



Working Instruction, Mechanical

Applicable for R306

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1 Introduction



1.1 Equipment

SPECIAL TOOLS

- LSY 901 55 Camera Removal Tool
- NTZ 122 459 Torque Screwdriver (or equivalent)
- NTZ 112 478 Torx Bits T5
- NTZ 122 521 Flex Film Assembly Tool



STANDARD TOOLS

Standard tool have to be locally purchased

- Guitar pick
- Blunt pair of tweezers



ESD EQUIPMENT

Protect the phone from ESD damages whenever it has been opened by using:

- ESD-wristband
- ESD-gloves



LABEL EQUIPMENT

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

- Hot air flow solder station
- Zebra printer connected to computer





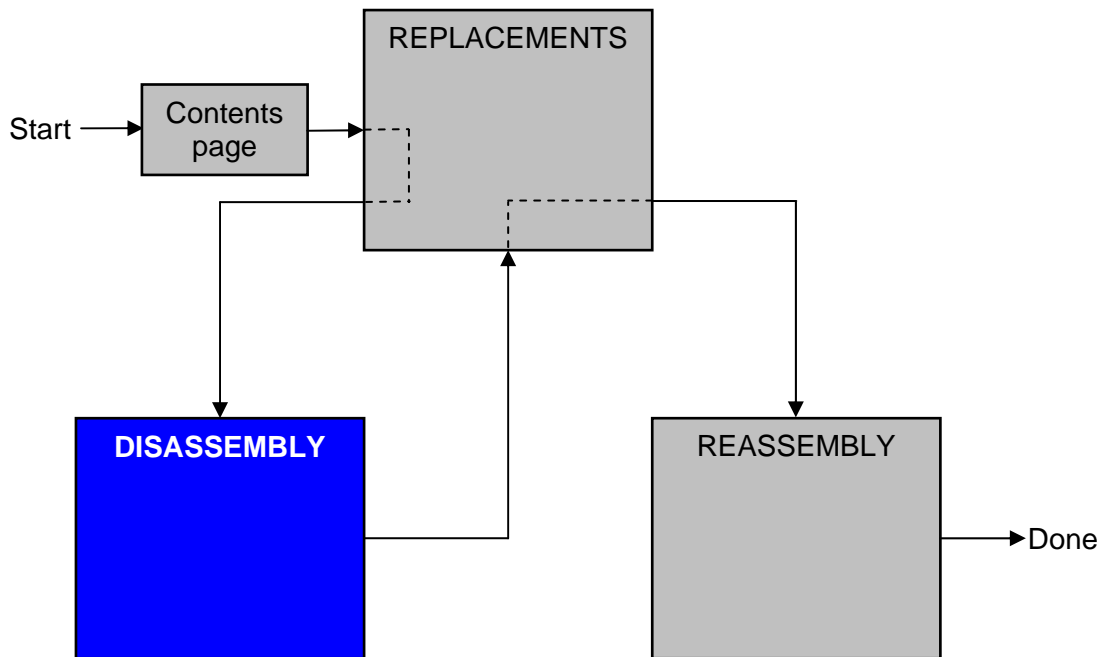
1.2 General cautions

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

- **SWITCH OFF THE PHONE AND REMOVE ANY MEMORY STICK BEFORE THE START OF THE DISASSEMBLY!**
- **KEEP ALL CONTACT SURFACES CLEAN!**
- **BE CAREFUL WHEN USING TOOLS LIKE THE DENTIST HOOK, TWEEZERS, OPENING TOOLS, GUITAR PICK ETC. TO AVOID SCRATCHES OR DAMAGES TO THE EXTERIOR AND INTERIOR PARTS OF THE PHONE!**
- **BE CAREFUL NOT TO DAMAGE ANY CONTACT SPRINGS!**
- **REMEMBER TO REMOVE THE PROTECTION FOILS ON NEW PARTS SUCH AS THE FRONT COVER AND LCD!**
- **NEVER TOUCH THE DISPLAY GLASS!**
- **USE AIR BLOW EQUIPMENT TO KEEP THE FRONT WINDOW AND DISPLAY MODULE DUST FREE!**

2 Disassembly

When you are going to replace a part being listed in *Replacements*, the instruction of that section usually begins by directing you to this *Disassembly* section with a specification of the instructions you have to carry out in order to disassemble the phone as far as needed before returning to *Replacements* for the actual replacement.



2.1 Overview

The disassembly is done in the following sequence:

- 1 Battery Cover (a) & Battery (b)
- 2 Bottom Outer Housing
- 3 FPC keyboard Lower Metal Housing (a) & PBA (b)
- 4 Top Outer Housing A Assy
- 5 Display TFT 1,9" Window Housing B Assy (a) & Bottom Inner Housing C Assy (b)



2.1.1 Battery Cover & Battery

Press on top of the Battery Cover and push it forward to open.



Remove the Battery Cover.



Put finger into the cavity to raise and remove the Battery.



2.1.2 Bottom Rear Frame Assembly

Carefully use a pair of tweezers to remove Cap Screw Rubbers.

THE CAP SCREW RUBBERS CANNOT BE REUSED AND MUST BE SCRAPPED.



Use Torx bit no.5 to remove these five screws.



Insert the guitar pick to unlatch the hook on both sides as shown in picture.

If necessary, slide back and forth until all hooks are unlatched.

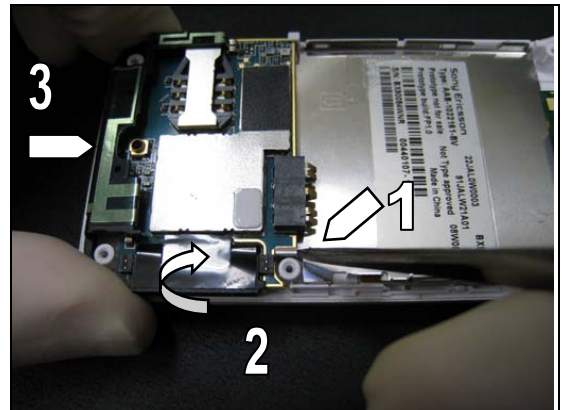


Remove the Bottom Outer Housing.



2.1.3 FPC Keyboard Metal Housing Assembly & PBA

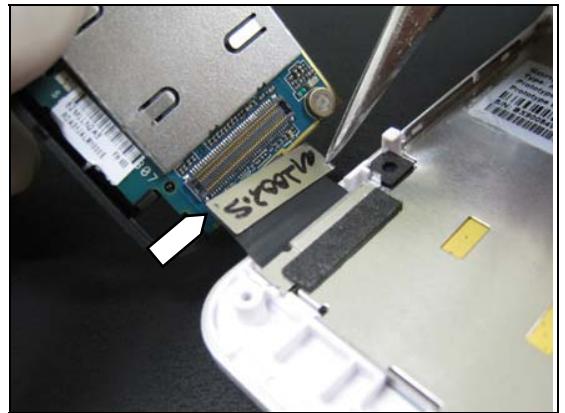
1. Use tweezers to unlatch the metal hook...
2. ...and use your other hand lift the PBA from the System Connector
3. Unsnap the hook of antenna carrier at bottom



Turn over the PBA.



Disconnect the PBA board-to-board connector.



Use tweezers to remove the Rubber Dust.



