

Introduction

⚠ Warning

To avoid electric shock, do not perform any servicing other than that contained in the Users or Service manual unless you are qualified to do so. These service instructions are for use by qualified personnel only.

This *Calibration Information* for the 79/26 Series III Multimeter (hereafter known as “the Meter”) provides the information necessary to calibrate the meter and verify its performance. This information sheet provides the following information:

- Product specifications
- Specifications
- Basic Maintenance
- Disassembly and reassembly
- Performance test procedures
- Calibration and calibration adjustment procedures
- Replacement parts

For complete operating instructions, refer to the *79/26 Series III Instruction Sheet*.

Service

The Meter has a limited lifetime warranty. To contact Fluke, call one of the following telephone numbers:

USA: 1-888-99-FLUKE (1-888-993-5853)

Canada: 1-800-36-FLUKE (1-800-363-5853)

Europe: +31 402-678-200

Japan: +81-3-3434-0181

Singapore: +65-738-5655

Anywhere in the world: +1-425-446-5500

For additional information about Fluke, its products, and services, visit Fluke’s web site at:

www.fluke.com

Safety Information

Warning

To avoid electric shock and personal injury:

- Do not use the Meter if it is damaged. Before you use the Meter, inspect the case and look for cracks or missing plastic. Pay particular attention to the insulation surrounding the connectors.
- Inspect the test leads for damaged insulation or exposed metal. Check for continuity in the test leads. Replace damaged test leads before you use the Meter.
- Do not use the Meter if it operates abnormally. Protection may be impaired. When in doubt, have the meter serviced.
- When you service the Meter, use ONLY replacement parts specified in the manual.
- Do not operate the Meter around explosive gas, vapor, or dust.
- Never apply more than rated voltage between any input terminal and ground.
- Be sure the test leads and rotary switch are in the correct position for the desired measurement.
- Never measure resistance in a circuit when power is applied.
- Never touch the probe to a voltage source when the test leads are plugged into the 10 A or 40 mA input terminal.
- Be careful when working with voltages above 60 V dc or 30 V ac rms. Such voltages pose a shock hazard.
- Keep your fingers behind the finger guards on the test probes when making measurements.
- Use only a single, 9V battery that is properly installed in the meter case to power the Meter.

To avoid false readings which could lead to possible electric shock or personal injury, replace the battery immediately after the battery symbol displays.

Specifications

Specifications are in Table 1. Accuracy is specified for a period of one year after calibration, at 18 °C to 28 °C (64 °F to 82 °F) with relative humidity to 90 %. ac conversions are ac-coupled and true rms responding.

Table 1. Specifications




Display:	Digital: 4000 counts, updates 4/sec Analog: 63 segments, updates 40/sec Frequency: 9,999 counts Capacitance: 9,999 counts
Response Time of Digital Display:	V ac <1.5 s (for upscale only) V dc <1 s Ω <1 s to 40 k Ω , <2 s to 4 M Ω , <10 s to 40 M Ω
Operating Temperature:	0 °C to 55 °C
Storage temperature:	-40 °C to 60 °C
Temperature Coefficient:	0.1 x (specified accuracy)/ °C (<18 °C or > 28 °C)
Relative Humidity:	90 % (0 °C to 30 °C) 75 % (30 °C to 40 °C) 45 % (40 °C to 50 °C) 35 % (50 °C to 55 °C)
Altitude:	Operating: 2,000 meters
Storage:	12,000 meters
Battery type:	9 V, NEDA 1604A or IEC 6LR61
Battery Life:	500 hrs typical with alkaline
Continuity Beeper:	4096 Hz
Vibration:	Per MIL-T-PRF-28800F, Class III Sinusoidal, Non Operating
Drop:	1 meter drop per IEC 1010-1
Enclosure:	Conforms to IP-40 per IEC-529
Size (HxWxL):	3.7 cm x 8.9 - 7.8 cm x 19 cm (1.5 in x 3.5 - 3.1 in x 6.55 in)
Weight:	365 g (12.9 oz)
EMC:	V ac and A ac only: RF field = 3 V/m. Total accuracy = specified accuracy + 2.0 % of range. EN 61326-1: 1997
Surge Protection:	6 kV peak per IEC 1010-1, 1990-09
Safety:	600 V CAT III and 1000 V CAT II per ANSI/ISA-S82.01-94, UL3111-1, CSA/CAN C22.2 No 1010.1-92, EN 61010 part 1:1993
Certifications:	   TUV pending

Table 1. Specifications (cont.)

Accuracy specifications are given as: \pm ([% of reading] + number of least significant digits) ac readings are ac-coupled, true rms, and are valid from 5 % to 100 % of range. Add \pm (2 % of reading + 2 % of range) for $1.4 < CF \leq$ maximum CF. Maximum CF is 3 full scale, 6 half scale.

