

Pulse Oximeter Finger Probe Repair Procedure

Model: P861RA

1.1 P861RA Parts List

Item No.	Description	Quantity	Manufacture	Part Number
	Complete Clip Assembly	1	MCI	MC-P100A
1	Top Shell	1	MCI	MC-P101
2	Bottom Shell	1	MCI	MC-P102
3	Wire Spring	1	MCI	MC-P103
4	Buttons	2	MCI	MC-P104
5	Soft Finger Pad (LED)	1	MCI	MC-P105
6	Hard Finger Pad (Detector)	1	MCI	MC-P106
7	Top Pad Support Frame	1	MCI	MC-P107
8	Bottom Pad Support Frame	1	MCI	MC-P108
9	LED assembly	1	MCI	MC-P861-LED
10	Detector	1	MCI	MC-P861-DET
11	Complete Cable Assembly	1	MCI	MC-P861-CAB
	Cable Assembly			
12	Cable	1		
13	Amp Connector (male)	1		
14	Amp Cord Guard	1		
15	Amp Pins	7		
16	Probe Strain Relief	1		
17	Silicone (RTV)			
18	Glue			

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1.2 P861RA Repair Procedure

1.2.1 Probe Disassembly:

1. Inspect cable, shell, pads and connector for damage or cracks. Note any damage and list part that need to be replaced.
2. Cut and discard cable (item 11) at the probe strain relief (item 16) to remove from the finger probe clip assembly.
3. Remove top pad support frame (item 7) with soft finger pad (item 5) from top shell. Remove soft finger pad from support frame. Remove bottom pad support frame (item 8) with hard finger pad (item 6) from bottom shell (item 2). Remove hard finger pad from support frame.
4. Separate shells (items 1 & 2) and remove spring (item 3) and buttons (item 4) to disassemble finger probe.

1.2.2 Probe Testing:

5. Remove LED assembly (item 9) from top pad. Inspect for physical damage. Test the individual RED and IR LEDs. The test specifications for the LEDs are listed in Table 1 below.
If item 9 is within test specifications then reuse LED assembly. Replace assembly if Red or IR LED failed to meet test specifications.
6. Remove Detector (item 10) from bottom pad. Inspect detector for physical damage and test the Detector. The test specifications for the LEDs are listed in Table 1 below.
If item 10 is within test specifications then reuse detector. Replace item 10 if detector failed to meet test specifications.

Table 1 LED and Detector Test Specifications

	Test		Typ.	Max.	Range	Units	Test Conditions
Red LED	Forward Voltage	V_F	1.8	2.4	± 0.6	volts	$I_F = 20 \text{ mA}$
IR LED	Forward Voltage	V_F				volts	
Detector	Forward Voltage	V_F				volts	

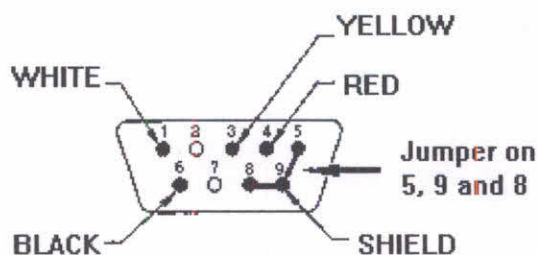
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1.2.3 Probe Reassembly:

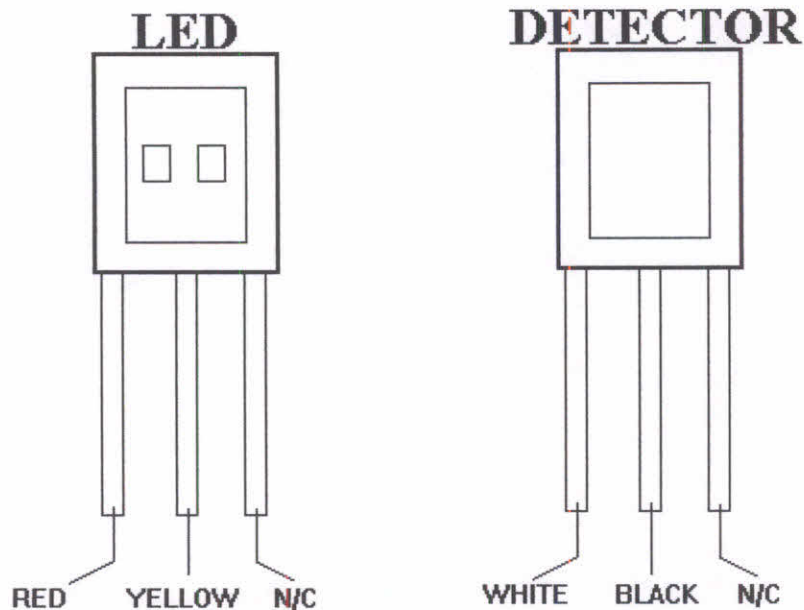
7. Inspect cable, connector and strain relief for damage. Replace cable assembly if damaged or cracked with the complete cable assembly (item 11). To build cable assembly attach cord guard (item 14) onto a 3 foot length cable (item 12). Attach wires (solder) onto pins (item 15). Attach main shield to pin 9. Attach jumper wires to pins 5, 8 and 9. Place pins into amp connector receptacle contact housing (item 13) according to connector diagram. Snap cord guard onto contact housing.

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CONNECTOR REAR-VIEW



8. Attach probe strain relief (item 16) to cable (item 11). Strip wires back. Connect wires (solder) to LED and Detector. Connect the red and yellow wires to the Led terminals. Connect the black and white wires to the Detector terminals. Test continuity.



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P861RA Finger Probe Repair continued

9. Inspect finger pads (item 5 & 6) for damage or cracks. Replace finger pads if damaged or cracked. Slide the LED into the top pad and silicone (item 17) into place. Slide the Detector into the bottom pad and silicone (item 17) into place. Let silicone dry.
10. Inspect top and bottom shell, button, and spring for damage or cracks. Replace items if necessary. Attach spring and buttons to top and bottom shell.
11. Inspect support frames and replace if damaged. Attach the top pad to the top support frame with glue (item 18). Attach the bottom pad to the bottom support frame with glue. Snap and glue top and bottom pads into top and bottom shell respectively.
12. Test probe for SpO₂ measurement.
13. Send probe to Quality Control for testing

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