

Measurement Extensions - (Previous Generation - M3012A, M3014A, M3015A/B)

This section describes the exchange procedures for:

- The Top Cover with new release mechanism
- The Dual Link Bar incl. the MSL Board Assembly.

for all Measurement Extension (MSE) types (M3012A, M3014A, M3015A/B).



Exchange Procedures

NOTE

Please follow the disassembly and reassembly steps closely.

Tools Required:

A thin-bladed screwdriver and a thick-bladed screwdriver, ESD mat and wrist strap

WARNING

- Do not open the MSE while it is connected to a monitor.
 - Parts inside the instrument may be contaminated with bacteria. Protect yourself from possible infection by wearing examination gloves during this procedure.
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NOTE

Once you have reassembled the MSE, you must perform a performance check on it. Please refer to the "Testing and Maintenance" chapter of this service guide.

Removing the Front Bezel

- 1 Position the thin-bladed screwdriver in the small slot provided for this purpose. The front bezel (Bezel) then clicks away from the Extension. Remove the front bezel



NOTE

There may be a slight resistance when you remove the front bezel.

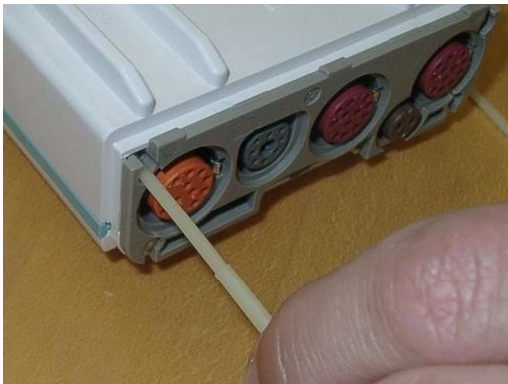


Removing the Housing Pin

- 1 Position the MSE on the dual link bar with the measurement connector hardware facing upwards and the arm of the dual link bar away from you. There are four long housing pins threaded into the MSE in each of the four corners under the cover. Locate the heads of the two long housing pins on the top housing and only remove these.
- 2 Use the thin-bladed screwdriver to lift the pins gently out far enough so they can be removed manually.



- 3 Remove the two pins and set them aside for refitting.

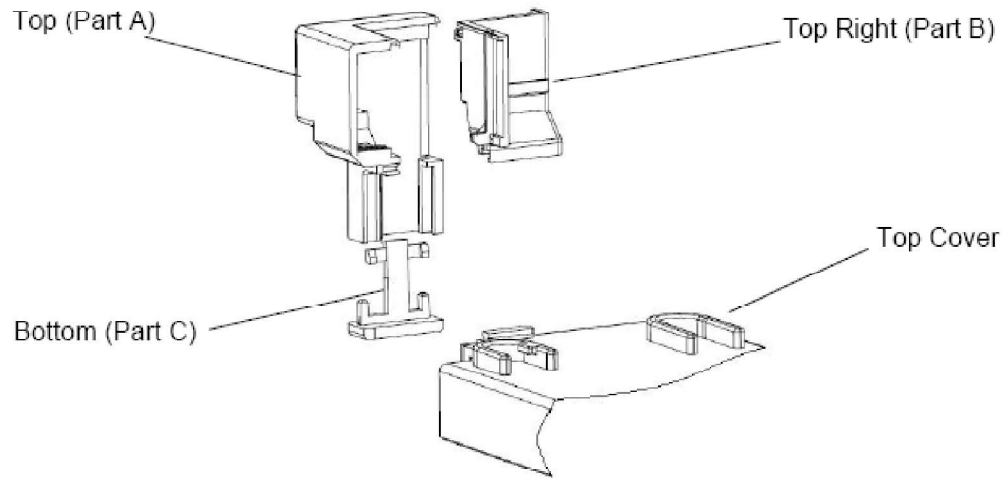


NOTE

Without these long housing pins the MSE will not function properly.

Removing the Dual Link Bar

The Dual Link Bar consists of three parts as shown below. Follow the specific steps carefully to remove the Link Bar.



