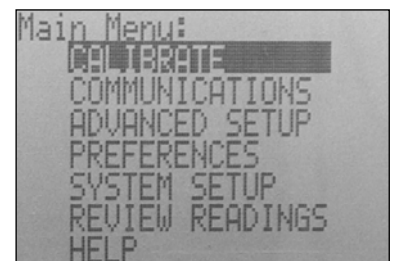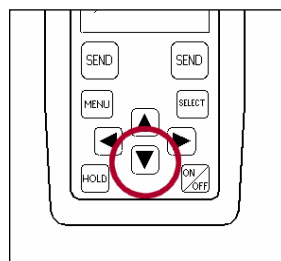2. Connect the 6 pin end of the "Y" cable in the 6 pin port on the 585 Plus.

3. Connect the first LMI 200-S to port "#1" on the "Y" cable using the LMI 6009 4 pin to 4 pin cable.
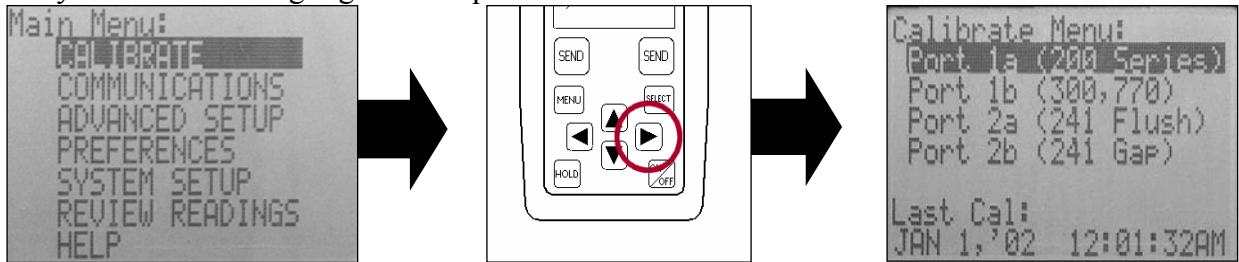

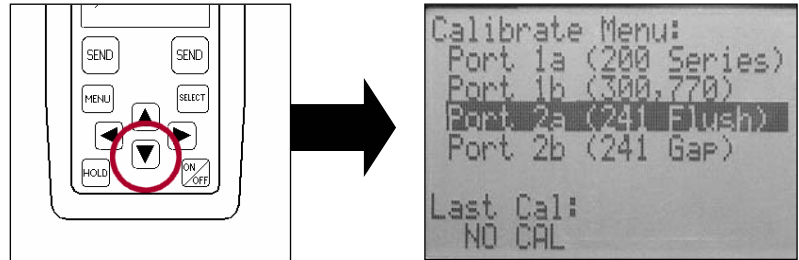4. Connect the second LMI 200-S to port "2" on the "Y" cable using the LMI 6009 4 pin to 4 pin cable.

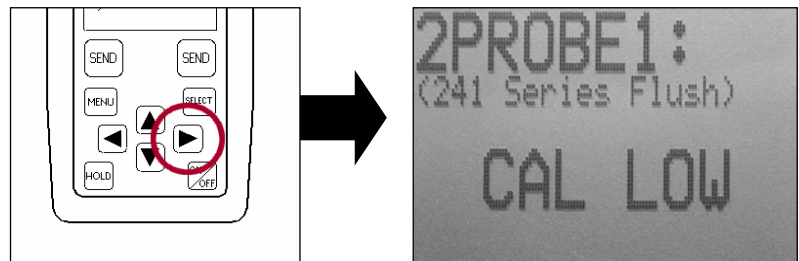5. From the gage display press ▼ on the keypad to "Main Menu".

Main Menu:
CALIBRATE
COMMUNICATIONS
ADVANCED SETUP
PREFERENCES
SYSTEM SETUP
REVIEW READINGS
HELP

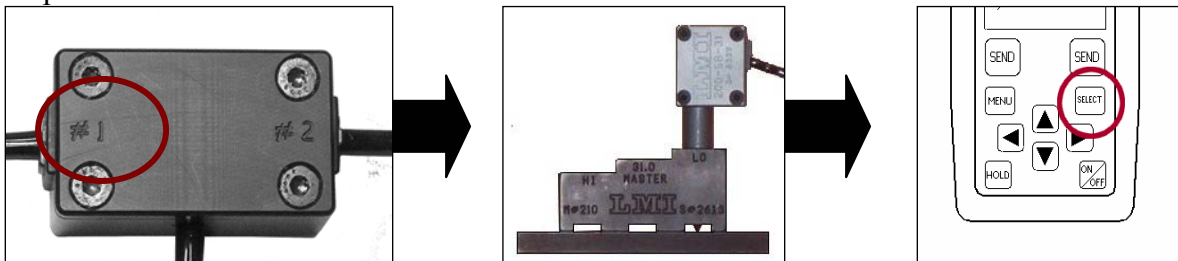6. Verify "Calibrate" is highlighted and press ► to "Calibrate Menu".