Function	Range	Resolution	Accuracy	Burden Voltage (Typical)
\tilde{V} (45 Hz to 1 kHz)	400.0 mV	0.1 mV	$\pm(1.9\%+4)$	Not Applicable
	4.000 V	0.001 V	$\pm(1.9\%+2)$	
	40.00 V	0.01 V	$\pm(1.5\%+2)$	
	400.0 V	0.1 V	$\pm(1.5\%+2)$	
	1000 V	1 V	$\pm(1.5\%+2)$	
\bar{V}	4.000 V	0.001 V	$\pm(0.3\%+1)$	Not Applicable
	40.00 V	0.01 V	$\pm(0.3\%+1)$	
	400.0 V	0.1 V	$\pm(0.3\%+1)$	
	1000 V	1 V	$\pm(0.3\%+1)$	
$m\bar{V}^*$	40.00 mV	0.01 mV	$\pm(0.3\%+5)$	Not Applicable
	400.0 mV	0.1 mV	$\pm(0.3\%+1)$	
Ω	400.0 Ω	0.1 Ω	$\pm(0.4\%+2)$	Not Applicable
	4.000 k Ω	0.001 k Ω	$\pm(0.4\%+1)$	
	40.00 k Ω	0.01 k Ω	$\pm(0.4\%+1)$	
	400.0 k Ω	0.1 k Ω	$\pm(0.6\%+1)$	
	4.000 M Ω	0.001 M Ω	$\pm(0.4\%+1)$	
	40.00 M Ω	0.01 M Ω	$\pm(1\%+3)$	
Capacitance	99.99 nF	0.01 nF	$\pm(1.9\%+2)^{**}$	Not Applicable
	999.9 nF	0.1 nF	$\pm(1.9\%+2)^{**}$	
	9.999 μ F	0.001 μ F	$\pm(1.9\%+2)^{**}$	
	99.99 μ F	0.01 μ F	$\pm(1.9\%+2)^{**}$	
	999.9 μ F	0.1 μ F	$\pm(1.9\%+2)^{**}$	
	9999 μ F	1 μ F	$\pm 10\%$ Typical	
\lll)	400 Ω	0.1 Ω	5 % Typical ^{***}	Not Applicable
40 Ω (Lo-Ohms)	40 Ω^*	0.01 Ω	5 % Typical ^{***}	Not Applicable
	400 Ω	0.1 Ω	5 % Typical ^{***}	
\rightarrow +	2.450 V	0.001 V	$\pm 2\%$ Typical	Not Applicable
<p>* In 40 Ω and 40 mV ranges, thermals may introduce additional errors. Maximum accuracy is obtained when both probe tips are maintained at the same temperature.</p> <p>** Accuracy applies when measuring film capacitors or better and the open lead reading is subtracted from the measurement. This meter uses a dc-type measurement technique.</p> <p>*** Accuracy applies after lead resistance compensation.</p>				

Table 1. Specifications (cont.)

Function	Range	Resolution	Accuracy	Burden Voltage (Typical)
\tilde{A} (45 Hz to 1 kHz)	4.000 mA	0.001 mA	$\pm(1.5\%+4)$	11 mV/mA
	40.00 mA	0.01 mA	$\pm(1.5\%+2)$	11 mV/mA
	4 A	0.001 A	$\pm(1.5\%+4)$	0.03 V/A
	10.00 A*	0.01 A	$\pm(1.5\%+2)$	0.03 V/A
\bar{A}	4.000 mA	0.001 mA	$\pm(0.5\%+5)$	11 mV/mA
	40.00 mA	0.01 mA	$\pm(0.5\%+2)$	11 mV/mA
	4 A	0.001 A	$\pm(0.5\%+5)$	0.03 V/A
	10.00 A*	0.01 A	$\pm(0.5\%+2)$	0.03 V/A
Frequency** (1 Hz to 20 kHz)	99.99	0.01 Hz	$\pm(0.01\%+1)$	Not Applicable
	999.9	0.1 Hz	$\pm(0.01\%+1)$	
	9.999 kHz	0.001 kHz	$\pm(0.01\%+1)$	
	20.00 kHz	0.01 kHz	$\pm(0.01\%+1)$	
* Overload, 20 A for 30 seconds				
** For rectangular waveforms $25\% \leq \text{duty cycle} \leq 75\%$. V ac ≤ 1 kHz.				

Frequency Counter Sensitivity and Trigger Level		
Input Range*	Minimum Sensitivity (RMS Sine Wave)	
	500 Hz to 20 kHz	1.0 Hz to 500 Hz**
400 mV ac	Not Applicable	Not Applicable
4 V ac	0.3 V	0.7 V
40 V ac	3 V	7 V
400 V ac	30 V	70 V
1000 V ac	300 V	Not Applicable
* Maximum input for specified accuracy = 10 x Range or 600 V.		
** Display rattle for sine waves below 500 Hz = 5 counts.		

Function	Overload Protection*	Input Impedance (Nominal)	Common Mode Rejection Ratio (1 k Ω Unbalance)	Normal Mode Rejection
\bar{V}	1000 V dc 1000 V ac rms (sine)	>10 M Ω , <100 pF	>120 dB at dc, 50 Hz, or 60 Hz	>60 dB at 50 Hz or 60 Hz
m \bar{V}	1000 V dc 1000 V ac rms (sine)	10 M Ω , <100 pF	>120 dB at dc, 50 Hz, or 60 Hz	>60 dB at 50 Hz or 60 Hz
\tilde{V}	1000 V dc 1000 V ac rms (sine)	>10 M Ω , <100 pF (ac-coupled)	>60 dB, dc to 60 Hz	
Ω	1000 V dc, 1000 V rms (sine)	Open Circuit Test Voltage <1.3 V dc	Full Scale Voltage $\frac{<4.0 \text{ M}\Omega}{<450 \text{ mV dc}}$ $\frac{<40 \text{ M}\Omega}{<1.3 \text{ V dc}}$	Short Circuit Current <250 μ A
\rightarrow	1000 V dc, 1000 V rms (sine)	<3.1 V dc	2.45 V dc	600 μ A typical
*10 ⁷ V-Hz max.				

Recommended Equipment

Test equipment recommended for the performance tests and calibration is listed in Table 2. If the recommended models are not available, instruments with equivalent specifications may be used.

Table 2. Required Equipment

Equipment	Minimum Specifications	Recommended Model
DMM Calibrator plus Transconductance or Power Amplifier	DC Voltage: 0-600V Accuracy: .05 % AC Voltage: 0 to 1000 V Accuracy: 0.2 % Frequency: 45 Hz to 20 kHz DC mA: 0 to 35 mA DCA: 0 to 10 A Accuracy: 0.1 % AC mA: 0 to 35 mA ACA: 0 to 10 A Accuracy: 0.3 % Frequency: 45 Hz to 1 kHz	Fluke 5100B, 5101B, 5102B, 5700A) + 5220A or Fluke 5500A Multi-Product Calibrator, 5700A + 5725A
Function Generator	Sinewave voltage: 0 to 1 V rms Frequency: 1 Hz to 20 kHz Frequency Accuracy: 002 %	5500A Multi-Product Calibrator or equivalent
Decade Resistor	Resistance 0 to 35 MΩ: Accuracy: .05 %	Fluke 5500A Multi-Product Calibrator or equivalent
Decade Capacitor	Capacitance: 100 pF to 1.1 μF Accuracy: 0.5 %	Fluke 5500A Multi-Product Calibrator or equivalent

Basic Maintenance

⚠ Warning

To avoid electrical shock or personal injury, remove the test leads and any input signals before opening the case, and close and secure the case before operating the Meter.