FPC Keyboard Metal Housing Assembly & PBA *continued*

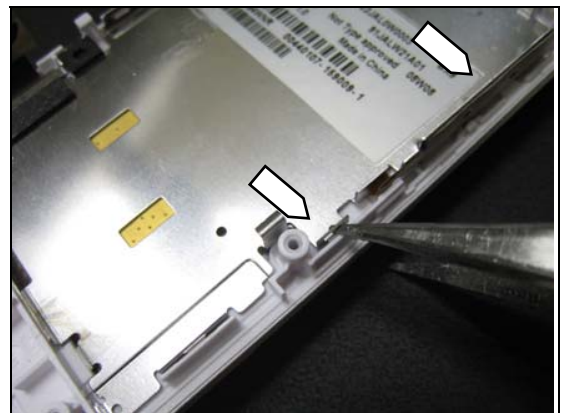
Use tweezers remove the Rubber Camera.



Disconnect the Flip board-to-board connector.



Use tweezers to unsnap the side hooks between Bottom Inner Housing C and FPC Keyboard Metal Housing.



Carefully insert tweezers to unsnap the other side hooks.



FPC Keyboard Metal Housing Assembly & PBA *continued*

Lift up the FPC Keyboard Metal Housing Assy and pull out from the Bottom Inner Housing C.



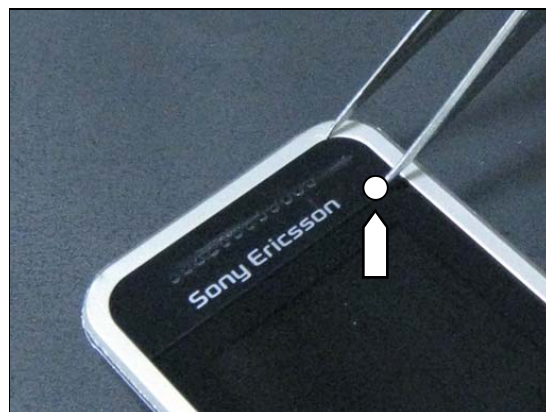
Carefully use tweezers insert lower-right corner and remove Hinge Lock.



2.1.4 Top Outer Housing A Assembly

BE CAREFUL NOT TO DAMAGE THE MAIN DISPLAY WINDOW DURING THIS OPERATION!

Carefully use tweezers to penetrate and remove the Receiver Plate of bottom-right corner (screw-hole position).

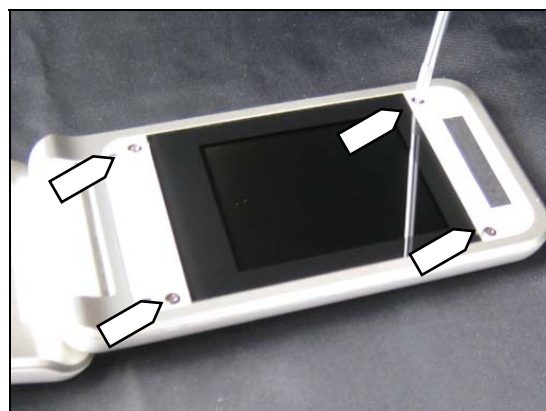


BE CAREFUL NOT TO DAMAGE THE MAIN DISPLAY WINDOW DURING THIS OPERATION!

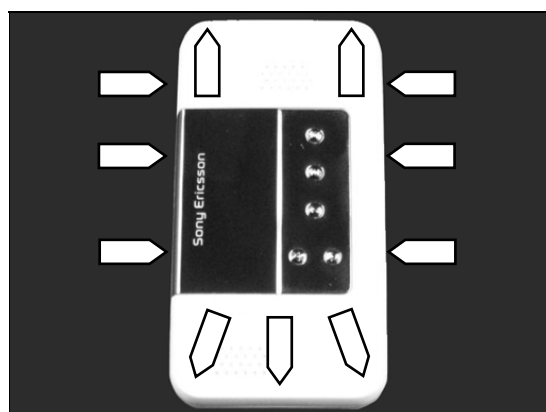
Carefully use tweezers to penetrate and remove the Co-Brand Plate on top-left corner (screw-hole position).



Use Torx bit no.5 to remove the four screws.



There are eleven hooks between Top Outer Housing A and Display TFT 1,9" Window Housing B Assy.





Top Outer Housing A Assembly *continued*

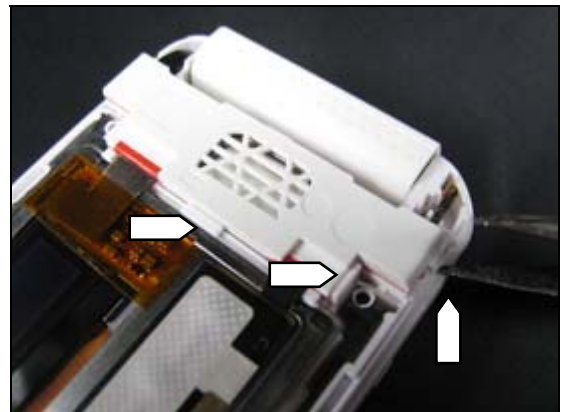
Insert the guitar pick to unlatch the hook on both sides as shown in picture. If necessary, slide back and forth until all hooks are unlatched.

Carefully remove the upper frame cover.

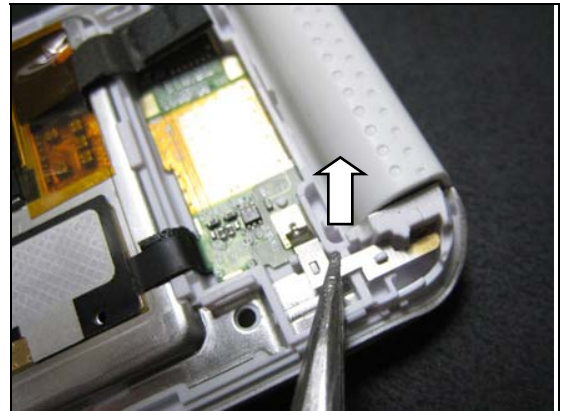


Remove Speaker Chamber

Carefully use tweezers to unsnap three hooks.

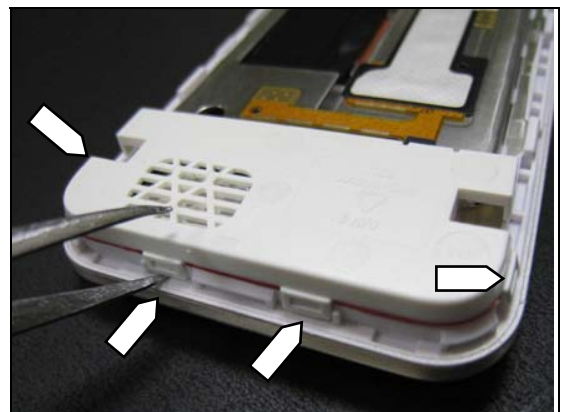


Remove the Spring Connector.