7. Press ▼ to highlight "Port 2a".

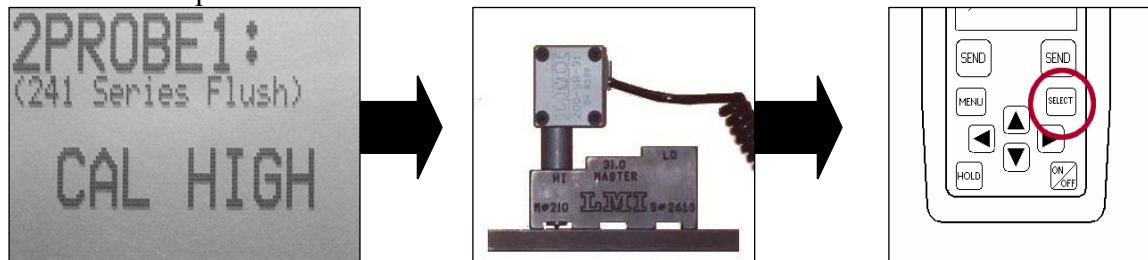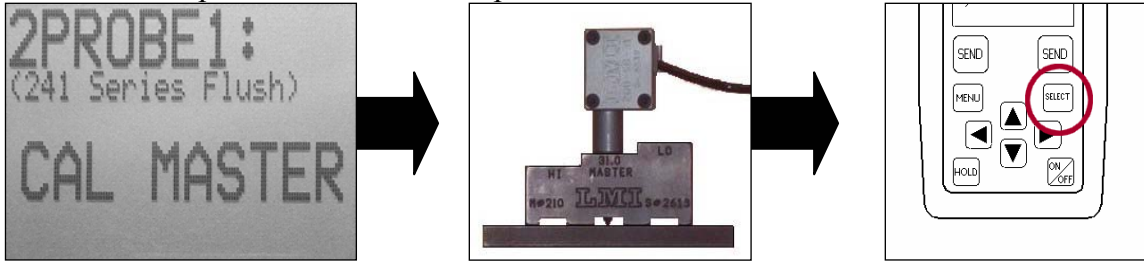

8. Press ► to "2PROBE1" CAL LOW.

9. Insert the 200-S connected to port "#1" on the "Y" cable into the "LO" step of the LMI 210 block and press <SELECT> on the 585 Plus.
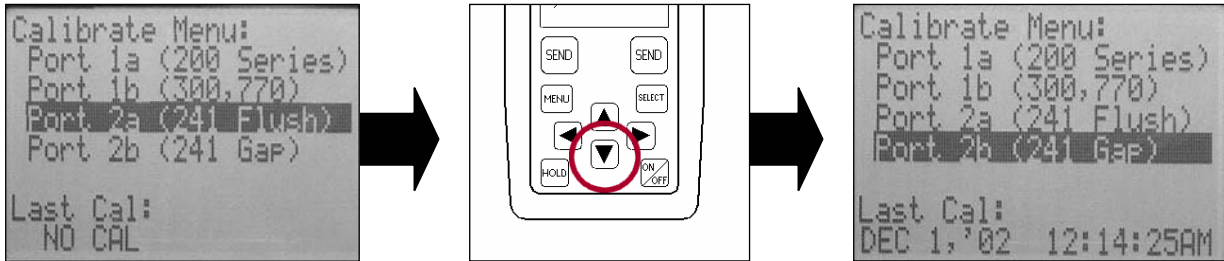