To prevent damage or injury, install only specified replacement fuses with the speed, amp interrupt rating, and voltage ratings that are shown in Table 12.

Opening the Meter Case

Refer to Figure 1, and use the following procedure to open the case:

1. Remove the test leads from any input signal.
2. Set the rotary switch to **OFF** and remove the test leads from the terminals.
3. Remove the four Phillips screws from the bottom case.
4. Turn the meter face up, grasp the top case, and pull it up. The top case “hinges” open from the bottom.

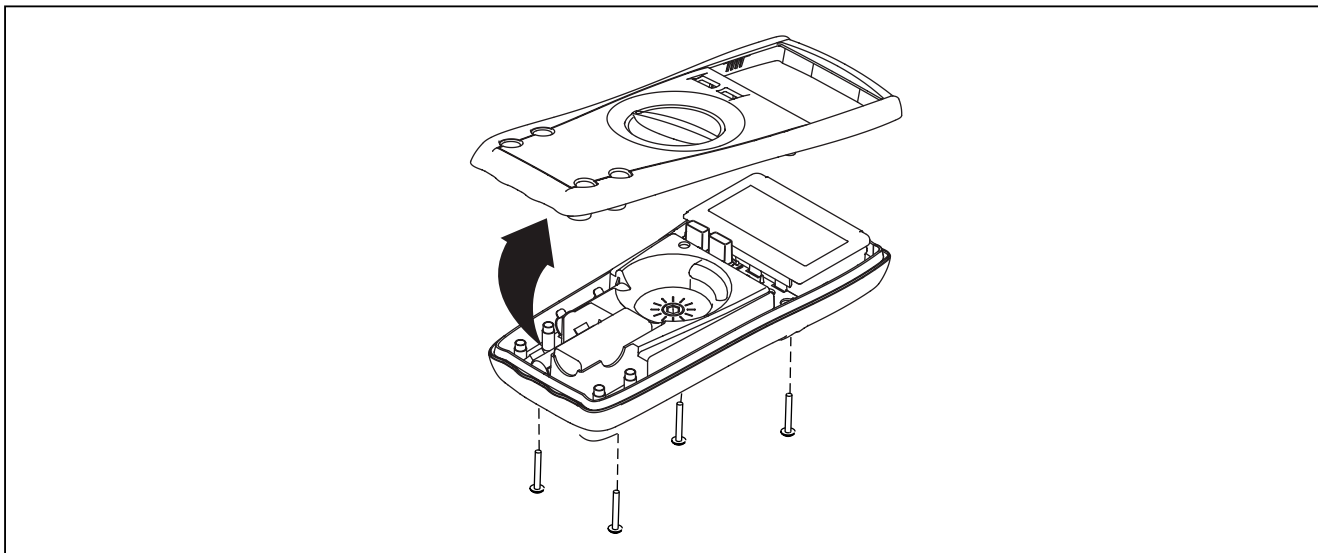



Figure 1. Opening the Case

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Replacing the Battery

⚠ Warning

To avoid false readings, which could lead to possible electric shock or personal injury, replace the battery as soon as the battery indicator  appears.

The meter is powered by a single 9 V battery (NEDA 1604A/IEC 6LR61).

Refer to Figure 2, and use the following procedure to replace the battery:

1. Remove the top case as described under “Opening the Meter Case.”
2. Lift the battery from the bottom case and install the new battery.
3. Reinstall the top case as described below in “Reassembling the Meter Case.”

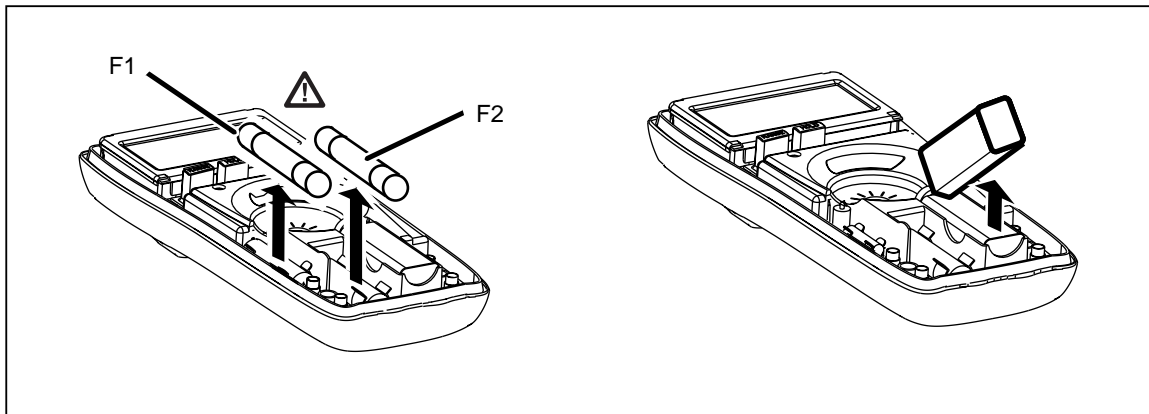


Figure 2. Replacing the Fuses and Battery

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Reassembling the Meter Case

1. Verify that the rotary switch is in the **OFF** position.
2. Place the top case on the bottom case and snap them together.
3. Reinstall the four Phillips screws into the bottom case.

Go to “Performance Tests” later in this document, and perform the procedures described.

Testing Fuses

Refer to Figure 3, and use the following procedure to test the internal fuses of the Meter:

1. Turn the rotary switch to the Ω \rightarrow position.
2. To test the F2 fuse (11 A, 1000 V), plug a test lead into the $V\Omega$ \rightarrow input terminal and touch the probe to the 10 A input terminal.
3. The display should read between 0.1 Ω and 0.5 Ω .

