



Working Instruction, Mechanical

Applicable for K770

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1 Introduction

K770



1.1 Equipment

SPECIAL TOOLS

- NTZ 122 459 Torque screwdriver (or equivalent)
- NTZ 122 288 Torx bit no. 6
- NTZ 112 1052 JCIS bit
- NTZ 112 302/2 Front opening tool
- NTZ 122 521 Flex film assembly tool
- NTZ 112 1077 Vga camera tool
- 1201-9362 3Mpixel Camera removal tool
- NTZ 112 590 Guitar pick



STANDARD TOOLS

- Dentist hook
- Blunt pair of tweezers
- Guitar pick



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:

- **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!**

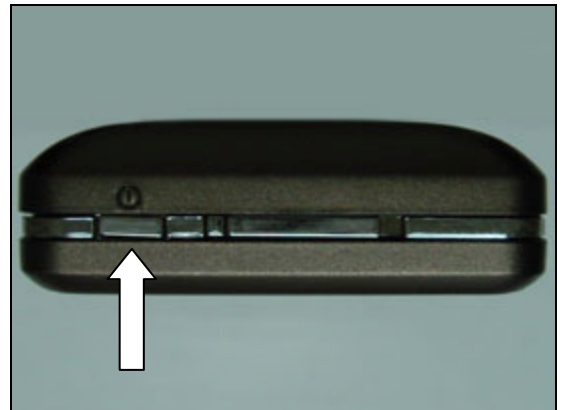
ADHESIVES

Use a dentist hook or a blunt pair of tweezers to remove old adhesives.

If necessary, clean the surface with isopropyl alcohol before attaching new adhesives.

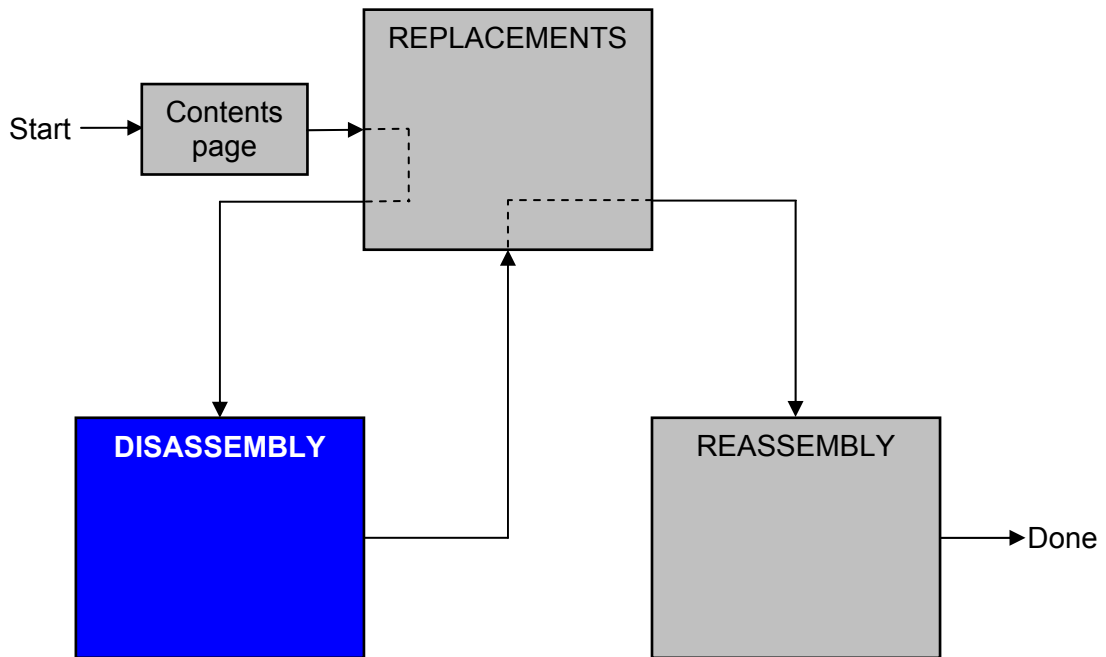
PRECAUTIONARY ACTIONS

Press the On/Off button to turn off the phone before the start of the disassembly.



