Configuration and Mastering Instructions for the LMI Ultra Mini Seal Gap Gage to the LMI 440 / ASI Datamyte 501 Data Collector.
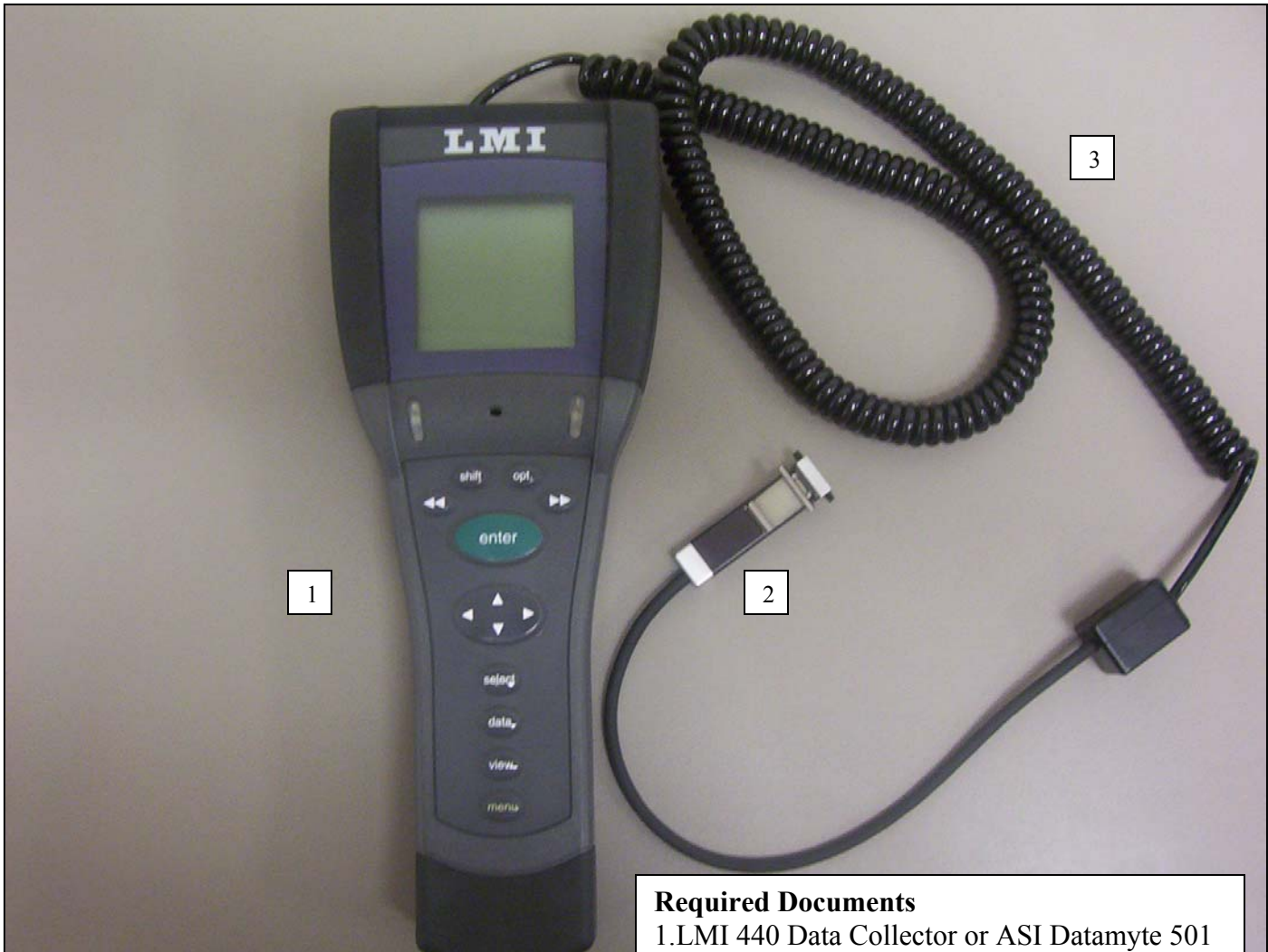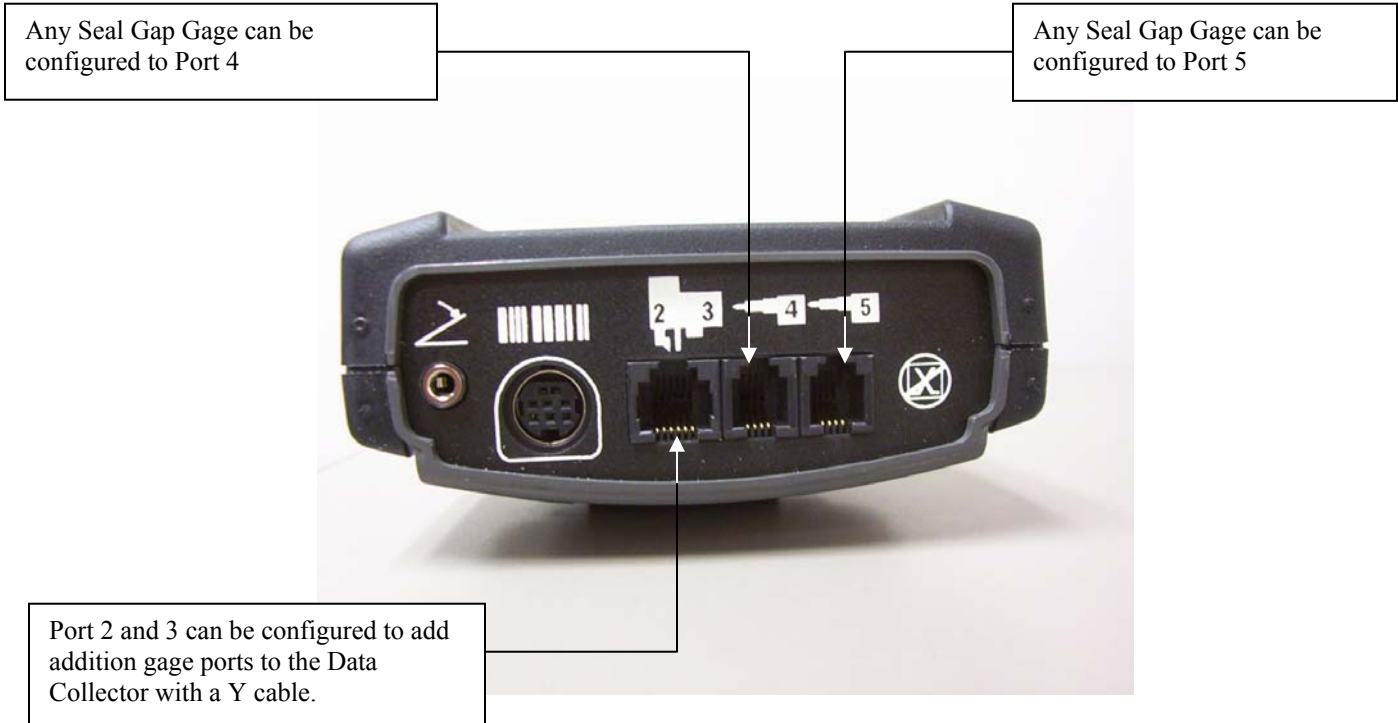