10. The 585 Plus screen will advance to "2PROBE1" CAL HIGH. Place the 200-S into "Hi" step of the 210 block and press <SELECT> on the 585 Plus.
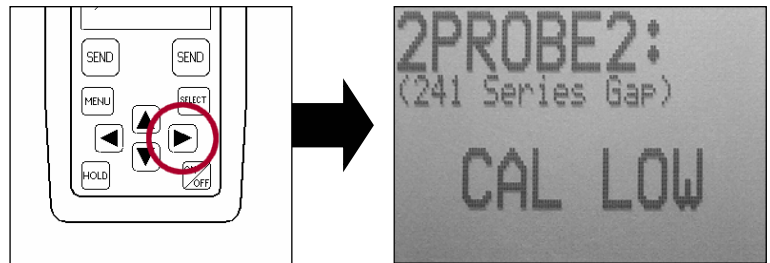
11. The 585 Plus screen will advance to "2PROBE1" CAL MASTER. Place the 200-S into "31.0/Master" step of the 210 block and press <SELECT> on the 585 Plus.
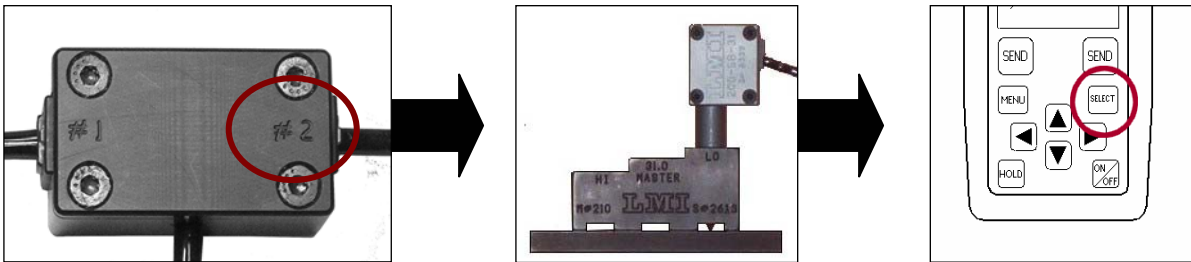

12. The 585 Plus screen will return to the "Calibrate Menu", press ▼ on the keypad to highlight "Port 2b".
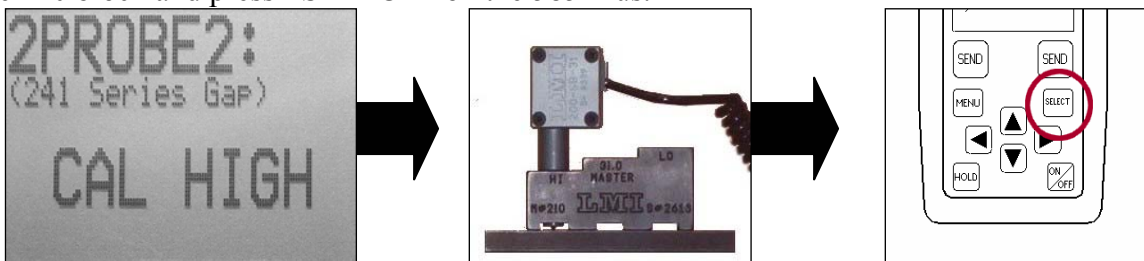

13. Press ► to "2PROBE2" CAL LOW.

14. Insert the 200-S connected to port "#2" on the "Y" cable into the "LO" step of the LMI 210 block and press <SELECT> on the 585 Plus.
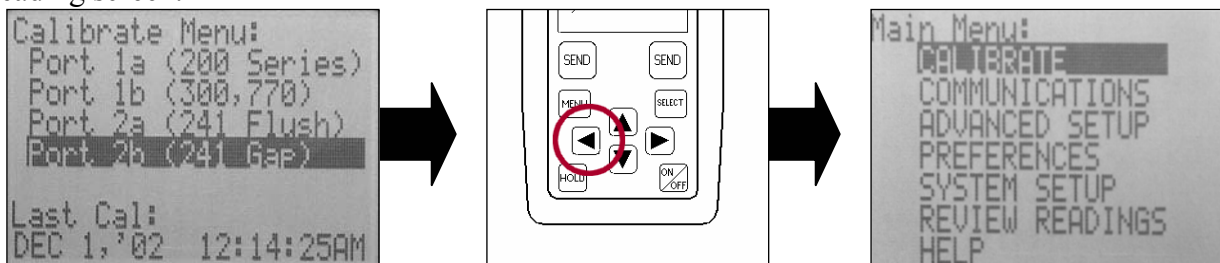

15. The 585 Plus screen will advance to "2PROBE2" CAL HIGH. Place the 200-S into "Hi" step of the 210 block and press <SELECT> on the 585 Plus.