2 Disassembly

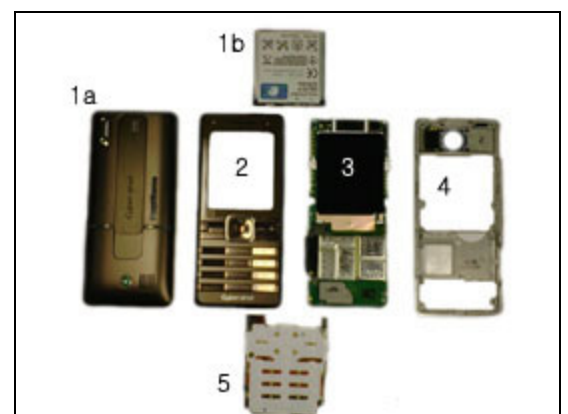
When you are going to replace a part being listed in *Replacements*, the instruction of that section usually begins by directing you to this *Disassembly* section with a specification of the instructions you have to carry out in order to disassemble the phone as far as needed before returning to *Replacements*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



2.1 Overview

The disassembly is done in the following sequence:

1. Battery Cover (a) & Battery(b)
2. Front Cover asm
3. PBA unit
4. Frame asm
5. Keypad support plate asm

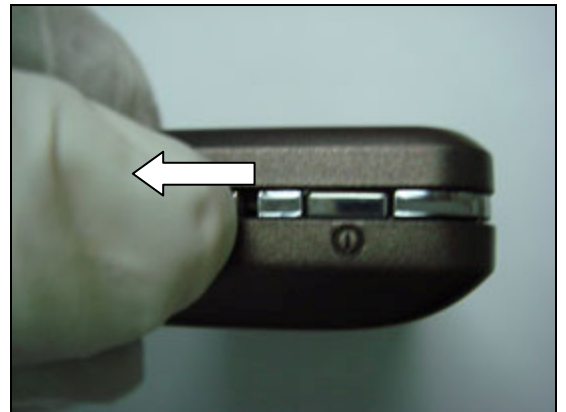


2.1.1 Battery Cover Assy & Battery

Battery cover key.



Shift the *battery cover key*.



Lift the *battery cover assy* down and release it from the *frame assembly*.

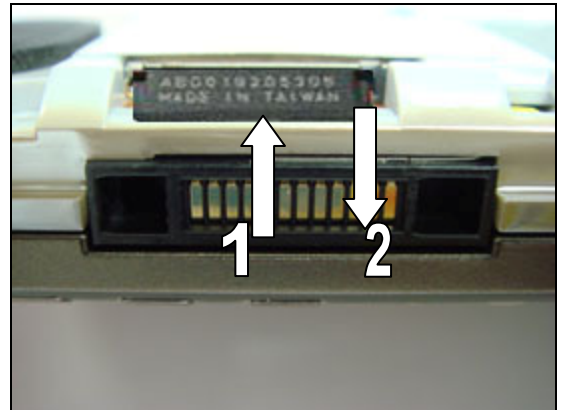


Release the *battery* at the bottom and remove it.

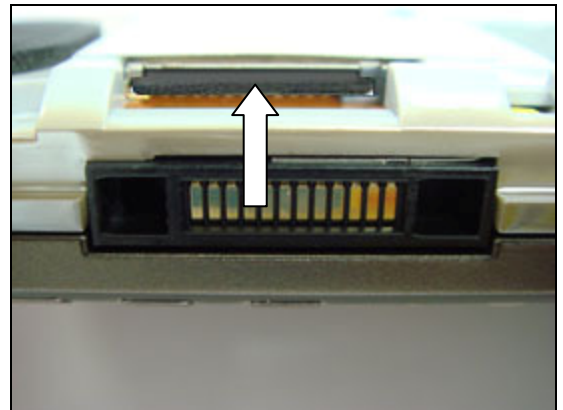


2.1.2 Memory Stick Micro (M2) 128 MB

1. Press in (shortly) the *memory stick micro (M2) 128 MB*.
2. Remove the *memory stick micro (M2) 128 MB* with your fingers.



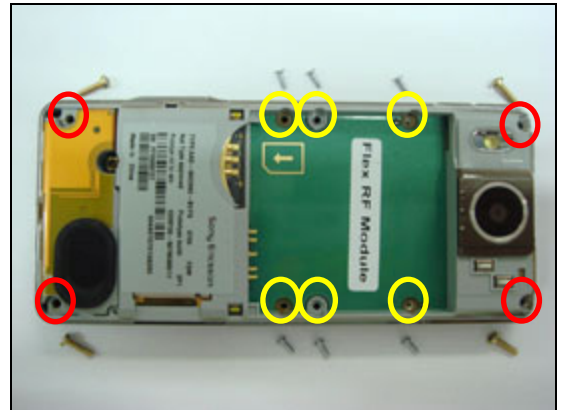
Assemble (push in until it locks) a new *memory stick micro (M2) 128 MB* with your fingers.