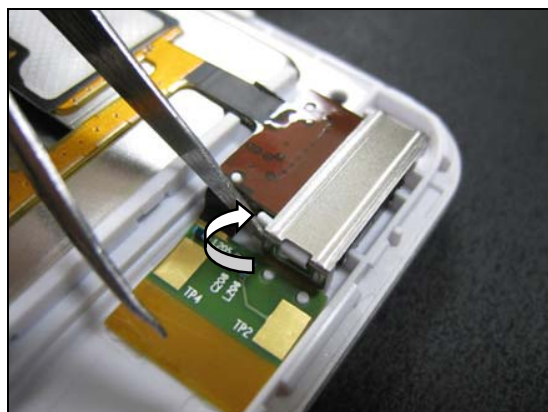
Remove Speaker Chamber

Carefully use tweezers to unsnap the bottom and both side hooks and remove the Speaker Chamber.



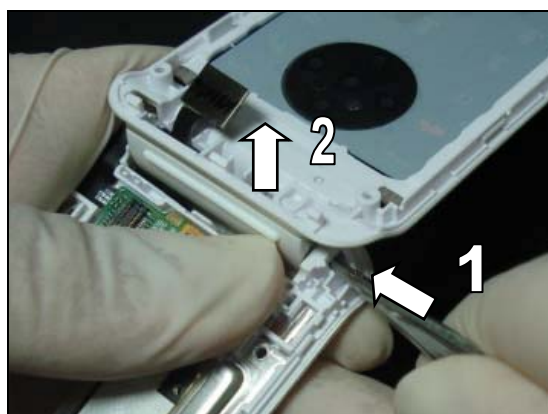
Top Outer Housing A Assembly *continued*

Use tweezers to unsnap the Cap Metal Ear Speaker.



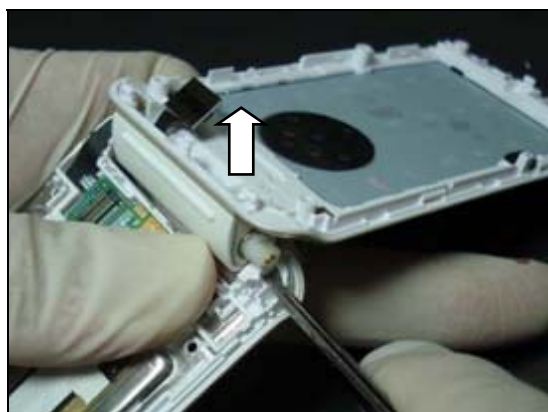
2.1.5 Display TFT 1,9" Window Housing B Assy Assembly & Bottom Inner Housing C Assembly

Use tweezers suppressing the Hinge-head inward (1) and at the same time moving up the Bottom Inner Housing C Assy by finger (2).



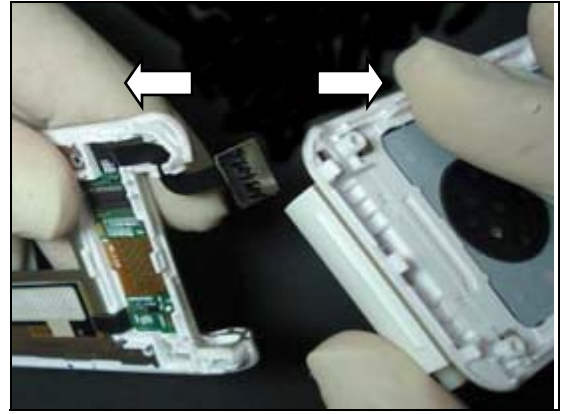
Be careful not to damage the FPC during this operation!

Unlatch the Hinge.



Be careful not to damage the FPC during this operation!

Separate the upper & lower parts.





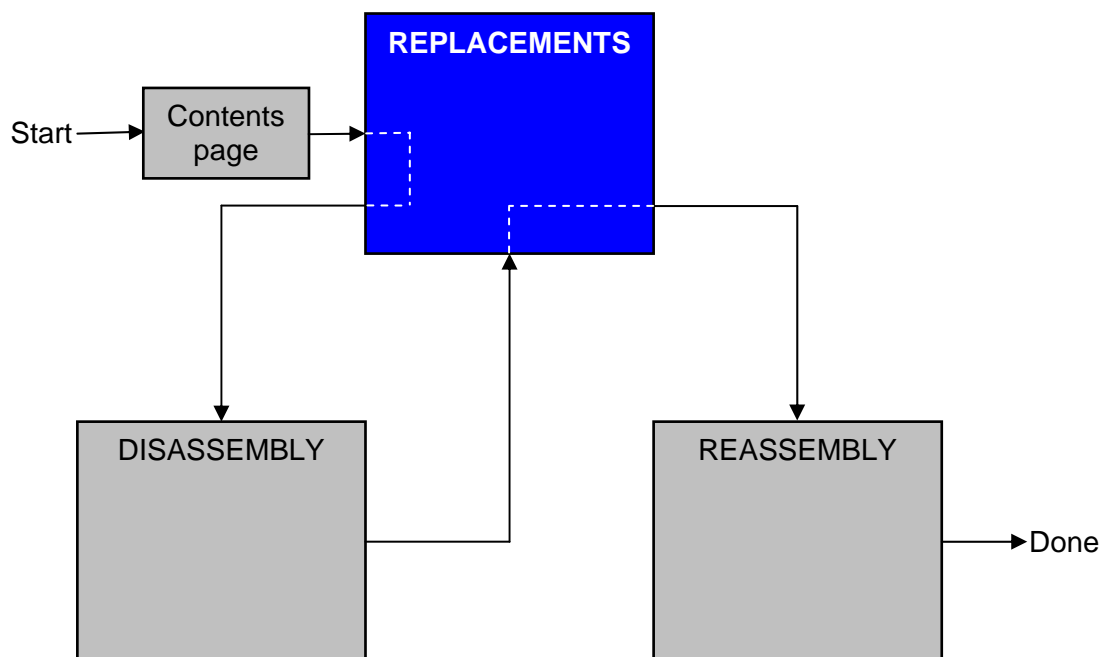
3 Replacements

Search for the part to be replaced on the Contents page and go to that instruction to be found in this *Replacements* section.

The instruction usually begins by directing you to the *Disassembly* section with a specification of the instructions you have to carry out in order to disassemble the phone as far as needed before the actual replacement.

Go back to this *Replacements* section and carry out the instruction.

The instruction usually ends by directing you to the *Reassembly* section with a specification of the instructions you have to carry out in order to reassemble the phone.





3.1 Battery Cover

Follow the 2.1.1 Disassembly instructions!

Prepare the new Battery Cover

Follow the 4.1.5 Reassembly instructions!

3.2 Cap Screw Rubber

Follow the 2.1.2 Disassembly instructions!

Prepare the new screw cap

Follow the 4.1.4 Reassembly instructions!

3.3 Top Outer Housing A Assy

Follow the 2.1.4 Disassembly instructions!

Prepare the new Top Outer Housing A Assy

Follow the 4.1.2 Reassembly instructions!

3.4 Bottom Outer Housing

Follow the 2.1.1- 2.1.2 Disassembly instructions!

Prepare the new Bottom Outer Housing Assy

Follow the 4.1.4 Reassembly instructions!

3.5 FPC Keyboard Metal Housing Assy

Follow the 2.1.1-2.1.3 Disassembly instructions!

Prepare the new Lower Metal Frame

Follow the 3.23 replace the camera

Follow the 4.1.3-4.1.5 Reassembly instructions!

3.6 Receiver Plate

Follow the 2.1.4 Disassembly instructions!

Prepare the new Receiver plate

Follow the 4.1.2 Reassembly instructions!