Required Documents
1. LMI 440 Data Collector or ASI Datamyte 501
2. LMI Ultra Mini Seal Gap Gage
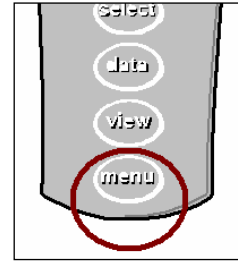3. LMI 6009 4 Pin Cable.

This process will outline:

All LMI Ultra Mini Seal Gap Gages use a 4 pin LMI 6009 modular connector to interface with the LMI 440 or ASI Datamyte 501 Data Collector.

Any Seal Gap Gage can be configured to Port 4

Any Seal Gap Gage can be configured to Port 5

Port 2 and 3 can be configured to add addition gage ports to the Data Collector with a Y cable.
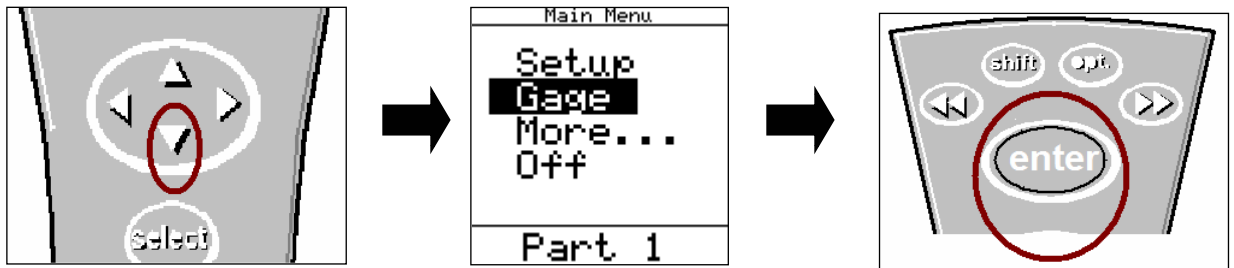
I. Configuration