2.1.3 Front Cover Assembly

Use torx screwdriver to remove the four screws marked with a red ring. (4pcs)

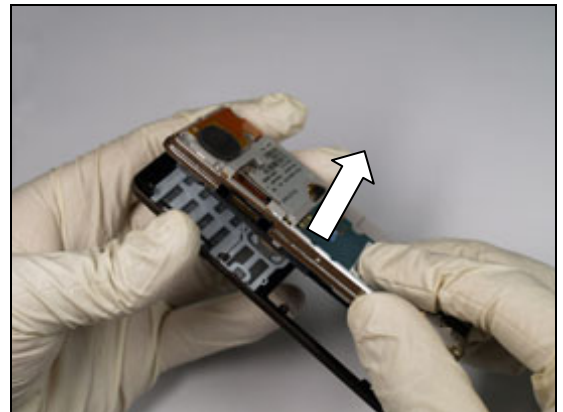
And use cross screwdriver to remove the six screws marked with a yellow ring.



Unlock the side snaps with the front opening tool when disassembling the front cover from the PCBA unit.

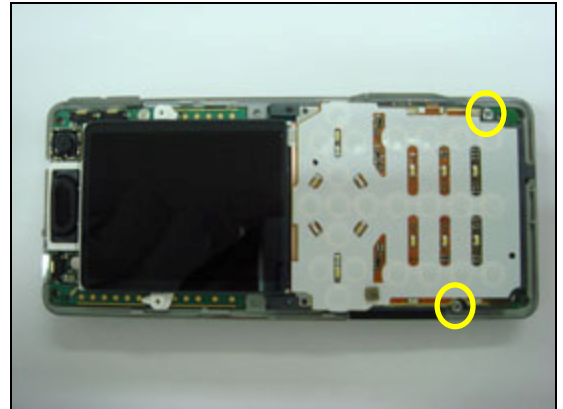


Separate the front cover assembly from the module.



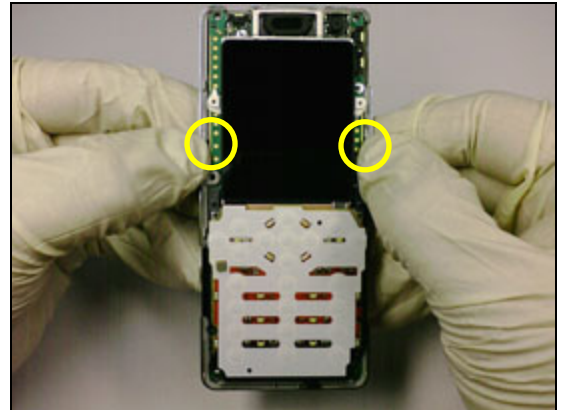
2.1.4 PBA Unit & Frame Assembly

Use cross screwdriver to remove the two screws.

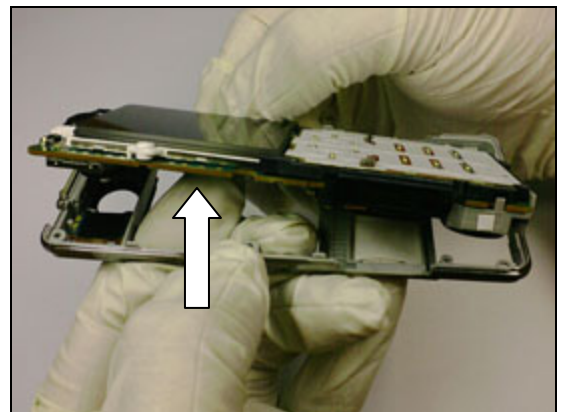


THE FRAME HAS GOT TWO SNAP HOOKS!

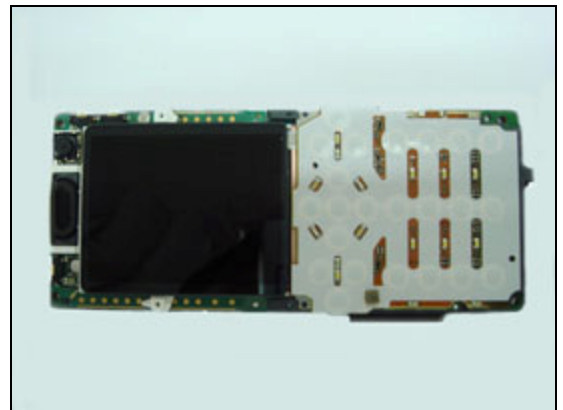
Use the front opening tool or with your fingers to unsnap the frame assembly from the PCBA.