3.7 Co-brand Plate

Follow the 2.1.4 Disassembly instructions!

Prepare the new Co-branding Plate

Follow the 4.1.2 Reassembly instructions!.



3.8 Display TFT 1,9" Window Housing B Assy

Follow the 2.1.1- 2.1.5 Disassembly instructions!

Prepare the new Display TFT 1,9" Window Housing B Assy

Follow the 3.22 replace FPC Quick Key Assy

Follow the 4.1.1-4.1.5 Reassembly instructions!

3.9 Bottom Inner Housing C Assy

Follow the 2.1.1- 2.1.5 Disassembly instructions!

Prepare the new Bottom Inner Housing C Assy

Follow the 3.24 replace keyboard

Follow the 4.1.1-4.1.5 Reassembly instructions!

3.10 Hinge Lock

Follow the 2.1.1- 2.1.3 Disassembly instructions!

Prepare the new Hinge Lock

Follow the 4.1.3-4.1.5 Reassembly instructions!

3.11 Cap Metal Ear Speaker

Follow the 2.1.4 Disassembly instructions!

Prepare the new Cap Metal Ear Speaker

Follow the 4.1.1-4.1.5 Reassembly instructions!

3.12 Liquid Intrusion indicator

Follow the 2.1.1-2.1.2 Disassembly instructions!

Prepare the new Liquid Intrusion Indicator

Follow the 4.1.4-4.1.5 Reassembly instructions!

3.13 Vibrator

Follow the 2.1.1-2.1.2 Disassembly instructions!

Use the tweezers to remove the Vibrator



Prepare the new Vibrator and replace it without pressing the spring

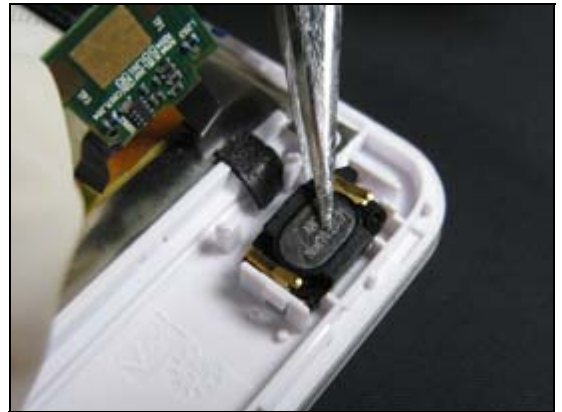
Follow the 4.1.4 - 4.1.5 Reassembly instructions!



3.14 Ear Speaker

Follow the 2.1.4 Disassembly instructions!

Flip open the FPC Quick Key Assy and use the tweezers to remove the Ear Speaker



Prepare the new Ear Speaker and replace it without pressing the spring

Follow the 4.1.1-4.1.2 Reassembly instructions!



3.15 Loud Speaker

Follow the 2.1.4 Disassembly instructions!

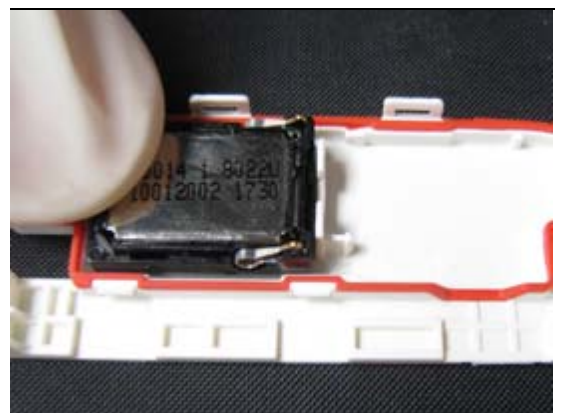
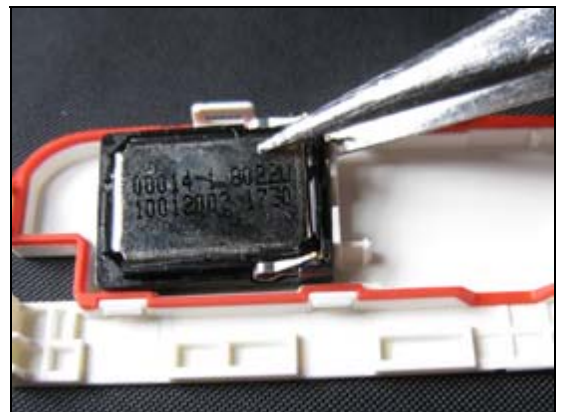
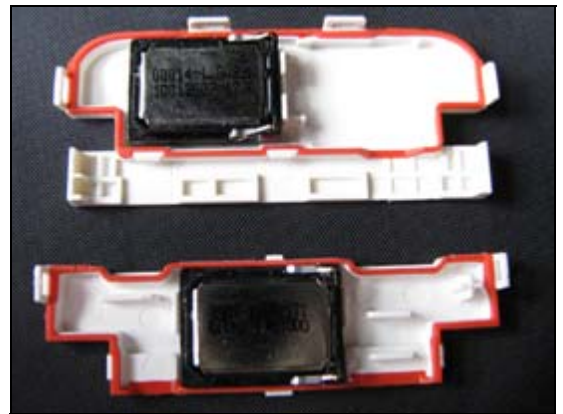
Note that there are two Loud Speakers in both speaker chambers.

Use the tweezers to remove the Loud Speaker

DO NOT TOUCH THE SPRINGS!

Prepare the new Loud Speaker and replace it

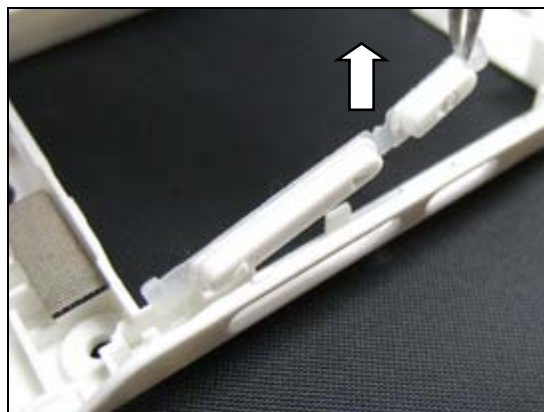
Follow the 4.1.2 Reassembly instructions!



3.16 Side Key

Follow the 2.1.1-2.1.2 Disassembly instructions!

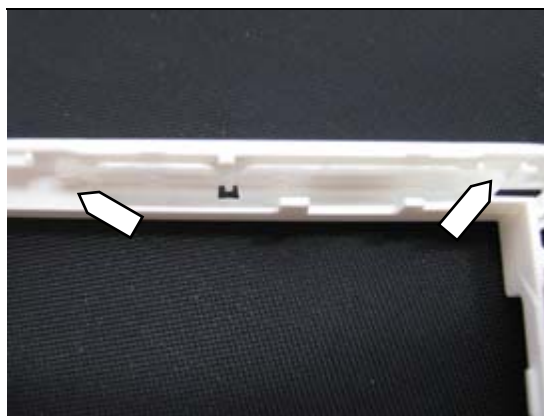
Use the tweezers to remove the Side Key



Replace the new Side Key

Make sure both end of Side Key is positioned.

Follow the 4.1.4-4.1.5 Reassembly instructions!