1. Press <MENU> to turn on collector

2. Press ▼ to highlight GAGE, then press <ENTER> on the keypad.

*It is recommended to assign a simple user name to the gage file such as; seal, 237, etc.
This will help to identify individual setups*

3. To assign a gage file name press the ▲ or ▼ to highlight gage G4 in the GAGE
    LIST, and press <ENTER> on the collector. The alphanumeric screen will then
    appear.

*Note: G4 and G5 can both read the Ultra Mini gages. The only rule to follow is the gage
file must match the source code in part file, see collector manual for details. The balance
of this instruction will be based on G4. To use G5, perform the following steps using the
G5 gage file.*
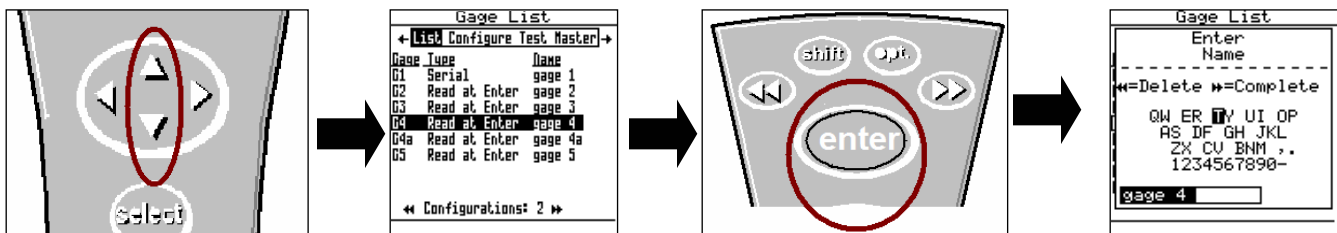
4. Use the ▲, ►, ◄, or ▼ to highlight the desired character then press <ENTER>, repeat process until the gage file name is spelled out then press ►► to accept the new name.
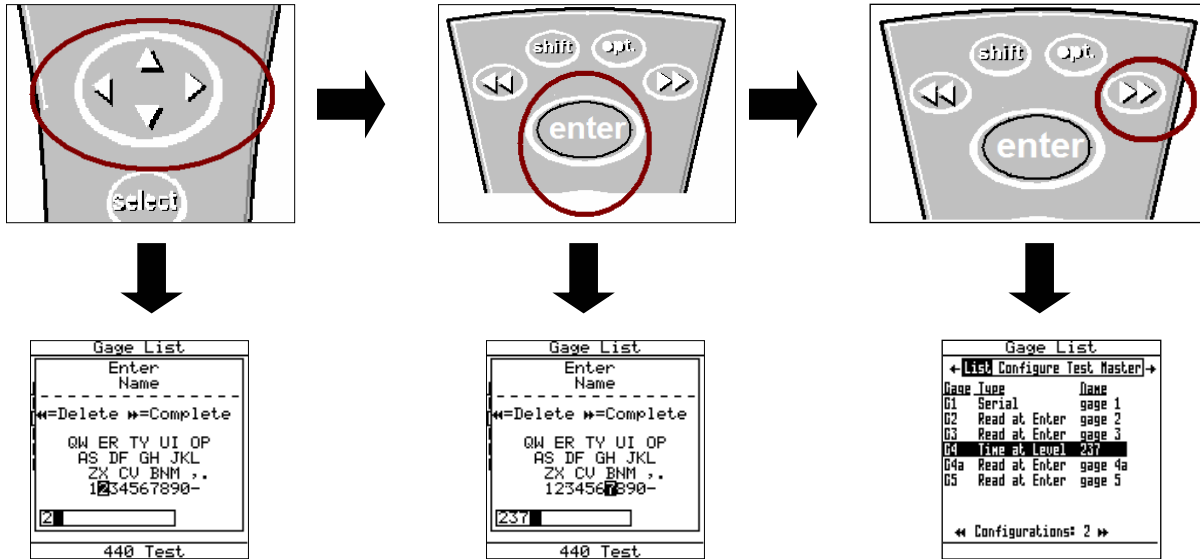