16. The 585 Plus screen will advance to "2PROBE2" CAL MASTER. Place the 200-S into "31.0/Master" step of the 210 block and press <SELECT> on the 585 Plus.
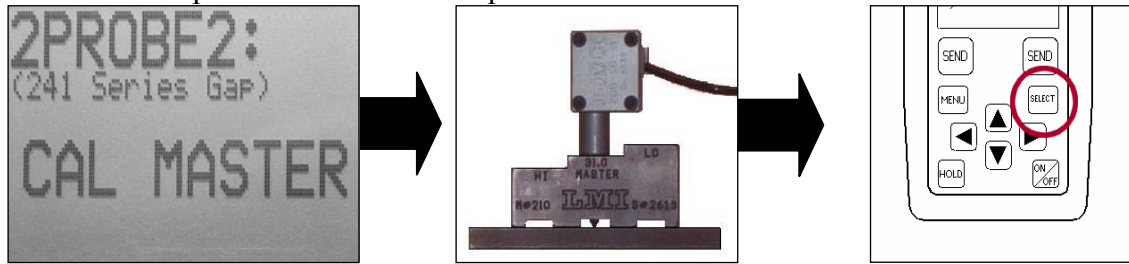
17. The 585 Plus screen will return to the "Calibrate Menu". Press <MENU> to return to the gage reading screen.
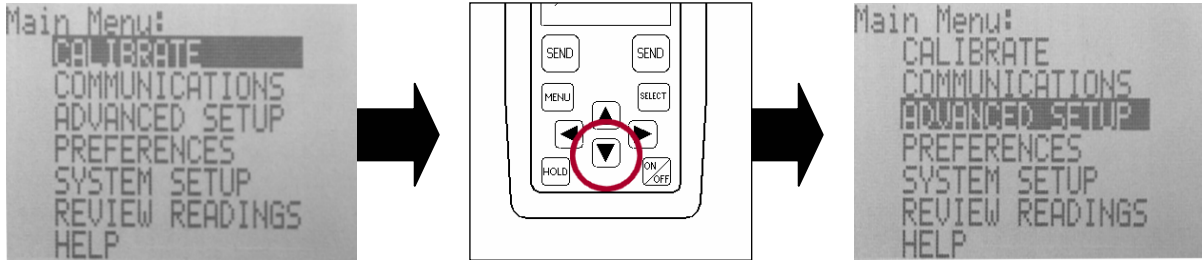

Mastering complete

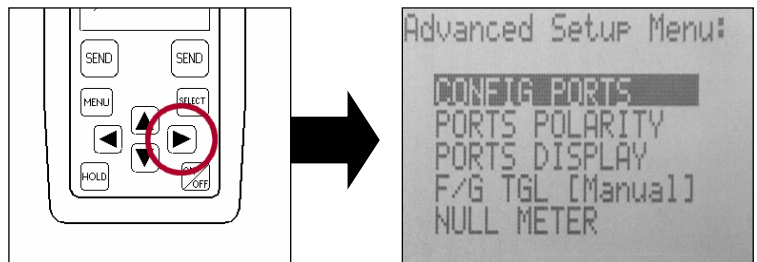# III   LMI 585 PLUS-560 NULL METER FUNCTION
This process covers how to access the 585 Null Meter function

If the 585Plus is powered down while in the null meter screen, it will return directly to the null meter screen at power up. These steps will need to be used after mastering the (2) LMI 200-S
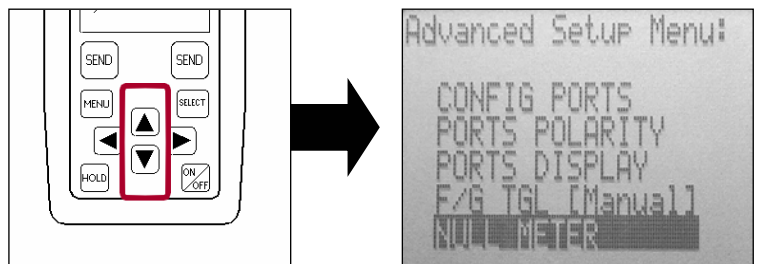
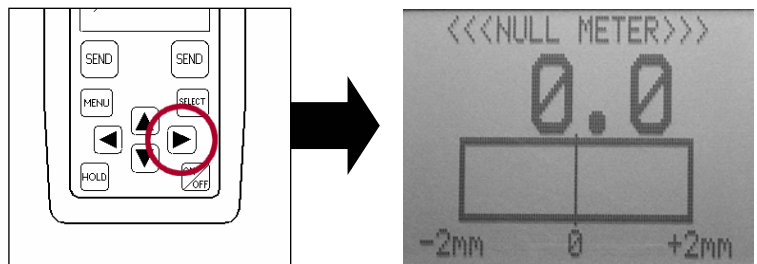1. From the "MAIN MENU" press the ▼ to highlight "ADVANCE SETUP"