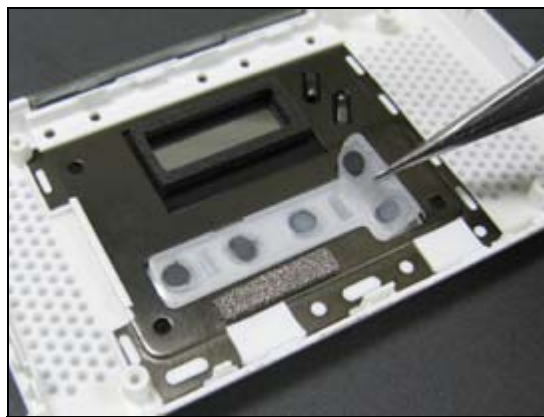


3.17 Quick Key

Follow the 2.1.4 Disassembly instructions!

Replace with the new Quick Key

Follow the 4.1.2-4.1.5 Reassembly instructions!



3.18 FPC Quick Key Assy

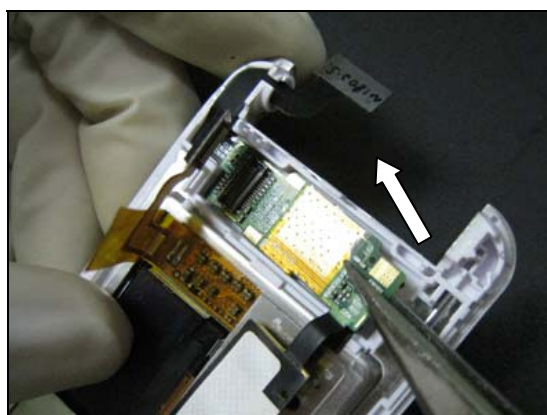
Follow the 2.1.1-2.1.5 Disassembly instructions!
Use the tweezers to peel off the Receiver touch pad,



Keep removing the extended dome sheet area.



Use hand/tweezers pry the FPC out from the housing carefully.



Pull out the FPC from hinge ring.

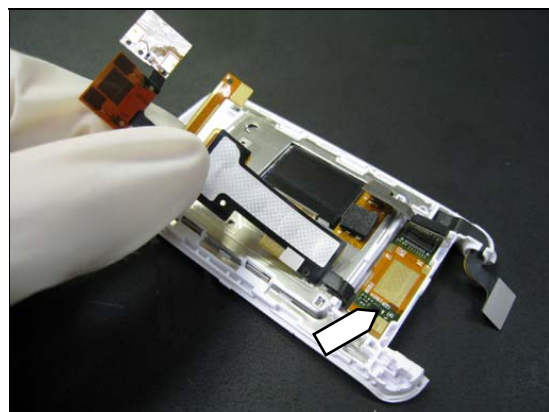


FPC Quick Key Assy *continued*

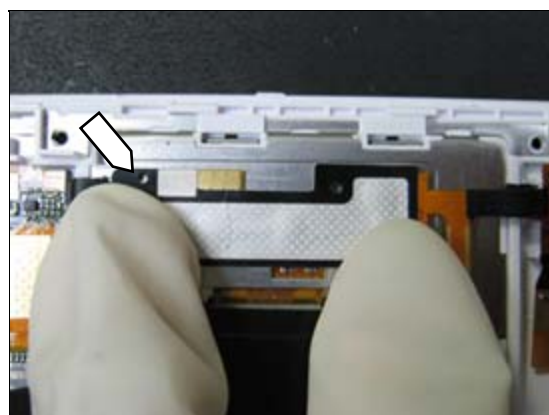
Prepare a new FPC Quick Key Assy and carefully put the FPC into hinge ring.



Make sure the FPC attach to right position (guide pin)

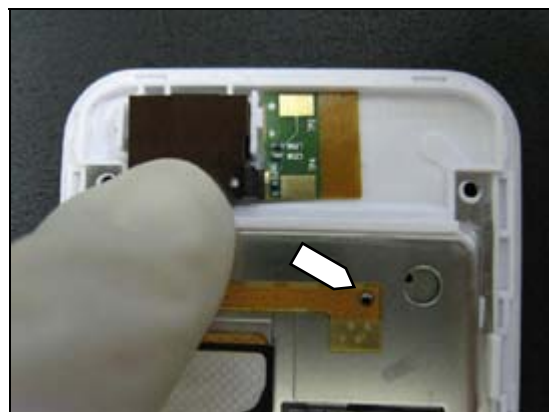


Use the guiding hole to align the FPC to the metal area.
Press down the FPC.



Align the second guiding hole and press down the FPC

Follow the 4.1.1-4.1.5 Reassembly instructions!

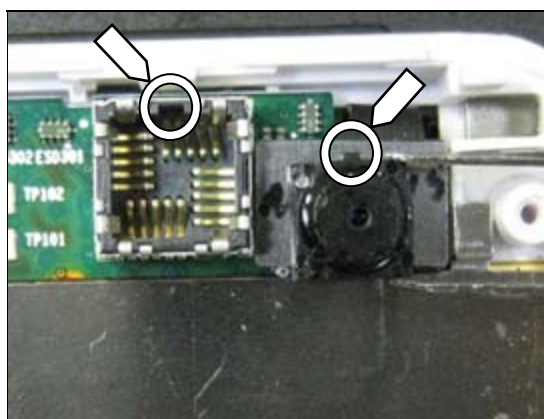


3.19 Camera 1.3MPixel

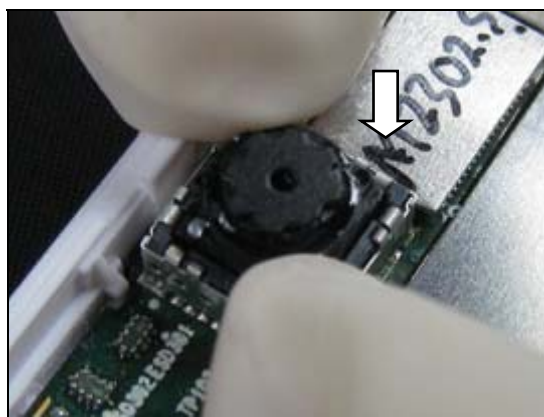
Follow the 2.1.1-2.1.2 Disassembly instructions!
Press down the Camera Removal tool on the Camera



Note the orientation design on camera module and camera socket!



Do not touch the camera lens!
Insert the camera with right position and make sure all corners are clicked.
Follow the 4.1.4 – 4.1.5 Reassembly instructions!



3.20 Keyboard

Using tweezers insert the microphone hole and pry the Keyboard.



Using tweezers to tear off the Keyboard.



Replace a new Keyboard on the Bottom Inner Housing C along the outline.



3.21 Hinge

Follow the 2.1.1-2.1.5 Disassembly instructions!

Using tweezers to push out the Hinge from internal housing,



Using tweezers to pull out the Hinge from housing.



Insert the Hinge by hand.

Follow the 4.1.1-4.1.5 Reassembly instructions!



3.22 Label

Follow the 2.1.1 Disassembly instructions!