Note: Multiple Connections - LMI 440 Data Collector can handle up to (4) Seal Gap Gages at one time. To configure the Data Collector to handle multiple (4) Seal Gap gages connect a Y-Cable to port 2 and port 3 and follow the same steps as outlined in this document to properly configure each gage port.
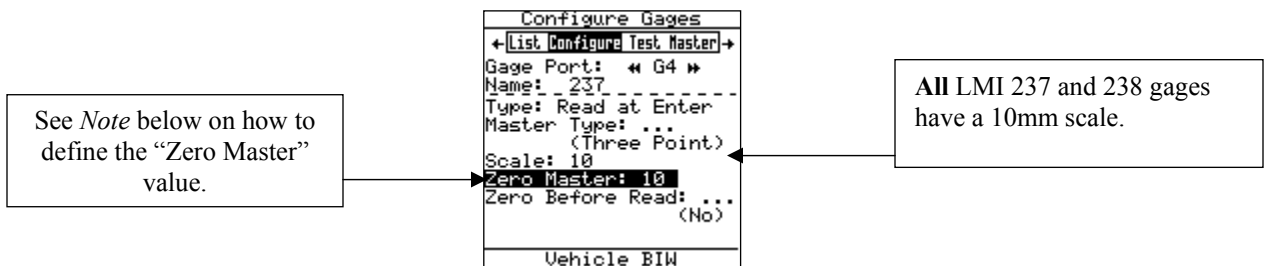
Note: Single Connection – To connect the Data Collector to handle a single gage configure the Seal Gap gage can be setup on either port 4 or port 5.

5. Press the ► to CONFIGURE. This screen determines how the collector will interpret the signal from the gage. Failure to set this screen properly may cause undesired results.
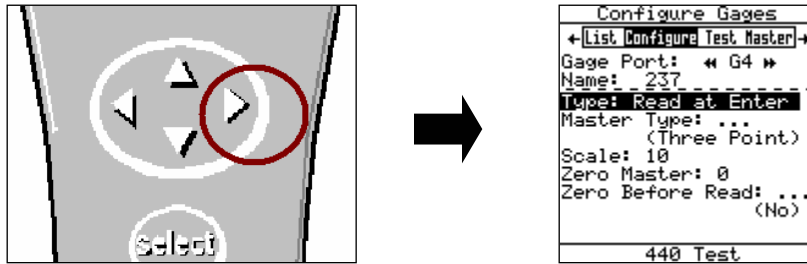

6. The CONFIGURE GAGE screen needs to be set as follows. Failure to set this screen properly may cause undesired results.

See *Note* below on how to define the "Zero Master" value.

**All** LMI 237 and 238 gages have a 10mm scale.

Note: The ZERO MASTER is the constant value or offset in the inspection range specific to the LMI Ultra Mini Seal Gap Gage. The collector will add the ZERO MASTER value to the dynamic reading from the gage and display an actual reading on screen.

All LMI Ultra Mini Seal Gap Gages have an inspection range machined on the body. The lesser of the 2 numbers will be the value that needs to be entered into the ZERO MASTER.

