



Working Instruction, Mechanical

Applicable for MD300

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1 Introduction

1.1 View of MD300



1.2 Tools and Equipment

The following tools and equipment should be available while performing the procedures.

STANDARD TOOLS

- Style 2A Tweezers – Rounded Tip
- Nylon Pointer
- Torque Driver
- Dental Hook
- Plectrum



PRODUCT SPECIFIC TOOLS

- T6 screw bit



ESD EQUIPMENT

Protect the product from ESD damage whenever it has been opened by using:

Minimum requirements are:

- ESD wristband
- ESD gloves
- ESD mat



LABEL EQUIPMENT

The following special equipment is required when replacing or installing a new label:

- Zebra printer connected to computer



1.3 General Cautions

The following cautions are considered to be generic for all products and will not be repeated in the Disassembly, Reassembly, and Replacements sections:

- **KEEP ALL CONTACT SURFACES CLEAN!**
- **BE CAREFUL WHEN USING TOOLS LIKE THE DENTIST HOOK, TWEEZERS, PRY TOOLS, ETC. TO AVOID SCRATCHES OR DAMAGE TO THE EXTERIOR AND INTERIOR PARTS OF THE PRODUCT!**
- **BE CAREFUL NOT TO DAMAGE ANY CONTACT SPRINGS!**
- **REMEMBER TO REMOVE THE PROTECTION FILMS FROM NEW PARTS!**

1.4 Adhesives

Use a dentist hook, tweezers, and/or a nylon pointer to remove old adhesives. Clean the surface with isopropyl alcohol before attaching new adhesives.

1.5 Using Hand and ESD Protection

When handling this product, keep all surfaces clean of dirt, dust, debris, and hand oil. Use appropriate ESD precautions when working on this product. The use of finger cots or gloves, an ESD mat, and an ESD wrist strap are required at minimum.

1.6 Acceptable Pry Tools

Whenever the phrase “pry tool” is used, a nylon pointer, a plectrum, or a front opening tool may be used depending on the user’s preference.



2 Disassembly

2.1 Cap Removal

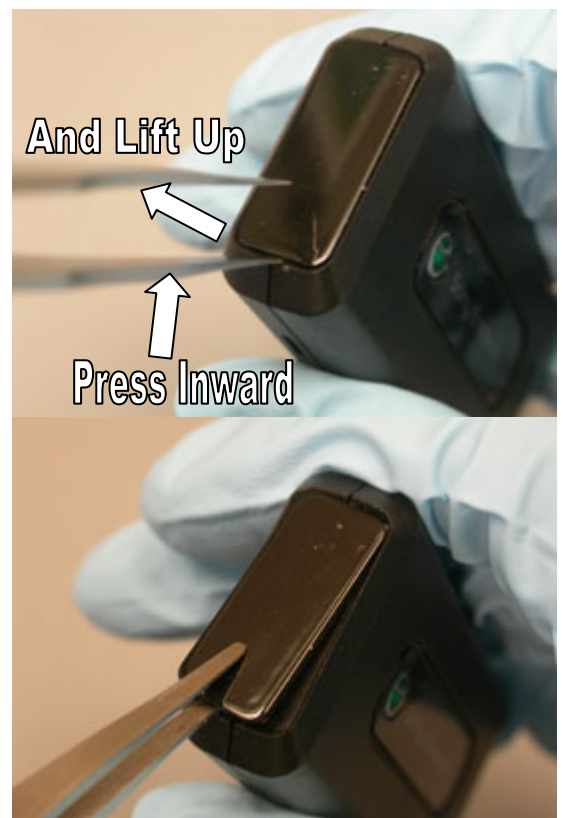
Grip the sides of the cap and remove it.



2.2 End Plate Removal

Insert the round tipped tweezers between the end plate and the body along the short side.

Press the tweezers against the side of the end plate and lift up to get the end plate loose.



2.3 Top Cover and Front Cover Removal

Insert the plectrum into the notch as shown.



Slide the plectrum to the corner to release the corner latch.