- Read the old label and/or write the information into the “Label make” program before removal
 - Note the position of the label before removal
 - Heat up the label by using the hot air, if needed
 - Carefully remove the label without causing scratches
 - If there still are residues, clean the surface with isopropyl alcohol
-
- Check that the proper label format is loaded in the Zebra printer
 - Write a new label by using the program “Label make” and check that the printing is OK
 - Take the new label and place it onto the frame as in the adjacent picture

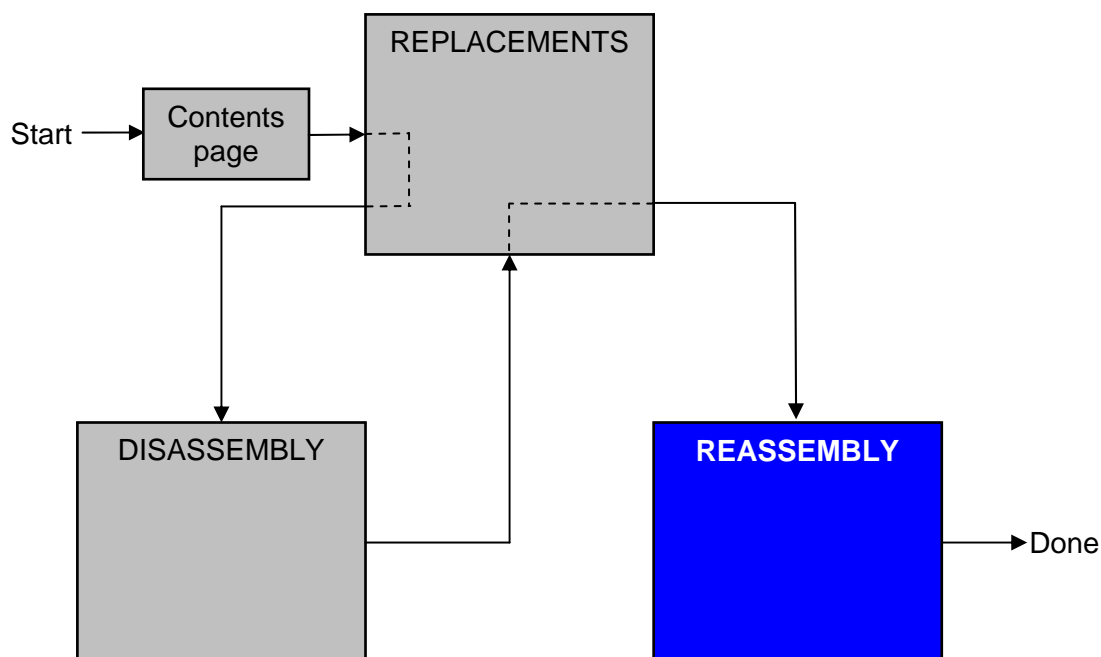
ONE LABEL ONLY IS ALLOWED!

Follow the 4.1.5 Reassembly instructions!



4 Reassembly

After replacing a part being listed in Replacements, the instruction of that section usually ends by directing you to this Reassembly section with a specification of the instructions you have to carry out in order to reassemble the phone.



4.1 Overview

The reassembly is done in the following sequence:

- 4.1.1 Display TFT 1,9" Window Housing B Assy (a) & Bottom Inner Housing C Assy (b)
- 4.1.2 Top Outer Housing A Assy
- 4.1.3 FPC keyboard Lower Metal Housing (a) & PBA (b)
- 4.1.4 Bottom Outer Housing Assembly
- 4.1.5 Battery Cover (a) & Battery (b)

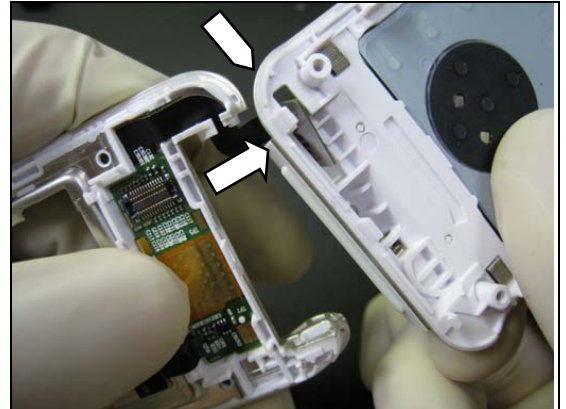




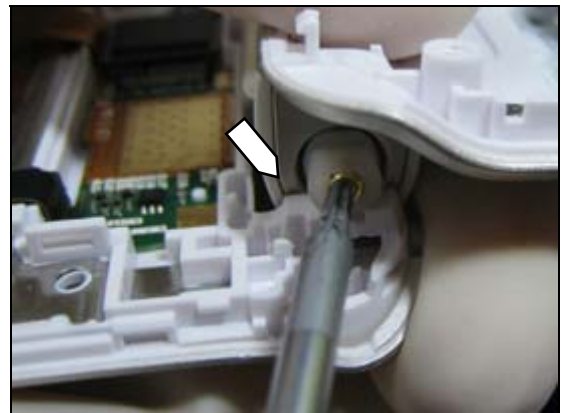
4.1.1 Display TFT 1,9" Window Housing B Assy & Bottom Inner Housing C Assy

BE CAREFUL NOT TO DAMAGE THE FLEX FILM DURING THIS OPERATION!

Insert the FPC through the hole of the lower front cover.



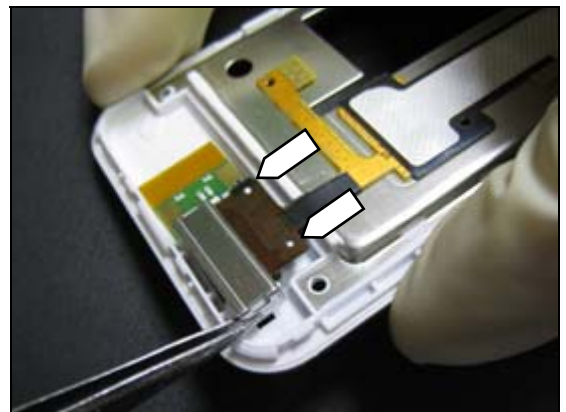
Place the end of the Hinge section against the Bottom Inner Housing C Assy.



Press the hinge inward by tweezers/screwdriver (1) and at the same time push (2) Bottom Inner Housing C Assy down.



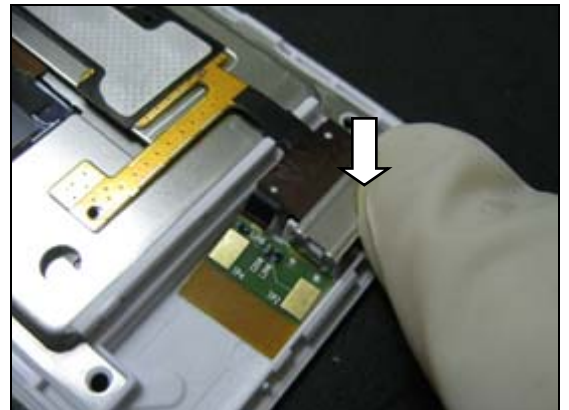
Make sure the flex film at right place by two guide pins.





Display TFT 1,9" Window Housing B Assy Assembly & Bottom Inner Housing C Assembly *continued*

Fixate FPC with two orientation pins and Cap Metal Ear Speaker.