CAUTION

Do not try to remove the link bar with force as this can damage the MSL Board Assembly

- 1 Position the MSE with the measurement connector hardware facing towards you.
- 2 Hold the link bar as shown below. While pressing gently on part B, insert a thick-bladed screwdriver between the MSL connector and part A. Twist the screwdriver to the left and at the same time slide part B to the right, so it is released at the top.



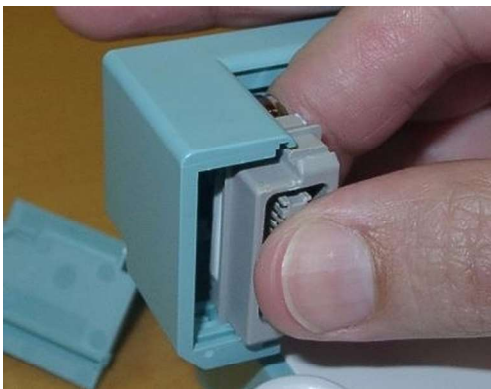
- 3 Repeat Step 2 at the bottom.



- 4 Slide part B to the right. If part B fails to move to the side, please repeat steps 2 and 3.



- 5 Now the MSL Flex connector can be moved to the right.

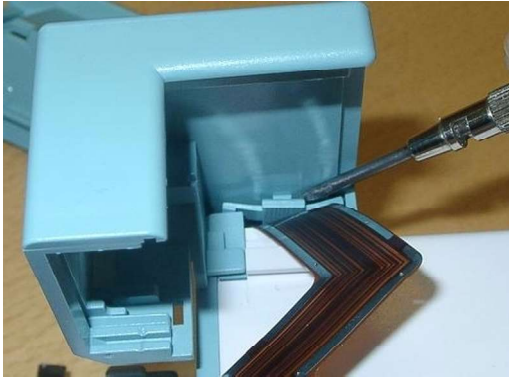


NOTE

Make sure that the movement of the screwdriver does not pinch the MSL Board Assembly.

5 Repair and Disassembly

- 6 Insert the thin-blade screwdriver behind the release mechanism of part C. Carefully twist the screwdriver, then press gently so that part C drops down.



- 7 Lift part A upwards. It is fixed in a dovetail. Be careful with the MSL flex.



Removing the Top Cover

Begin by gently pulling away the top cover from the MSE. The top cover is press-latched at the link bar end. Remove it slowly, without hitting or touching the inside of the MSE.

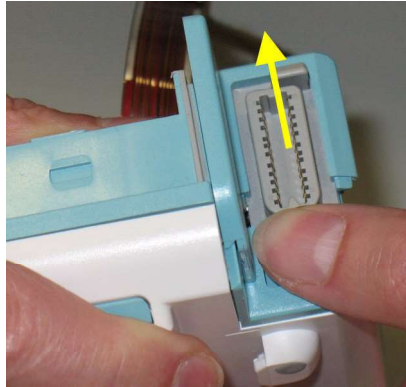


Replacing the Flex Cable Assembly

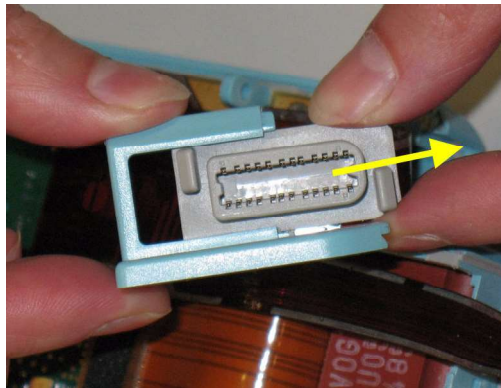
- 1 Hold the Extension firmly and push upwards against the connector. Then slide connector (together with the connector holder) out of the dovetail connection.

NOTE

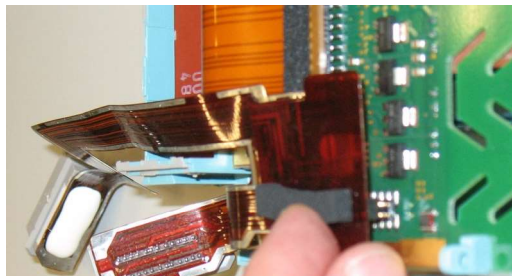
You will probably need to apply some more force at first until the holder slides out of its mechanical lock.