Slide the plectrum to the other corner to release its latch.



Slide the plectrum along the side seam to release the side latch.



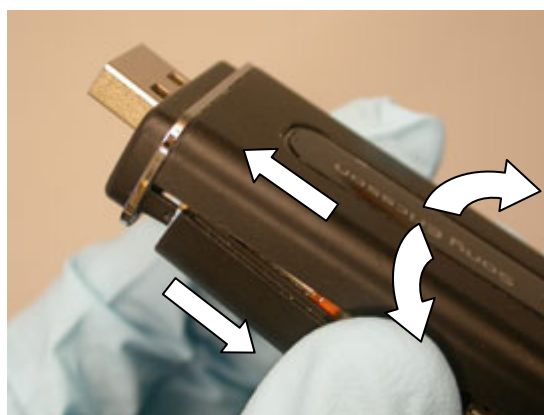
Slide the plectrum along the other seam to release the other side latch.



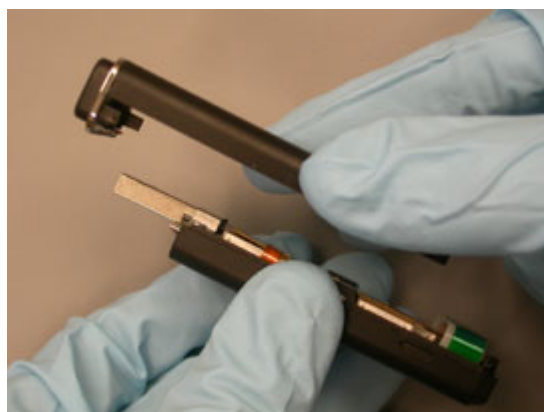
Lift up on the top cover slightly.



Wiggle the top cover while pushing the two halves apart to release the top and front covers from the lower portion of the unit.

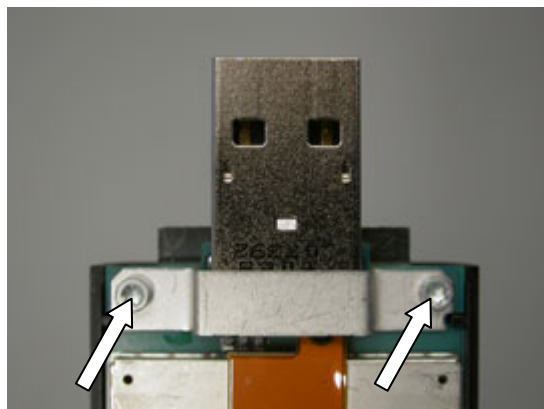


Slide the top/front cover assembly off the USB connector to remove these covers from the lower portion of the unit.

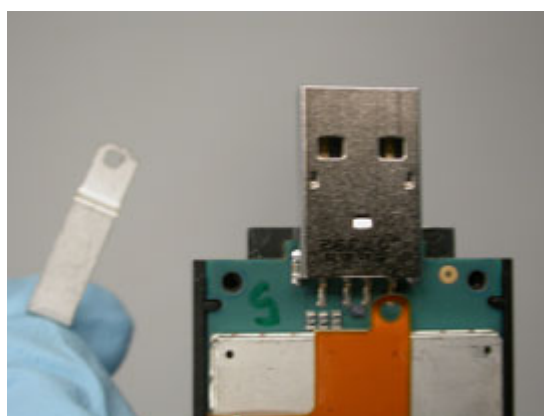


2.4 USB Bracket Removal

Remove the two bracket screws using a T6 bit.

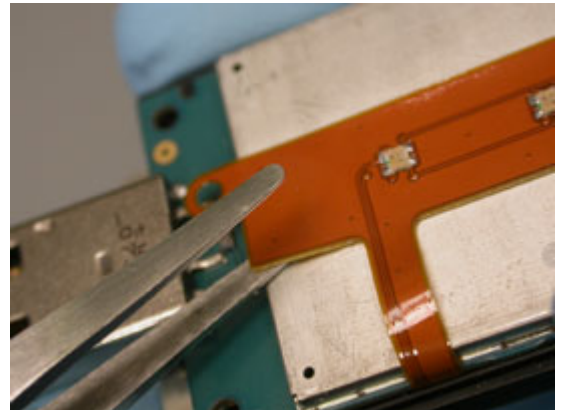


Remove the bracket.