2. Press the ► to "ADVANCE SETUP MENU"
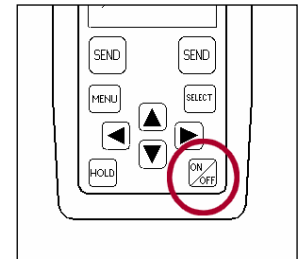
3. Press the ▼ or ▲ to "Null Meter".

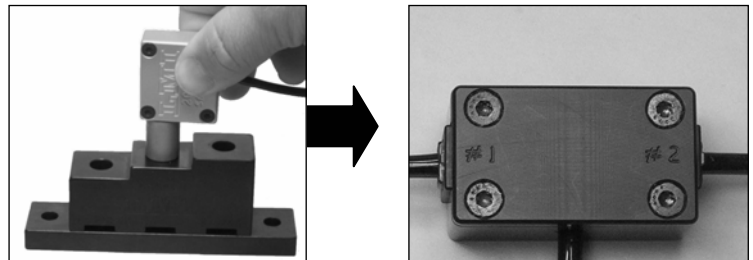4. Press the ► to the "NULL METER" screen

585Plus-560 Null Meter function is on.

IV   VERIFYING and UNDERSTANDING the 585 PLUS-560 NULL METER
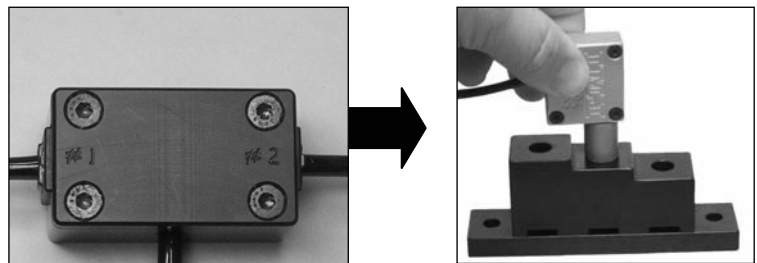
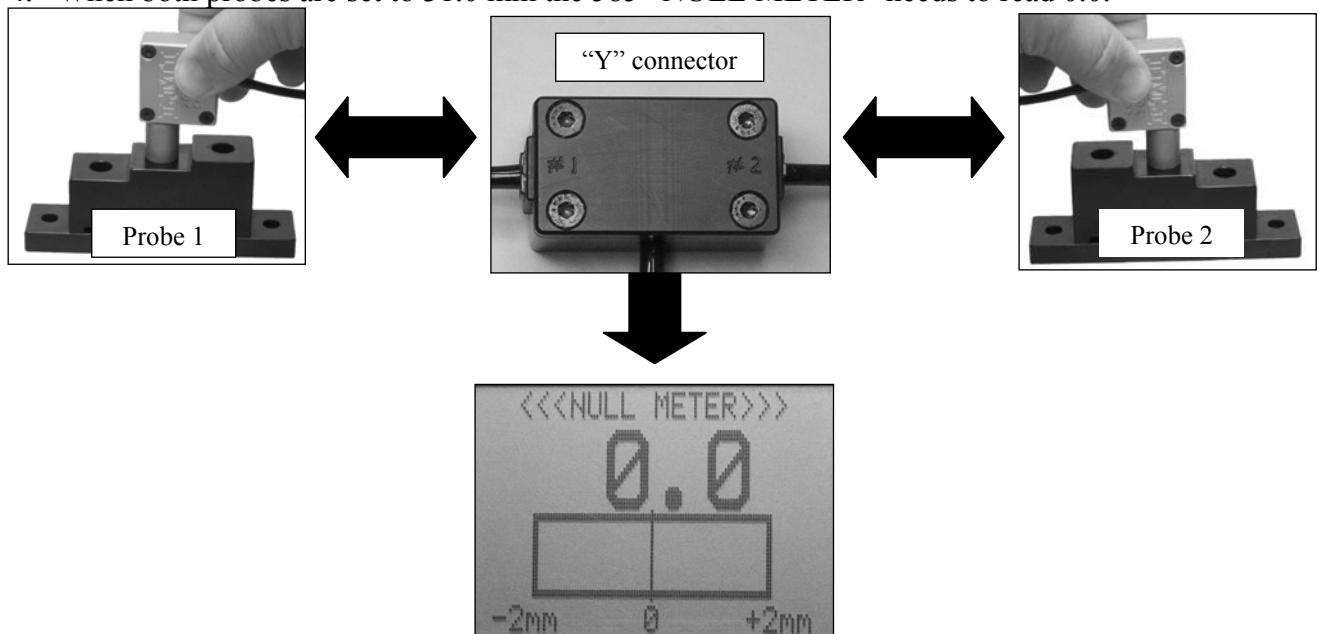1. Turn on the 585 Plus by pressing <ON/OFF> on the keypad.