- 2 Slide the connector out of its holder.

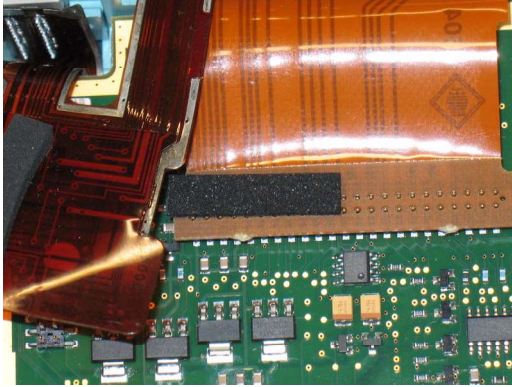


- 3 Remove the flex cable connector on the MSE board. Be careful not to bend any pins on the female part of the MSE connector.

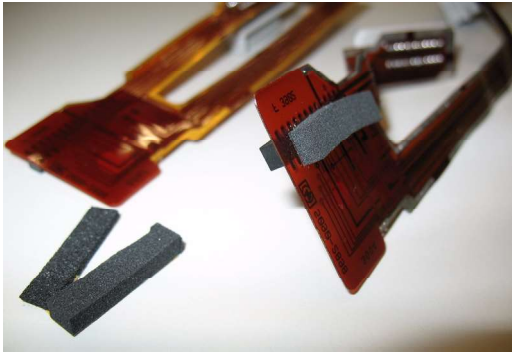


NOTE

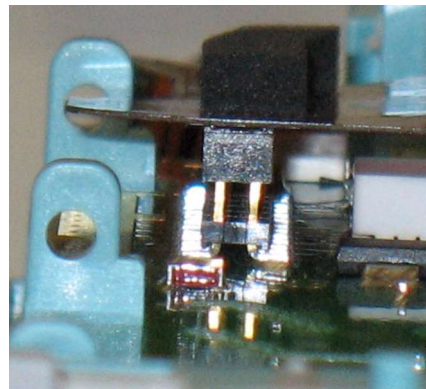
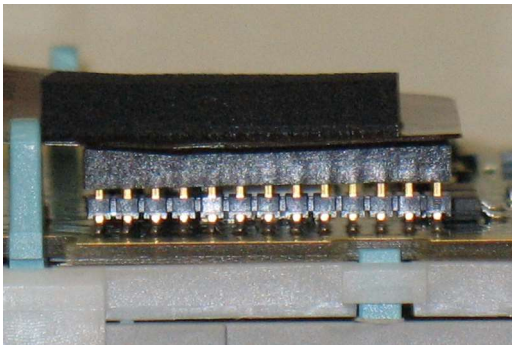
Some units may have a foam pad on the connector of the inner flex cable of the MSEs (as shown below) and some units may not. This has no impact on the functionality of these units.



- 4 Stick the correct foam pad on the rear side of the inner connector. Use the thick pad for : M3012A, M3014A, M3016A. Use the thin pad for: M3015A/B. You can also check the old flex cable for the correct pad.



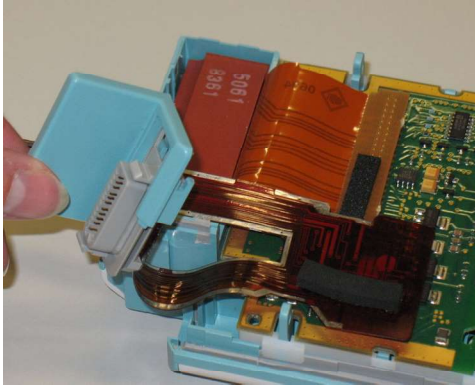
- 5 Insert the flex cable connector into the female receptacle on the MSE board. **Check from the side and the front that the connector is inserted correctly (there is no mechanical guidance) and that no pins are bent, otherwise you may damage the MSE when powering it on.**



WARNING

A misplaced connector might damage the MSE or the monitor.