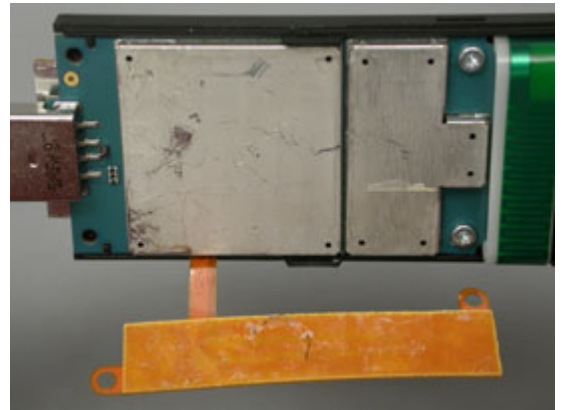


2.5 PCB Removal

Lift the corner of the LED flex up using round tipped tweezers.



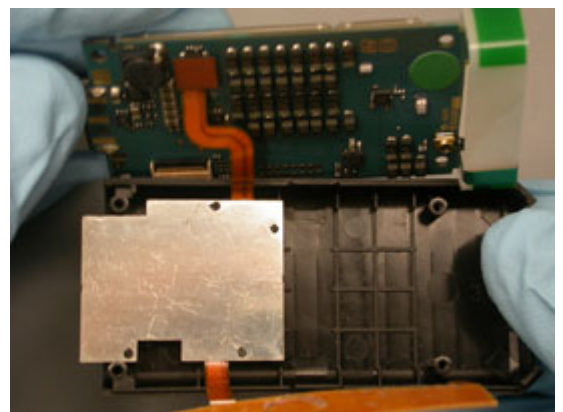
Peel the LED flex off the board.



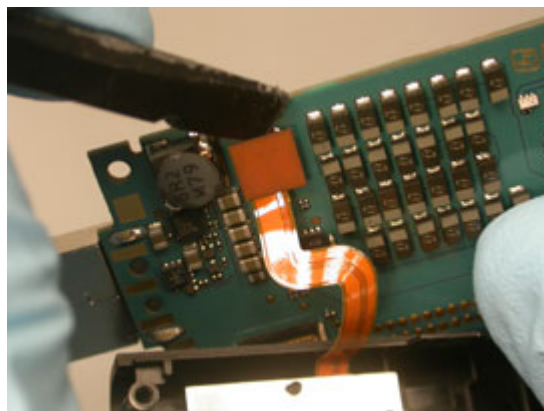
Remove the two PCB screws using a T6 bit.



Lift the PCB off the body so that the underside is exposed.

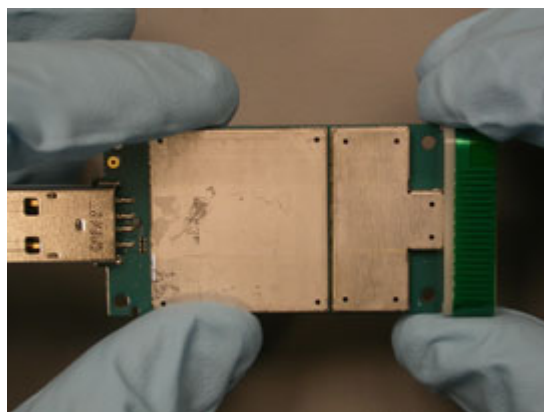


Disconnect the flex from the board.