If the display reads OL (overload), replace the fuse and test again. If the display reads any other value, further servicing is required.

4. To test the F1 fuse (F44/100, 1000 V), move the probe from the 10 A input terminal to the 40 mA input terminal.
5. The display should read between 10 Ω and 12 Ω .

If the display reads a high resistance or OL (overload), replace the fuse and test again. If the display reads any other value, further servicing is required.

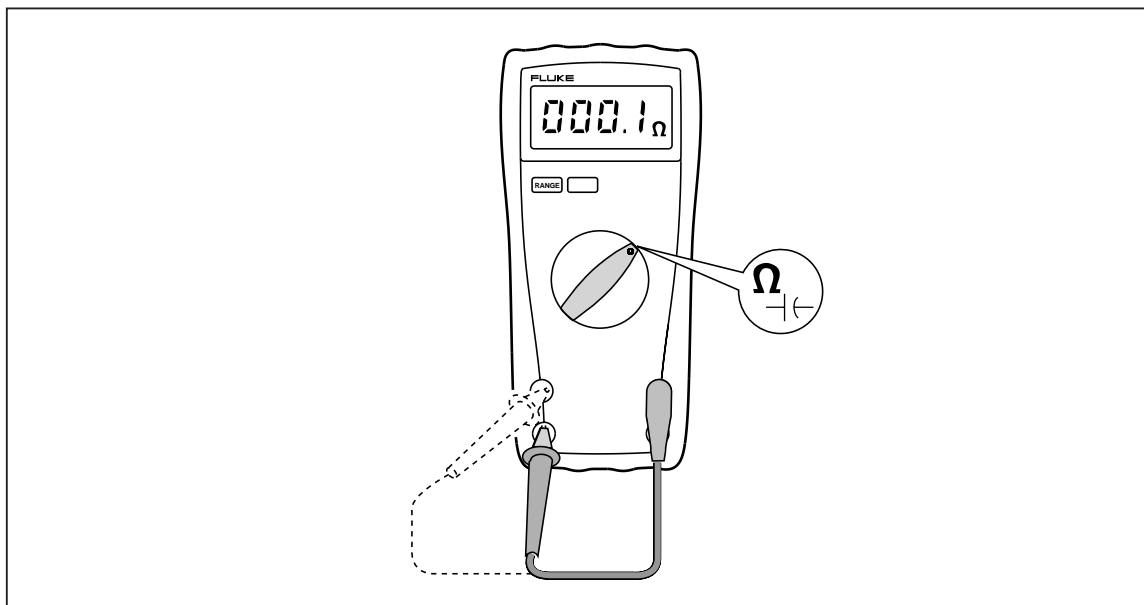


Figure 3. Fuse Testing

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Replacing Fuses

⚠ Warning

To avoid possible arc blasts and injuries that result from the blasts, install only specified replacement fuses with the speed, amp interrupt rating, and voltage ratings that are shown in Table 12.

Refer to Figure 2, and use the following procedure to examine or replace the Meter's fuses:

1. Remove the top case as described under "Opening the Meter Case."
2. Remove the defective fuse by gently prying one end of the fuse loose and sliding the fuse out of the fuse bracket.
3. Install only the specified replacement fuses with the speed, amp interrupt rating, and voltage ratings that are shown in Table 12.

4. Ensure that the rotary switch and circuit board switch are in the **OFF** position.
5. Reinstall the top case as described in “Reassembling the Meter Case.”

Replacing the Bottom Case Assembly

Caution

To avoid contamination with oil from the fingers, handle the pca by the edges or wear gloves. PCA contamination may not cause immediate instrument failure in controlled environments. Failures typically show up when contaminated units are operated in humid areas.

Refer to Figure 4, and use the following procedure to remove the subassembly and replace the bottom case assembly:

1. Remove the top case as described under “Opening the Meter Case.”
2. Remove the F2 (F11 A) fuse to access the screw that holds the subassembly to the bottom case (refer to “Replacing Fuses”).
3. The subassembly may now be removed.
4. Install a new bottom case onto the pcb.
5. Reinstall the top case as described in “Reassembling the Meter Case.”