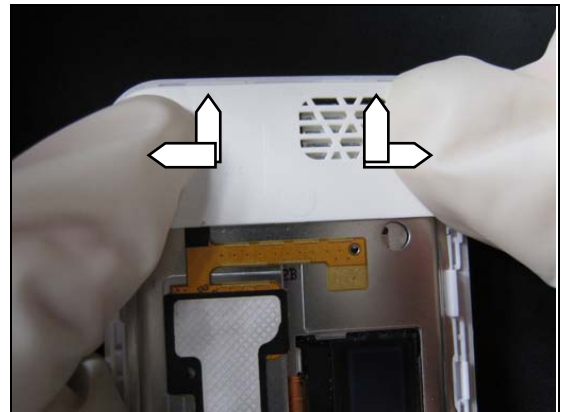




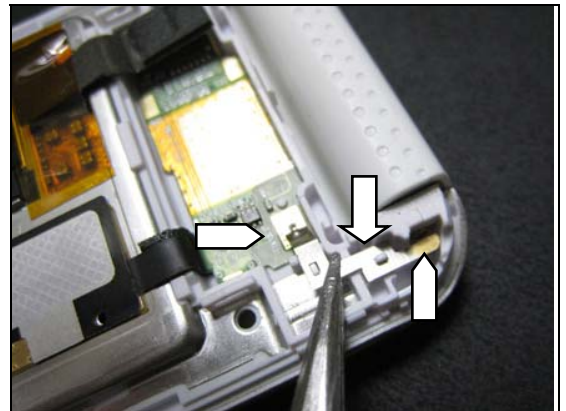
4.1.2 Top Outer Housing A Assembly

Reassemble Speaker Chamber Receiver

Press the Speaker Chamber Receiver and make sure the four hooks are well fixed.

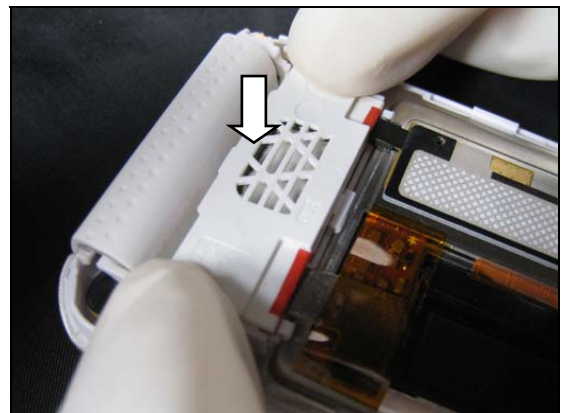


Place the dual ground spring, one of connect point at hinge head and the other on FPC pad.

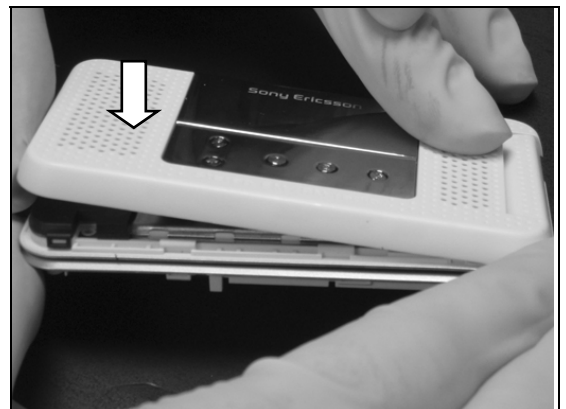


Reassemble Speaker Chamber Hinge

Press the speaker chamber and make sure four hooks are fixed.

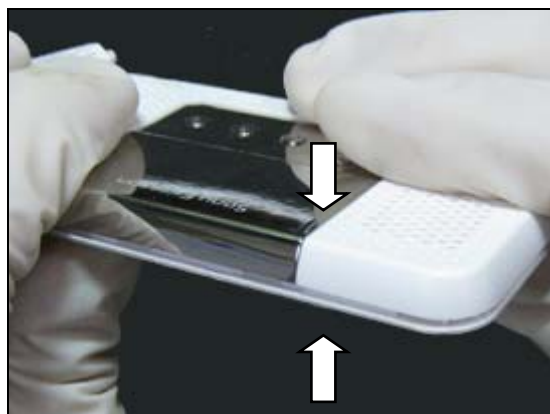


Insert hinge side (top) first then the receiver side (bottom).



Top Outer Housing A Assembly *continued*

Make sure all hooks around upper module are locked without any gap.



Use Torx bit no.5 to fasten these four screws by sequence.

Use torque 11 Ncm!



Assemble the Co-Branding Plate manually and press it with your finger to secure the attachments.

THE USED CO-BRAND PLATE CANNOT BE REUSED AND MUST BE SCRAPPED.



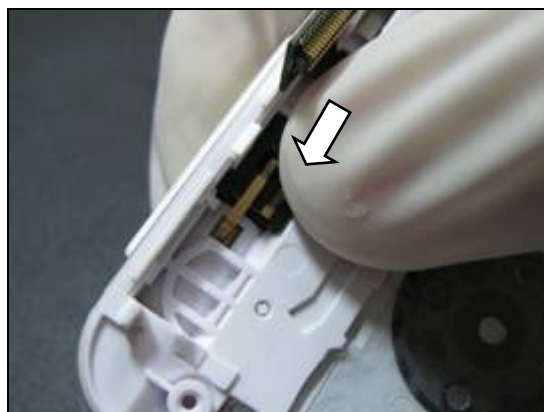
Assemble the Receiver Plate manually and press it with your fingers to secure the attachments.

THE USED RECEIVER PLATE CANNOT BE REUSED AND MUST BE SCRAPPED.



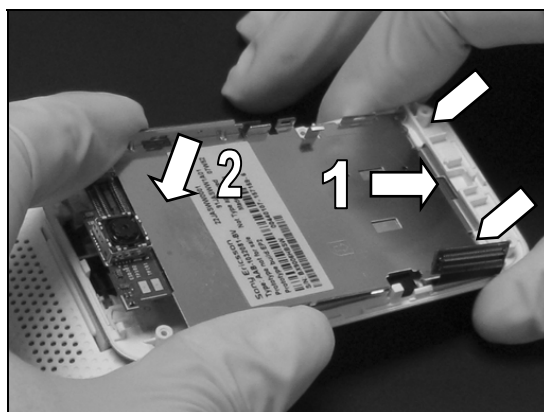
4.1.3 FPC Keyboard Metal Housing Assy & PBA

Insert the Hinge Lock.

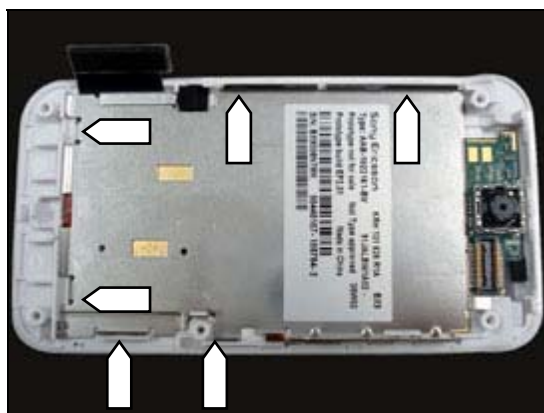


BE CAREFUL NOT TO DAMAGE THE FPC BOARD-TO-BOARD CONNECTOR DURING THIS OPERATION!