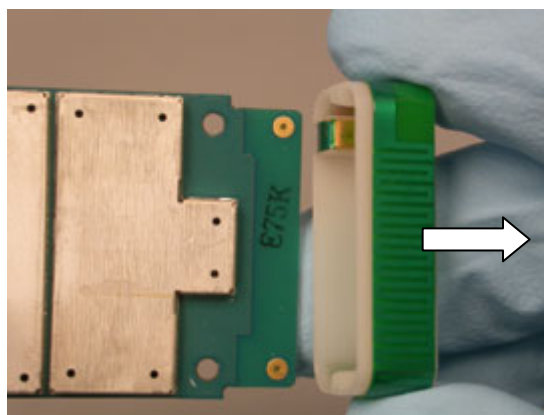


2.6 Antenna Removal

Grip the sides of the antenna.



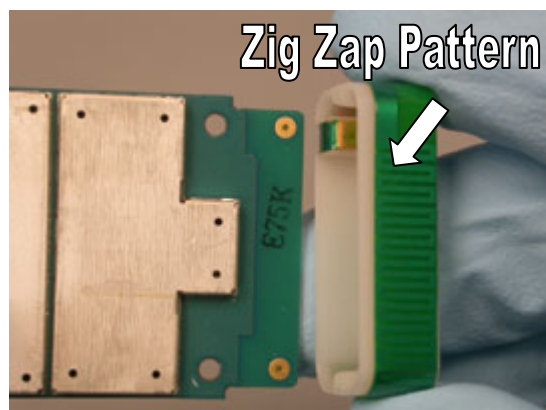
Pull the antenna off the board.



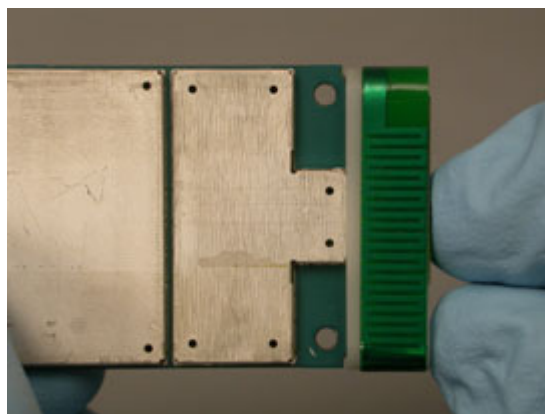
3 Reassembly

3.1 Antenna Reassembly

Line the PCB and antenna up as shown, with the shield can side of the board facing the same direction as the antenna zig-zag pattern.



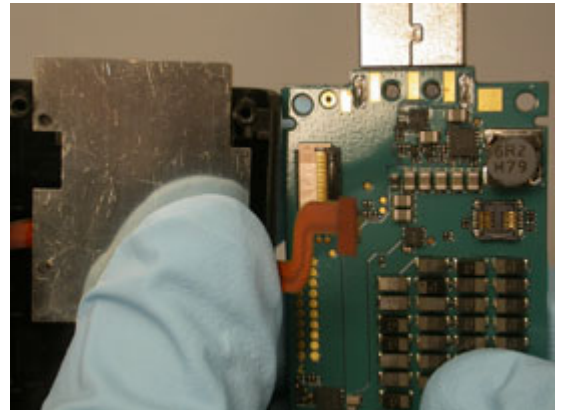
Line the board up with the slots inside the antenna and slide the antenna onto the board.