7. To adjust the ZERO MASTER or SCALE, press the ▲ or ▼ to highlight either option and then press <ENTER> on the keypad. This will bring up the numeric keyboard.
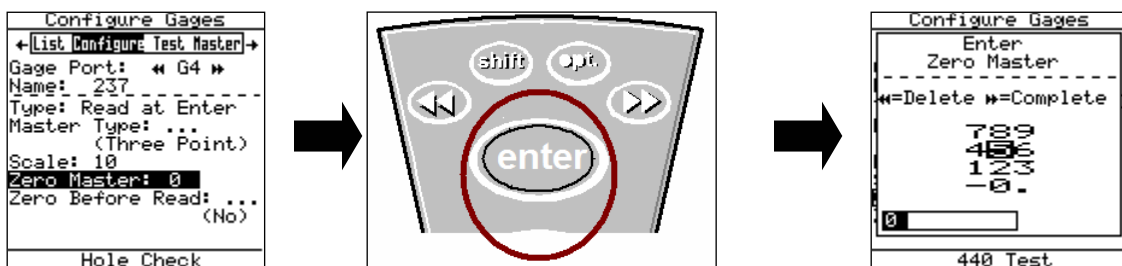
8. Press ▲, ▼, ◄, or ► to highlight the first digit of the new number and press enter. Repeat until the value is complete and press ►►. *For this example the ZERO MASTER will be set to 10.*
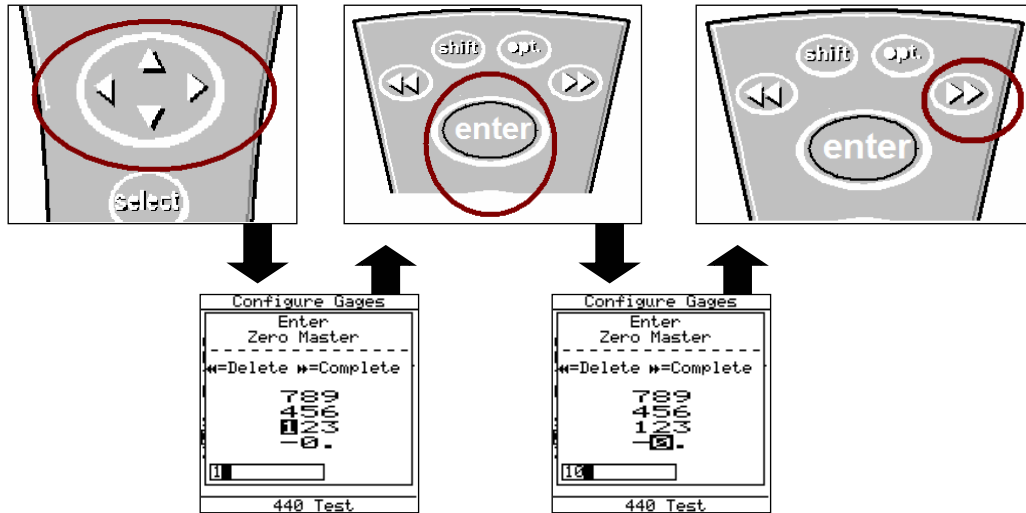
9. To make changes to TYPE, MASTER TYPE, or ZERO BEFORE READ press the ▲ or ▼ to highlight the individual selection, and press <ENTER> to confirm your selection. Repeat until the value is completed and press ►► to accept the new value.

10. Once the CONFIGURE GAGES screen is set press ► and a pop up will appear if any changes were made. Highlight "Save to current gage" and press <ENTER> if the changes were intentional. If a setting was changed by mistake or you were not done in CONFIGURE GAGES highlight "Cancel" and press <ENTER>.
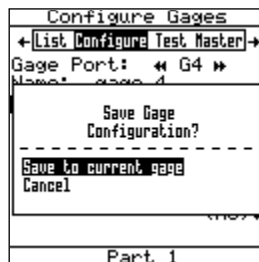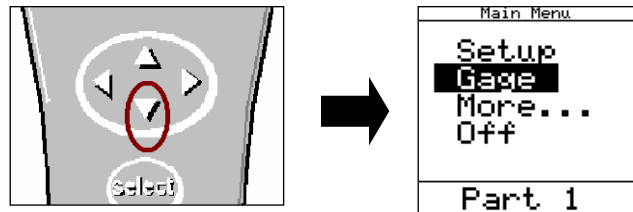

Gage configuration is complete.

II. Mastering Instructions

1. Connector the seal gap gage to Gage Port 4 of the data collector. If G5 was selected in the gage configuration use Gage Port 5.
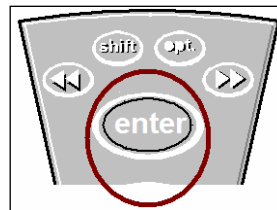

2. Press <MENU> to turn on the LMI 440 Data Collector /ASI Datamyte 501.
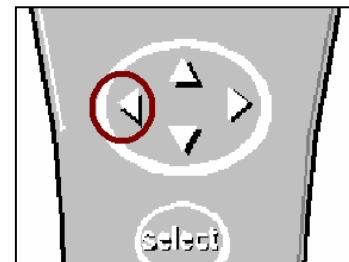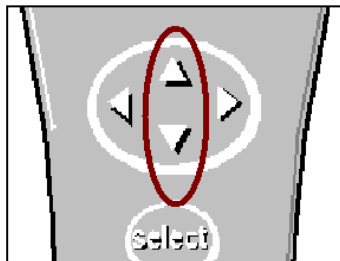
3. Press ▼ to highlight GAGE.
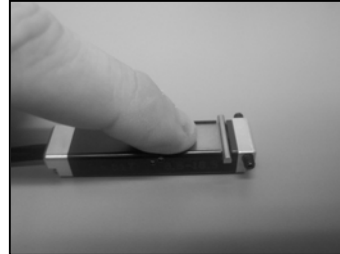