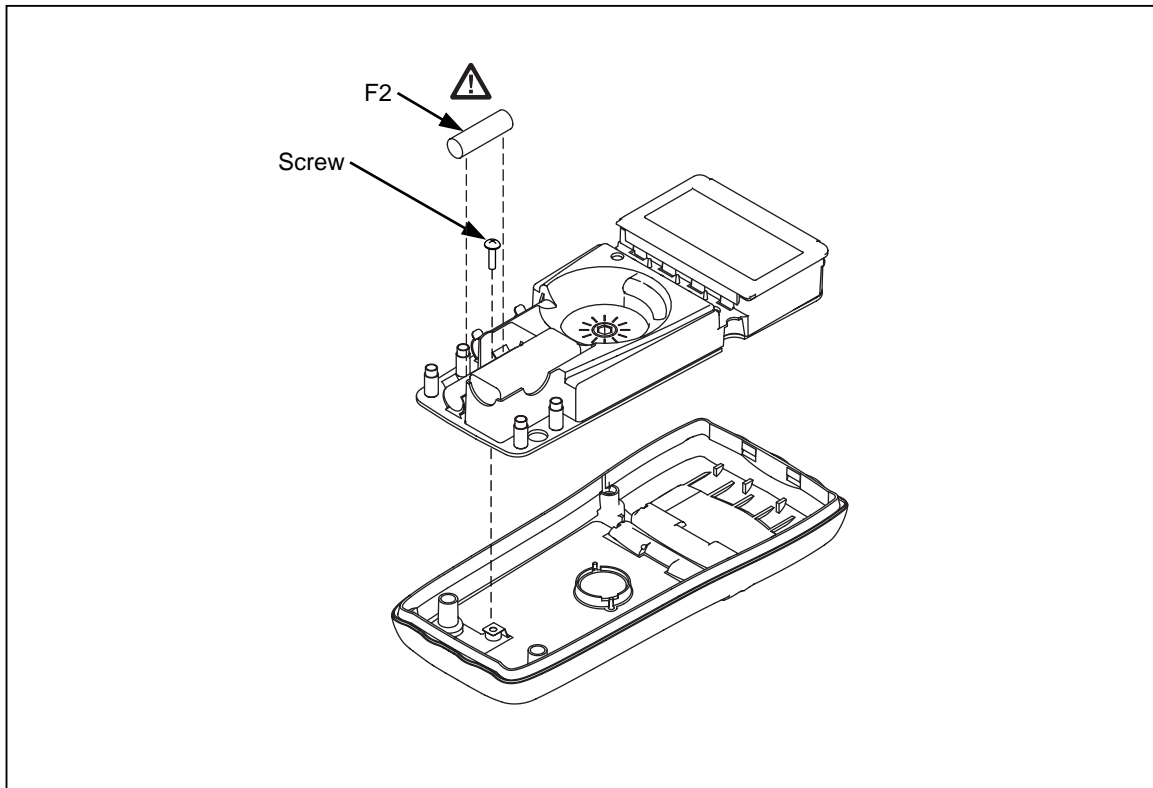


Figure 4. Removing the Subassembly

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Replacing the LCD

Caution

To prevent contamination, do not handle the conductive edges of the LCD or LCD interconnects. If they are contaminated, clean them with alcohol. Allow the alcohol to dry before reassembling.

Refer to Figure 5, and use the following procedure to remove and replace the LCD:

1. Remove the top case as described under “Opening the Meter Case.”
2. Remove the F2 fuse as described in “Replacing Fuses” and remove the single Phillips screw underneath the fuse. Lift out the LCD subassembly from the bottom case.
3. Remove the mask by inserting a small screwdriver under the edges, and gently pry the mask from the snaps. Lift out the LCD.
4. Before installing a new LCD, make sure that all connector contact points are clean. Refer to “Cleaning” for more information.
5. The LCD has a “bump” on the right edge. When replacing the LCD, make sure that the “bump” points to the right.
6. Reassemble the LCD assembly and attach it to the pca with the four screws.
7. Reinstall the top case as described in “Reassembling the Meter Case.”

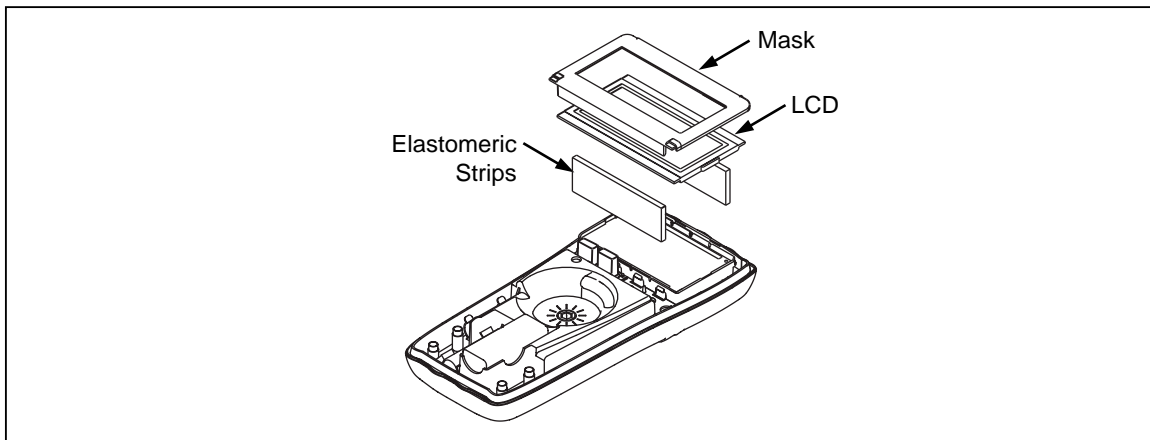


Figure 5. Removing and Replacing the LCD

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Cleaning

⚠ Warning

To avoid electrical shock or personal injury, do not reinstall the pca until it is completely dry.

Caution

To avoid damaging the meter, do not use aromatic hydrocarbons or chlorinated solvents for cleaning. These solutions will react with the plastics used in the instruments.

Do not use detergent of any kind for cleaning the pca.

Clean the instrument case with a mild detergent and water.

The pca may be washed with isopropyl alcohol or hot deionized water and a soft brush. Dry the pca with clean dry air at low pressure, then bake it at 50 °C for 24 hours.

Performance Tests

The following performance tests verify the complete operability of the Meter and check the accuracy of each meter function against the Meter's specifications (i.e., calibration). If the instrument fails any part of the test, calibration adjustment and/or repair is indicated.

In the performance tests, the Meter is referred to as the unit under test (UUT).

Setup

⚠ Warning

To prevent arc blast and possible injuries, install only specified replacement fuses with the speed, amp interrupt rating, and voltage ratings that are shown in Table 12.

1. Allow the UUT to stabilize to room temperature $23\text{ °C} \pm 5\text{ °C}$ ($73\text{ °F} \pm 9\text{ °F}$).
2. Check the fuses and battery, and replace them if necessary. (Refer to the battery and fuse replacement procedures.)

Testing the Display

To test the display, turn the UUT on and check whether all display segments come on as indicated in Figure 6. If you want the display to stay on longer, hold down the yellow button as you turn on the Meter.

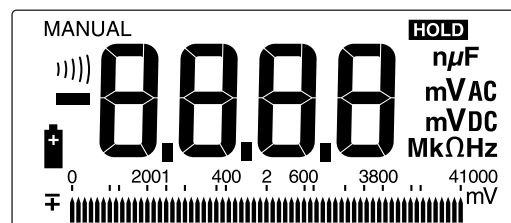


Figure 6. Display Test

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⚠ Warning

To avoid electric shock, connect the ground/common/low side of the dc calibrator to common on the UUT.

Testing the DC Voltage Function

1. Set the UUT to \bar{V} (V dc) and connect the dc voltage calibrator output to the $V\Omega \rightarrow$ and COM input terminals of the UUT.
2. Referring to Table 3, set the dc voltage calibrator for the output indicated in the steps. Verify that the UUT display reading is within the limits shown.
3. Reset the source to 0 V.