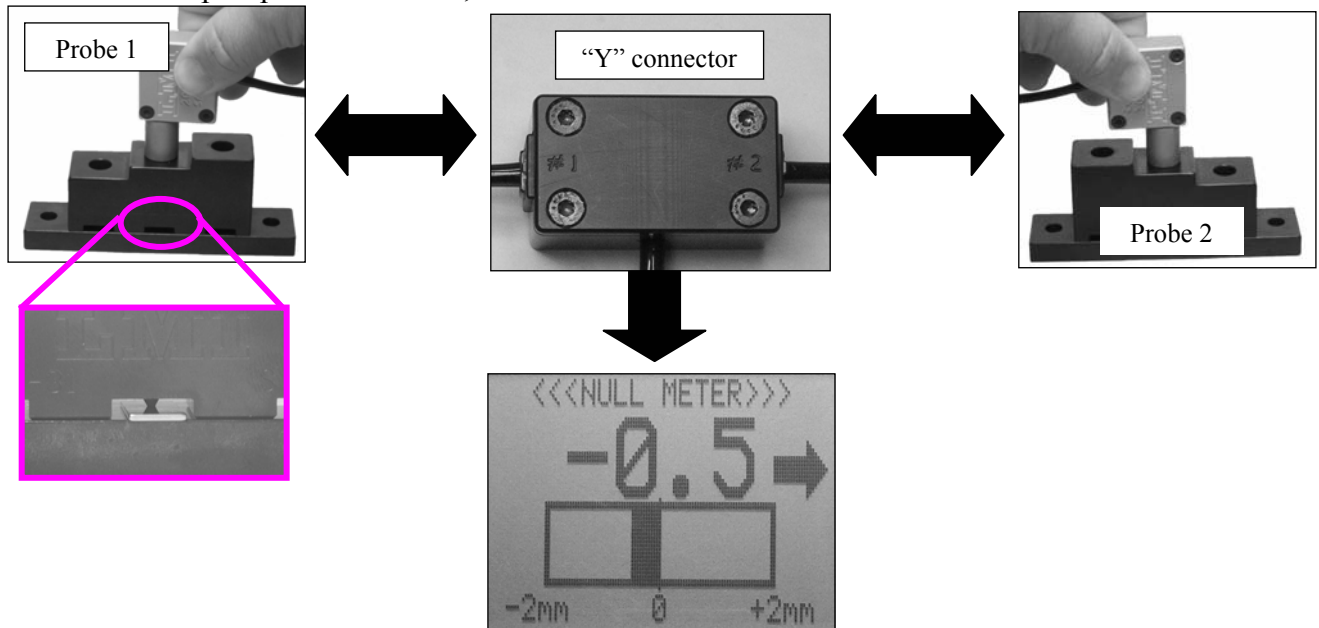2. Verify that the 200-S mastered as "PROBE1" is connected to port "#1" on the "Y" connector.

3. Verify that the 200-S mastered as "PROBE2" is connected to port "#1" on the "Y" connector.

4. When both probes are set to 31.0 mm the 585 "NULL METER" needs to read 0.0.

"Y" connector

Probe 1

Probe 2

<<<NULL METER>>>

0.0

-2mm   0   +2mm

5. Move the tip of probe 1 in 1mm, the 585 "NULL METER" will read -0.5mm +/-0.1.

6. If either step 4 or 5 readings are greater than 0.1mm, both 200-S need to be re mastered.

7. Understanding the 585 Plus-560 Null Meter screen: This example is based on Probe 1 checking the left side and Probe 2 checking the right side of the piece.
    *   The bar graph indicates the piece is shifted to the left of center.
    *   The reading and arrow show the direction and amount the piece needs to be moved to gain center