4. Press <ENTER>.

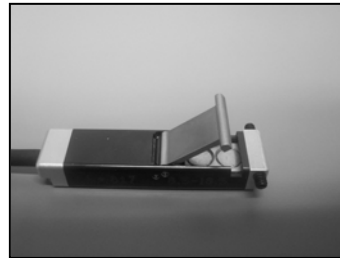5. From the gage list use the ▲ or ▼ keys on the data collector to choose gage file G4, and press ◄ on the collector.

6. MASTER will be highlighted in the screen header menu and G4 is identified as GAGE PORT. If G4 is not the gage port press the ►► or ◄◄ until G4 appears.
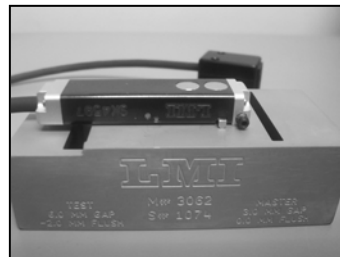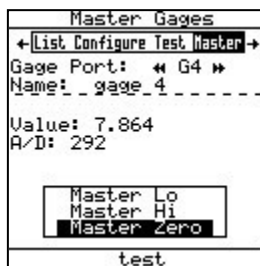
7. Verify that MASTER LO is highlighted in the MASTER screen and completely RETRACT the Ultra Mini Seal Gap Gages and press <ENTER> button on the keypad.

```
        Master Gages
 ←List Configure Test Master→
Gage Port:  ◂◂ G4 ▸▸
Name:_gage_4 _ _ _ _ _ _

Value: 7.858
A/D: 290

       Master Lo
       Master Hi
       Master Zero
        test
```

8. Advance to MASTER HI and completely EXTEND the Ultra Mini Seal Gap Gages and press <ENTER> button on the keypad.

```
        Master Gages
 ←List Configure Test Master→
Gage Port:  ◂◂ G4 ▸▸
Name:_gage_4 _ _ _ _ _ _

Value: 17.839
A/D: 3515

       Master Lo
       Master Hi
       Master Zero
        test
```

9. Advance to MASTER ZERO and place the Ultra Mini Seal Gap Gages on a certified flat surface (LMI 3030 or 3062 works well) and press the <Enter> button on the keypad.

```
        Master Gages
 ←List Configure Test Master→
Gage Port:  ◂◂ G4 ▸▸
Name:_gage_4 _ _ _ _ _ _

Value: 7.864
A/D: 292

       Master Lo
       Master Hi
       Master Zero
        test
```

Note: your specific gage readings may differ from this example.
Gage mastering is complete.

III. Verification of the Mastering

To verify that all the above steps are have been completed correctly the following should be checked.

The Full Span of the Ultra Mini Gage should be within *+/- 0.03mm* of 10mm difference between the HI Step and LO Step to check the Full Span follow the steps below:

1. Extend the Ultra Mini Seal Gap Gages completely and observe the value on the screen.
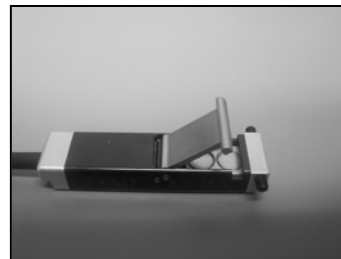
2. Retract the Ultra Mini Seal Gap Gages completely and observe the value on the screen.
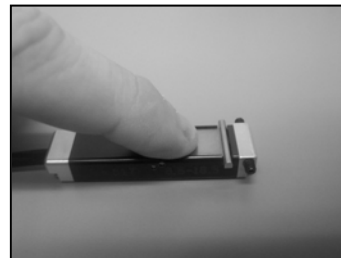
The extended value on the screen should match the value subtracted from the zero master.

The alternative to check to see if a proper mastering process has been achieved is to check the readings against the master block of the probe. The master reading should be consistent with readings displayed when the Ultra Mini Gage is place on the master block.

Verification is now complete, press <MENU> to exit.