Table 3. DC Voltage Test

Step	Range	Voltage	Display Reading
1	4 V	short	0 to $\pm .001$ V dc
2	4 V	+3.5 V	3.488 to 3.512 V dc
3	4 V	-3.5 V	-3.488 to -3.512 V dc (and within 2 counts of +3.5 V reading)
4	40 V	+35 V	34.88 to 35.12 V dc
5	400 V	+350 V	348.8 to 351.2 V dc
6	1000 V	+1000 V	996 to 1004 V dc

Testing the mV DC Function

1. Set the UUT to $m\bar{V}$ (mV dc), and connect the dc voltage calibrator output to the $V\Omega \rightarrow$ and COM input terminals of the UUT.
2. Referring to Table 4, set the dc voltage calibrator to the voltage indicated in the steps. Verify that the UUT display reading is within the limits shown.
3. Reset the source to 0 V.

Table 4. mV DC Voltage Test

Step	Range	Voltage	Display Reading
1	400 mV	+350 mV	348.8 to 351.2 mV dc
2	40 mV	short	0 to $\pm .05$ mV dc
3	40 mV	+35 mV	34.84 to 35.16 mV dc
4	40 mV	-35 mV	-34.84 to -35.16 mV dc

Testing the AC Voltage Function

⚠ Warning

To prevent possible electric shock, connect the ground/common/low side of the ac calibrator to common on the UUT.

1. Set the UUT to \tilde{V} (V ac), and connect the ac calibrator to the $V\Omega$ and COM input terminals.
2. Set the ac calibrator for the output given in Table 5, and verify that the UUT display reading is within the limits shown.

Note

When the input is open in the V ac function, it is normal for the Meter to read some counts on the display. This is due to ac pickup in the ac amplifier when the ac amplifier is unterminated.

Table 5. AC Voltage Test

Step	Range	Voltage	Freq.	Display Reading
1	400 mV	20 mV	100 Hz	19.2 to 20.8 mV ac
2	400 mV	350 mV	100 Hz	343.0 to 357.0 mV ac
3	400 mV	350 mV	1 kHz	343.0 to 357.0 mV ac
4	4 V	200 mV	100 Hz	.194 to .206 V ac
5	4 V	3.5 V	100 Hz	3.432 to 3.569 V ac
6	4 V	3.5 V	1 kHz	3.432 to 3.569 V ac
7	40 V	35 V	1 kHz	34.46 to 35.55 V ac
8	400 V	350 V	1 kHz	344.6 to 355.5 V ac
9	1000 V	1000 V	1 kHz	983 to 1017 V ac

Testing the Frequency Function

1. Set the UUT to Hz and connect the function generator output to the $V\Omega$ and COM input terminals of the UUT.
2. Referring to Table 6, set the function generator for the output indicated in the steps. Verify that the UUT display reading is within the limits shown.

Table 6. Frequency Test

Step	Range	Voltage	Freq.	Display Reading
1	4 V	300 mV	800 Hz	799.8 Hz to 800.2 Hz

Testing the Ohms Function

1. Set the UUT to Ω (ohms).
2. Connect the ohms calibrator or decade resistor to the $V\Omega \rightarrow$ and COM input terminals of the UUT.
3. Referring to Table 7, set the decade resistor or ohms calibrator to the resistance value indicated in steps 1 through 7. Verify that the display reading is within the limits shown.

Table 7. Resistance Test

Step	Range	Input Resistance	Display Reading
1	400 Ω	short	0 to 0.2 Ω
Decades of 1:			
2	400 Ω	100 Ω	99.4 to 100.6 Ω (plus 0 reading)
3	4 k Ω	1 k Ω	.995 to 1.005 k Ω
4	40 k Ω	10 k Ω	9.95 to 10.05 k Ω
5	400 k Ω	100 k Ω	99.3 to 100.7 k Ω
6	4 M Ω	1 M Ω	.995 to 1.005 M Ω
7	40 M Ω	10 M Ω	9.87 to 10.13 M Ω
Decades of 1.9:			
2	400 Ω	190 Ω	189.0 to 191.0 Ω (plus 0 reading)
3	4 k Ω	1.9 k Ω	1.891 to 1.909 k Ω
4	40 k Ω	19 k Ω	18.91 to 19.09 k Ω
5	400 k Ω	190 k Ω	188.8 to 191.2 k Ω
6	4 M Ω	1.9 M Ω	1.891 to 1.909 M Ω
7	40 M Ω	19 M Ω	18.78 to 19.22 M Ω
Decades of 3.5:			
2	400 Ω	350 Ω	348.4 to 351.6 Ω (plus 0 reading)
3	4 k Ω	3.5 k Ω	3.485 to 3.515 k Ω
4	40 k Ω	35 k Ω	34.85 to 35.15 k Ω
5	400 k Ω	350 k Ω	347.8 to 352.2 k Ω
6	4 M Ω	3.5 M Ω	3.485 to 3.515 M Ω
7	40 M Ω	35 M Ω	34.62 to 35.38 M Ω

Testing the Lo-Ohms Function

1. Switch the instrument function to the Lo-Ohm continuity position.
2. Place a short across the $V\Omega \rightarrow$ and COM input Terminals.
3. Push the RANGE button for 1 second to initiate Lo-Ohm calibration.
4. Push the RANGE button again to calibrate Lo-Ohms.
5. Apply 40 ohms to the $V\Omega \rightarrow$ and COM terminals and verify that the reading is within 38.00 Ω to 42.00 Ω .

Testing the Capacitance Function

1. Set the UUT to Ω \rightarrow and connect the decade capacitor output to the $V\Omega$ \rightarrow and COM input terminals of the UUT.
2. Press the yellow button to select the capacitance function.
3. Referring to Table 8, set the decade capacitor for the output indicated in the steps. Verify that the UUT display reading is within the limits shown.