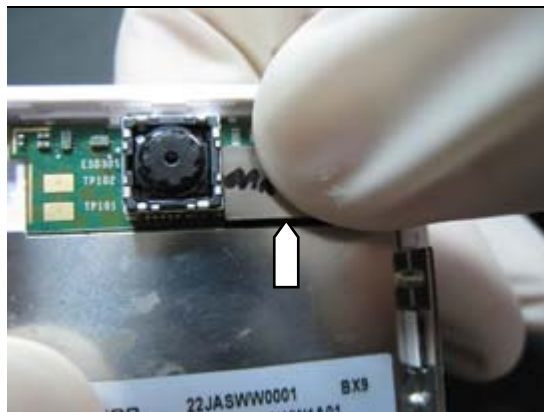
Insert lower metal frame two hooks at bottom (1) and press down (2) the FPC Keyboard Metal Housing Assy on Bottom Inner Housing C.



Make sure all hooks are locked well.

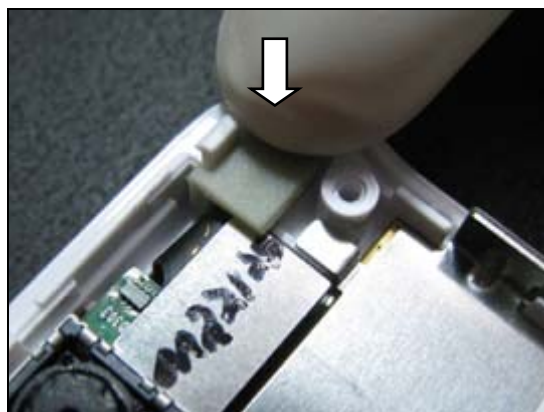


Mount the FPC board-to-board connector.



FPC Keyboard Metal Housing Assy & PBA *continued*

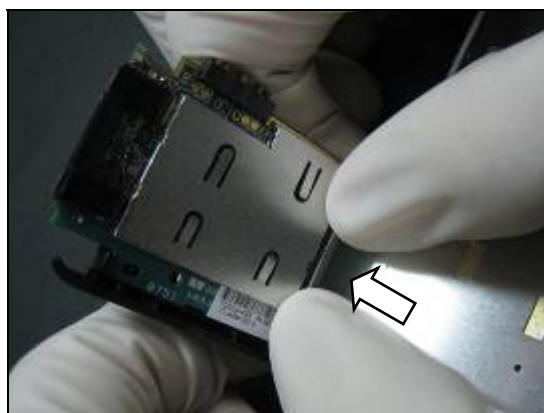
Assemble the Rubber Dust.



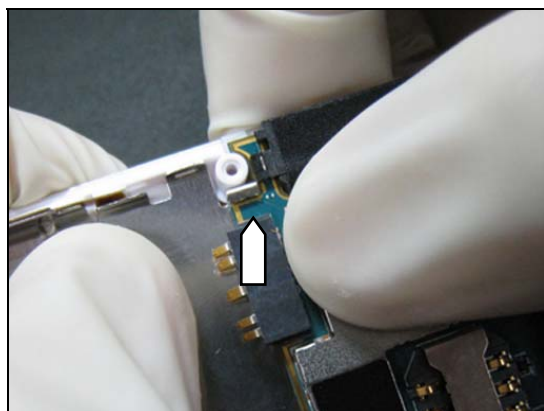
Put on the Rubber Camera.



Mount the PBA board-to-board connector.



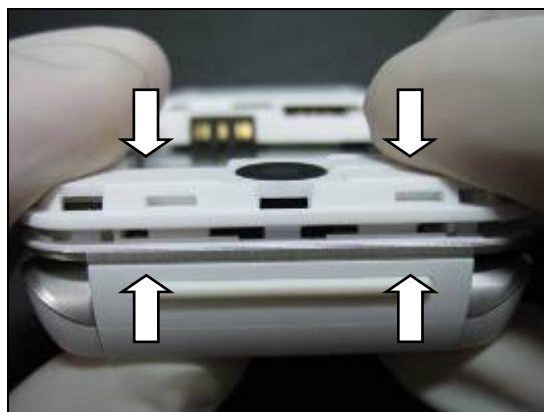
Make sure that PBA is locked by the metal hook



4.1.4 Bottom Outer Housing Assembly

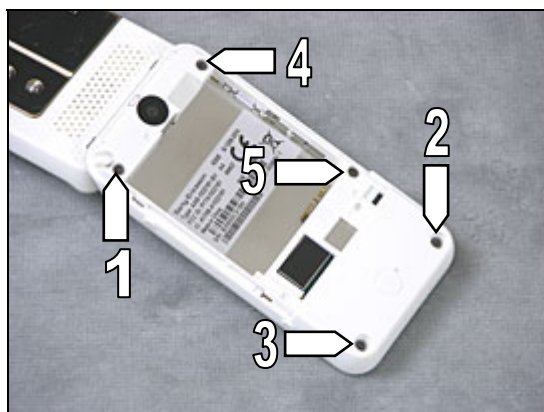
First, snap the Bottom Outer Housing with Bottom Inner Housing C Assy at the hinge section

Snap the remaining sides until the two covers are joined without any gaps (be careful with side key area).

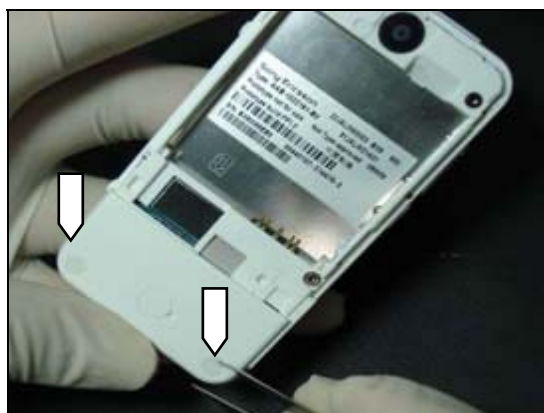


Use Torx bit no.5 to fasten these five screws in sequence.

Use torque 11 Ncm!

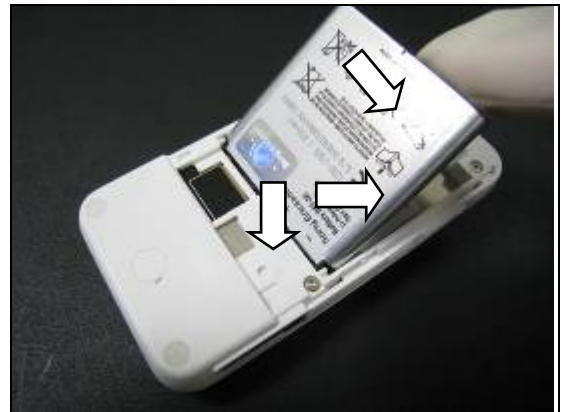


Place the Cap Screw Rubbers in the cavities



4.1.5 Battery Cover & Battery

Insert the Battery.



Put the Battery Cover on snap position,
And press on top of Battery Cover.



Slide the Battery Cover into latch.





5 Revision history

Rev.	Date	Changes / Comments
1	2008-08-15	1 st release
2	2008-09-12	<ul style="list-style-type: none">• Updated Equipment page• Added torque values for screws
3	2008-10-15	<ul style="list-style-type: none">• Changed Bottom Outer Housing to Bottom Rear Frame Assy• Corrected Liquid Intrusion Indicator description• Replaced pictures in 4.1.2• Corrected cross-reference links in whole document