- Slide the connector into the holder as shown below. Arrange the flex cable in the space beside and underneath the board (be careful not to bend the cable) while positioning the holder for insertion.



- Insert the holder with the connector into the dovetail connection and slide it down until you hear a click.

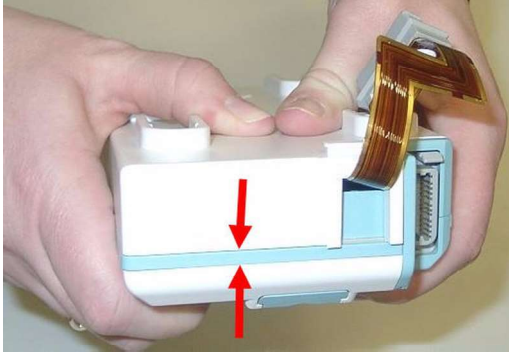


Refitting the Top Cover

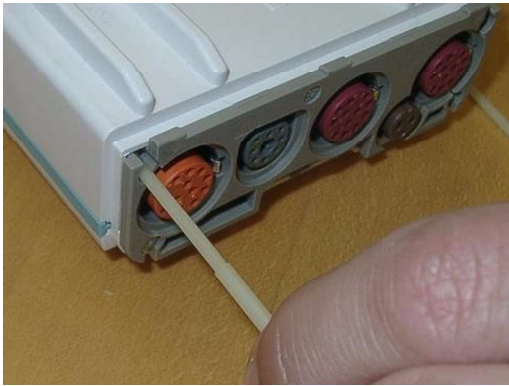
NOTE

Be careful with the MSL Board Assembly. Make sure it does not get stuck between the covers.

- 1 Position top cover, then press the bottom cover back into place until a click is heard.
- 2 The cover has a rubber seal. Press the covers firmly together and make sure there is no gap between the top and bottom cover.



- 3 Holding the bottom cover firmly in place, slide the two long housing pins completely back into the MSE.



Assembling the dual Link Bar

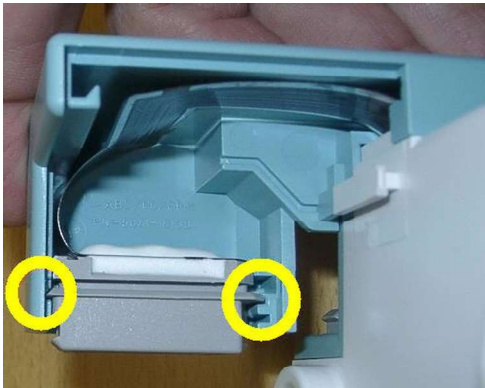
CAUTION

Do not try to assemble any part of the link bar with force as this can damage the MSL Board Assembly.

- 1 Position part A into the dovetail and slide it down.



- 2 Make sure the MSL Flex connector is positioned in the correct slot (See indicated slots below). Then push it gently into part A.

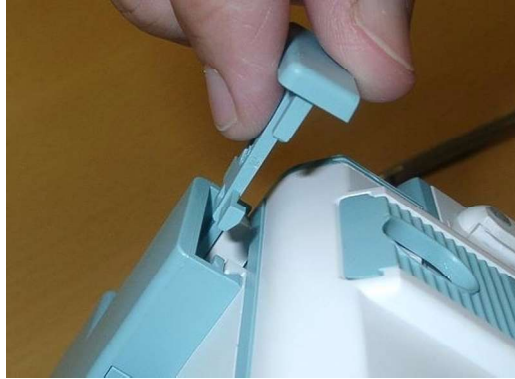


- 3 Making sure the MSL Board Assembly lies flat in part A of the assembly, place part B into the dovetail and close the open link bar.



5 Repair and Disassembly

- 4 Turn the MSE around and insert part C into the bottom part of the link bar. When you hear a click, part C is correctly inserted.



Refitting the Front Bezel

To refit the front bezel, press it back into place over the measurement connector hardware until you hear a click.



Final Inspection

Perform a final inspection to ensure that:

- The link bar is positioned correctly
- There are no gaps between the link bar parts
- There is no gap between the top and bottom cover