Table 8. Capacitance Test

Step	Range	Capacitance	Display Readings
1	100 nF	open, no test leads	0 to 0.50 nF
2	1000 nF	open, no test leads	0 to 0.5 nF
3	1000 nF	800 nF	784.6 to 815.4 nF
4*	10 μ F	1.1 μ F	1.077 to 1.123 μ F

* Conducting performance tests of the 400 Ω , 4 k Ω , 40 k Ω and 10 μ F ranges verifies that the discrete and integrated circuitry needed to support the other capacitance ranges are working within specifications. Therefore, these tests indirectly verify that the meter will meet specification in the 10 μ F, 100 μ F, 1000 μ F, and 10,000 μ F ranges.

Testing the Continuity Function

1. Set the UUT to 40 Ω (\equiv) \rightarrow .
2. Press the yellow button to select the continuity test function.
3. Referring to Table 9, apply a short as indicated. Verify that the UUT display and beeper indicate as shown.

Table 9. Continuity Test

Step	Range	Input Resistance	Display Reading
1	400 Ω	short	tone
2	400 Ω	open	OL

Testing the DC and AC Current Function

1. Set the UUT rotary switch to amps.
2. Set the output of the current calibrator to standby and connect it to the 40 mA and COM input terminals of the UUT.
3. Set the current calibrator to the output shown in Table 10. Verify that the UUT display/reading is within the limits shown

Table 10. mA DC and AC Test

Step	Range	A	Freq.	Display Reading
1	40 mA dc	+35 mA		34.80 to 35.20 dc
<i>Note</i> <i>To enter mA ac, press the yellow button.</i>				
2	40 mA ac	35 mA	1 kHz	34.45 to 35.55 ac

4. Set the output of the current calibrator to standby and connect it to the 10 A and COM input terminals of the UUT.
5. Return the UUT to A dc.
6. Set the current calibrator to the output shown in Table 11, and verify that the UUT display reading is within the limits shown.

Table 11. DC Amps Test

Step	Range	A	Display Reading
2	10 A dc	+10 A	9.93 to 10.07 dc

Calibration Adjustment

Calibrate the meter once a year to ensure that it performs according to specifications. Calibration adjustment points are identified in Figure 7.

Use the following procedure to calibrate the Meter:

1. Set the dc voltage calibrator to 0 volts.
2. Select the \bar{V} function on the meter.
3. Connect the dc voltage calibrator to the $V\Omega\rightarrow$ and COM input terminals of the UUT.
4. Set the dc voltage calibrator for an output of +3.5 V dc.
5. The UUT should display 3.500 V dc \pm 0.001. If necessary, remove the four case screws and top cover, and adjust R21 to obtain the proper display.
6. Set the UUT to the \tilde{V} function, and set the source for an output of 3.500 V ac at 100 Hz.
7. The UUT should display 3.500 V ac \pm 0.002. If necessary, remove the four case screws and top cover and adjust R34 to obtain the proper display.

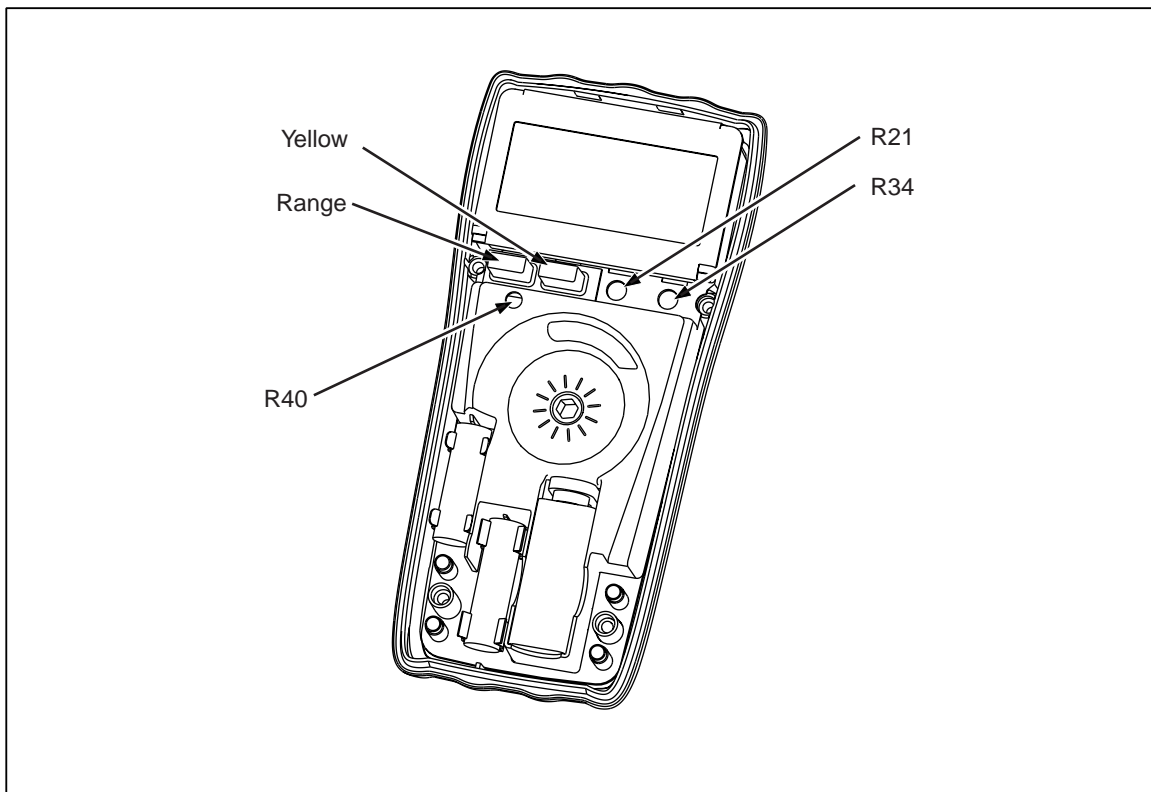


Figure 7. Calibration Adjustment Points

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Lo-Ohms Calibration

Note



For the Fluke 26 or 79 Series III with a serial number greater than 71220000, use the following procedure.