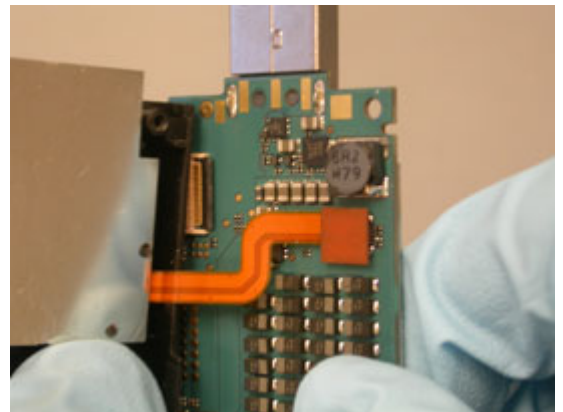


3.2 PCB Reassembly

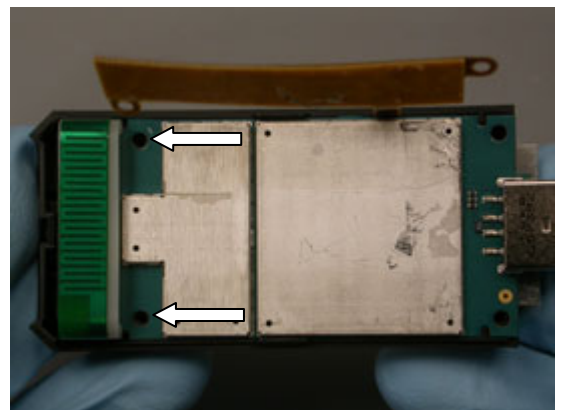
Align the PCB and bottom cover assembly as shown.



Connect the flex to the board.



Lay the board into place on the bottom cover assembly and insert the two PCB screws. Tighten them to 10Ncm using a T6 bit.



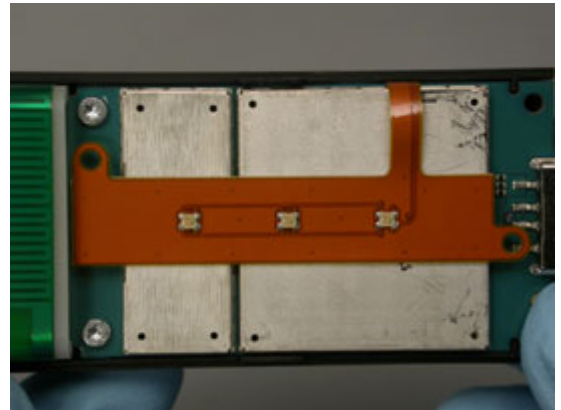
Line the edge of the LED flex up with the corner of the shield can lid as shown.





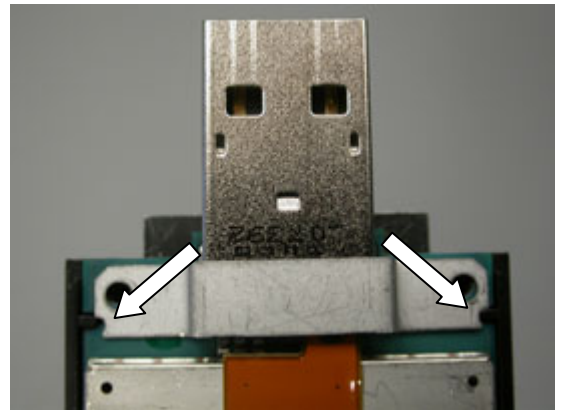
Position the remainder of the LED flex out over the shield can lid as shown.

Apply pressure over the surface of the flex with your finger so a good bond forms.

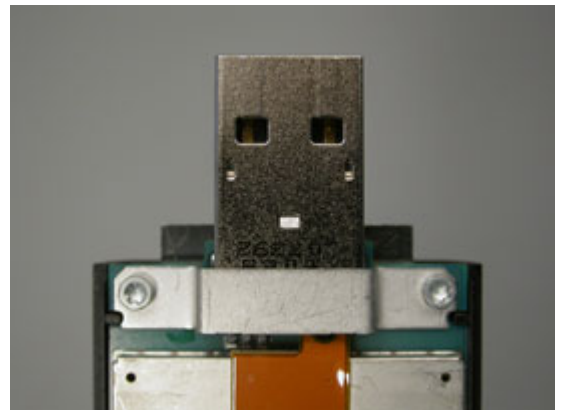


3.3 USB Bracket Reassembly

Align the flange as shown, with the notched ends facing towards the board, and the tapered ends facing away from the board.