1. Perform the calibration procedure described under the heading *Calibration Adjustment* in this document.
2. Place the Meter in Lo-Ohms (40 Ω).
3. Connect the UUT to a resistance decade box.
4. Connect a multimeter in parallel with the UUT (to measure the output voltage of the UUT).
5. Set the decade box to 0 Ω .
6. Press and hold RANGE for at least one second.
7. Press RANGE and verify that CAL is displayed.
8. Verify the UUT reads 0-2 Ω .
9. Set the decade box to 40 Ω .
10. Note the difference between the displayed resistance on the UUT and 40 Ω . This value will be used in step 12.
11. Set the decade box to 200 M Ω .
12. Multiply the value from step 10 by .017.
13. If the measured value in step 10 was greater than 40 Ω , decrease the measured voltage on the Meter by the calculated value from step 12 by adjusting R40.
If the measured value in step 10 was less than 40 Ω , increase the measured voltage on the Meter by the calculated value from step 12 by adjusting R40.
14. Repeat steps 5-13 until step 10 is within 38-42 Ω .
15. Reassemble the UUT.
16. Verify the performance of the Meter using the procedures listed under the heading *Performance Tests* in this document.

Replacement Parts

Replacement parts are listed in Table 12 and shown in Figure 8.

Table 12. Replacement Parts

Item	Parts	Part Number	Quantity
	Top case assembly	659216	1
	Bottom case assembly	659208	1
F1 	Fuse: F44/100 A, 1000 VAC/DC, Min interrupt Rating 10 kA	943121	1
F2 	F11 A, 1000 VAC/DC, Min Interrupt Rating 17 kA	943118	1
BT1	Battery, 9 V Alkaline (NEDA 1604A/IEC 6LR61)	614487	1
U5	LCD	686417	1
MP21, MP22	Connection Elastomeric LCD to PCA	650264	1
H7-10	Screws, Case	832246	4
H2-6	Screws, PCA to subassembly	448456	4
H1	Screw, Subassembly to bottom case	519116	1
MP5	Tilt Stand	648961	1
MP4	Probe Holder	648748	1
S2	Keypad	649290	1

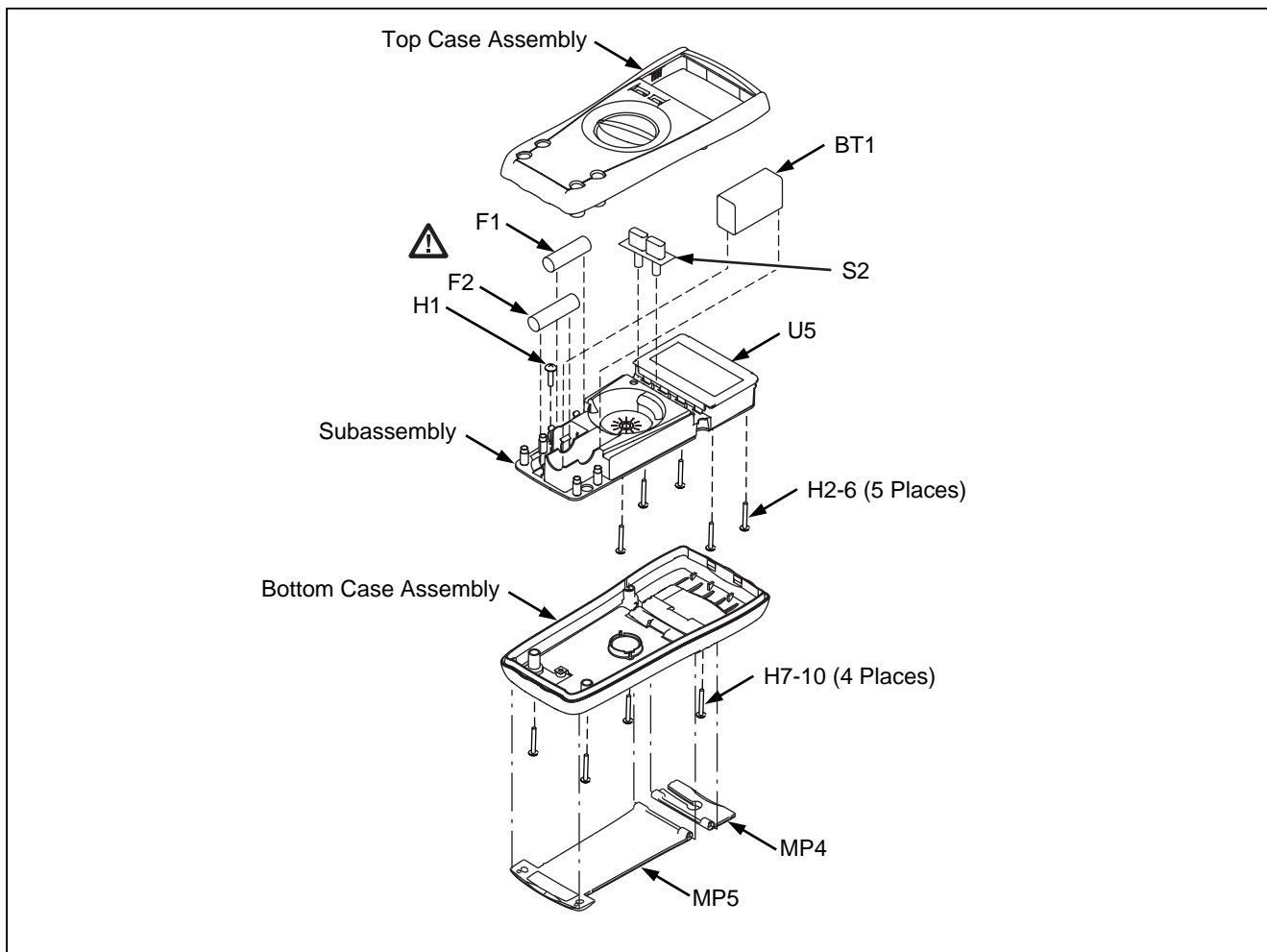


Figure 8. Assembly Details

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