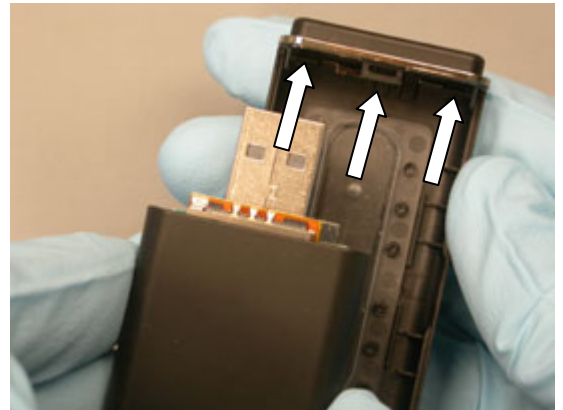
Insert the two flange screws. Tighten to 10 Ncm using a T6 bit.



3.4 Top Cover and Front Cover Reassembly

Position the upper portion and lower portion as shown.

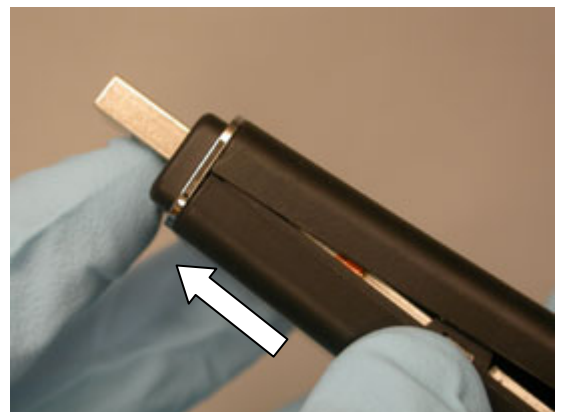
NOTE: IF REUSING THE TOP OR FRONT COVER, ENSURE THE LATCHES ARE NOT DAMAGED



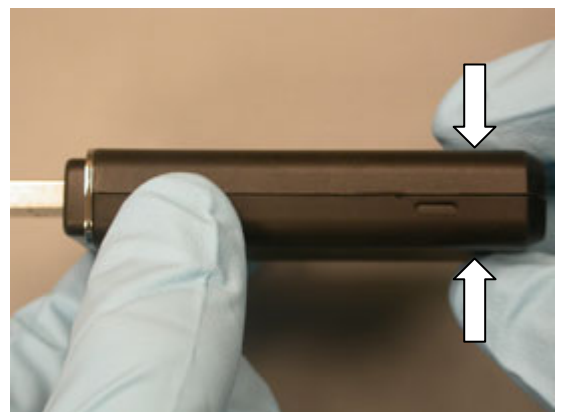
Slide the USB connector through the front cover.



Push the bottom cover assembly against the trim ring.



Snap the separated ends of the top and bottom covers together.



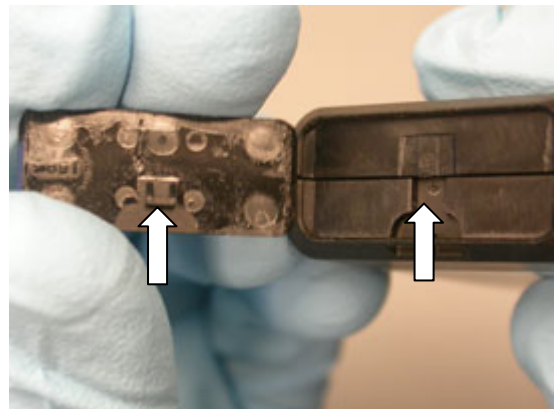
If a new top cover has been installed, install a new branding plate by performing following steps

- Obtain a new branding plate.
- Line one end of the branding plate up with the recess.
- Lay the branding plate into place and apply pressure over the entire surface of the plate so that a good bond is formed.



3.5 End Plate Reassembly

Line the tab on the end plate up with the notch in its cavity.



Insert the end plate into its cavity.

Apply pressure over the surface of the end plate so that a good bond forms.



3.6 Cap Reassembly

Line the metal contacts in the cap up with the side of the USB connector shown.



Slide the cap onto the unit.





4 Replacement

4.1 Antenna Replacement

Removal

Complete 2.1-2.6 of the disassembly procedure.

Installation

Obtain a new antenna.

Complete 3.1-3.6 of the reassembly procedure.

4.2 Bottom Cover Replacement

Removal

Complete 2.1-2.5 of the disassembly procedure.

Installation

Obtain a new SIM flex/bottom cover assembly.

Complete 3.2-3.6 of the reassembly procedure.

4.3 Branding Plate Replacement

Removal

Insert one tip of round tipped tweezers between the branding plate and its housing.



Pry the branding plate up.



Installation

Obtain a new branding plate.

Line one end of the branding plate up with the recess.





Lay the branding plate into place and apply pressure over the entire surface of the plate so that a good bond is formed.



4.4 Cap Replacement

Removal

Complete 2.1 of the disassembly procedure.

Installation

Obtain a new cap.

Complete 3.6 of the reassembly procedure.

4.5 End Plate Replacement

Removal

Complete 2.2 of the disassembly procedure

Installation

Obtain a new end plate.

Complete 3.5 of the reassembly procedure.

4.6 Front Cover Replacement

Complete 2.1-2.3 of the disassembly procedure

Removal

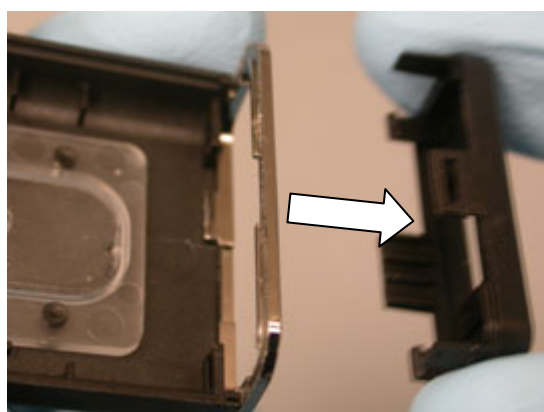
Unlock the tab shown using round tipped tweezers.



Unlock the other tab.



Remove the front cover.

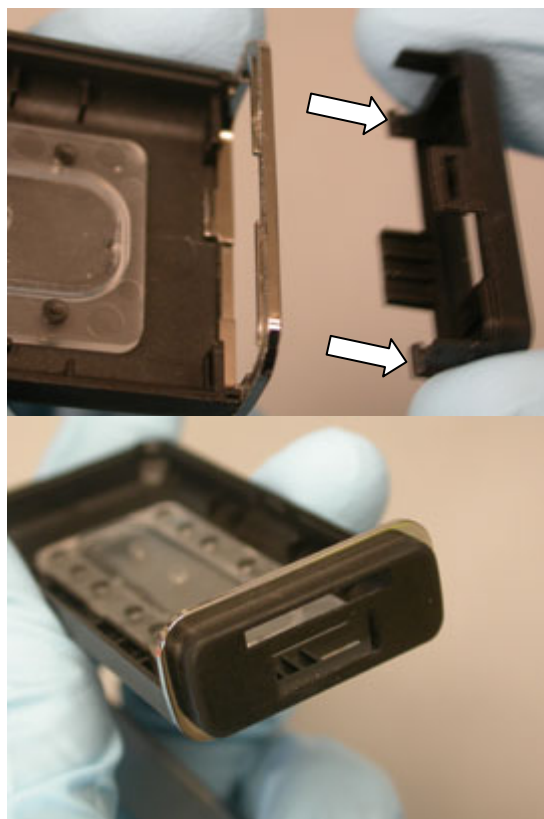


Installation

Obtain a new front cover.

Orient the cover as shown.

Attach the front cover to the top cover by locking the front cover's indicated two tabs into the corresponding slots in the top cover.

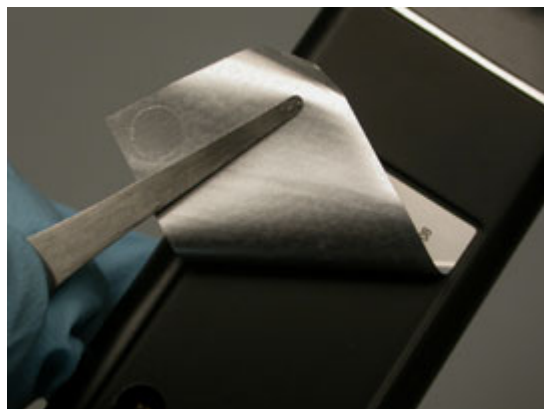


Complete 3.4 – 3.6 of the reassembly procedure.

4.7 Label Replacement

Removal

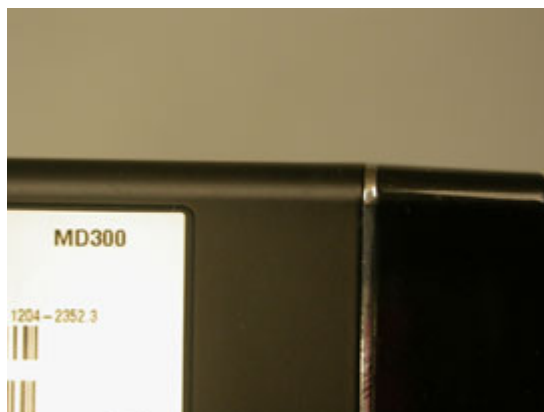
Peel up one corner of the label using round tipped tweezers and peel the label off.



Installation

Obtain a new label.

Align the corner of label with the corner of the recess as shown.



Align the rest of the label so that it is within the recessed area and smooth it into place.



4.8 SIM Flex Replacement

Removal

Complete 2.1-2.5 of the disassembly procedure.

Installation

Obtain a new SIM flex/bottom cover assembly.

Complete 3.2-3.6 of the reassembly procedure.



4.9 Top Cover Replacement

Removal

Complete 2.1-2.3 of the disassembly procedure.

Complete the removal portion of 4.6 Front Cover Replacement.

Complete the removal portion of 4.10 Trim Ring Removal.

Installation

Obtain a new top cover.

Complete the installation portion of 4.10 Trim Ring Replacement.

Complete the installation portion of 4.6 Front Cover Replacement.

Complete 3.4-3.6 of the reassembly procedure.



4.10 Trim Ring Replacement

Complete 2.1-2.3 of the disassembly procedure.

Complete the removal portion of 4.6 Front Cover Replacement.

Removal

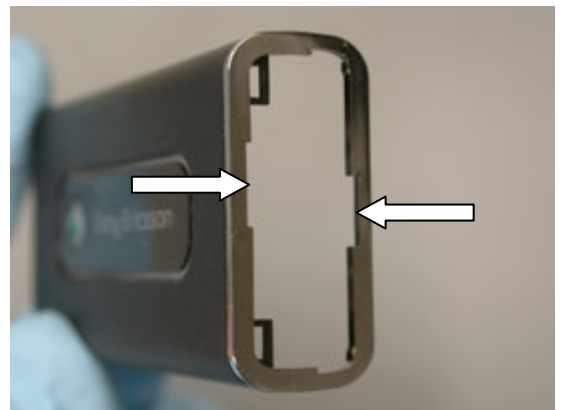
Remove the trim ring.



Installation

Obtain a new trim ring.

Orient the ring as shown and adhere it to the top cover.



Complete the installation portion of 4.6 Front Cover Replacement.

Complete 3.4-3.6 of the reassembly procedure.

4.11 USB Bracket Replacement

Complete 2.1-2.4 of the disassembly procedure.

Obtain a new flange.

Complete 3.3-3.6 of the reassembly procedure.



5 Revision History

| Rev. | Date | Changes / Comments |
|------|----------------|---|
| 1 | March 11, 2008 | Initial Release |
| 2 | March 12, 2008 | Change in label shape |
| 3 | April 23, 2008 | Added a branding plate replacement section and instructions to the top cover reassembly section |