Grab the *frame assembly* by one hand and carefully push the *PCBA unit* up by the other hand as the picture.

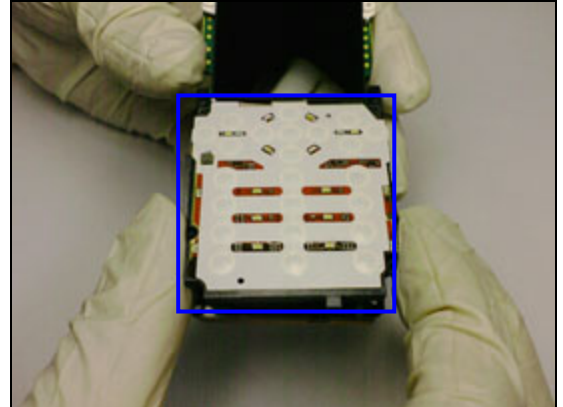


PBA unit



2.1.5 Keypad support plate Assembly

Separate the *Key support plate* from the *PCBA unit*.



Release the snap between *Keypad support plate* and *M2 SIM assembly* with Opening tool or Blunt pair of tweezers.



Carefully open the *Key support plate connector* with blunt pair of tweezers and avoid damaging the FPCB.



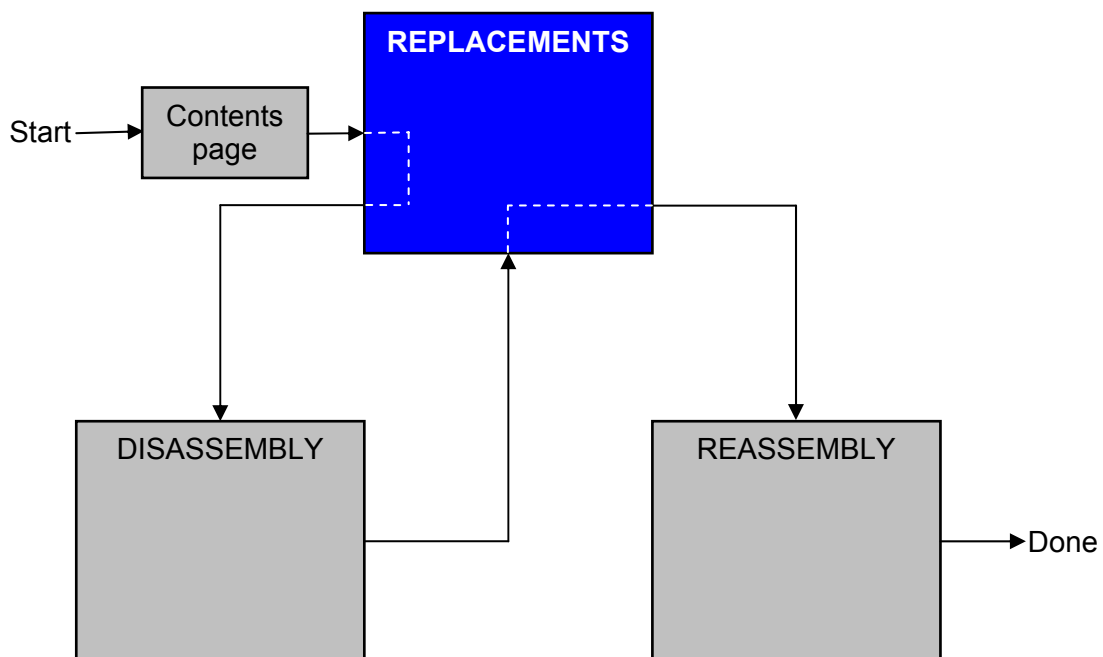
3 Replacements

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 Memory Stick Micro (M2) 128 MB

Follow the 2.1.2 Disassembly instructions!

Prepare the new memory stick (M2) 128 MB.

Follow the 4.1.4 Reassembly instructions!

3.3 Front Cover Assembly

Follow the 2.1.1 – 2.1.3 Disassembly instructions!

Prepare the new front cover assembly.

Follow the 4.1.3 Reassembly instructions!

3.4 Frame Assembly

Follow the 2.1.1 – 2.1.4 Disassembly instructions!

Prepare the new frame assembly.

Follow the 4.1.2 Reassembly instructions!

3.5 Keypad support plate Assembly

Follow the 2.1.1 – 2.1.5 Disassembly instructions!

Prepare the new Keypad support plate Assembly.

Follow the 4.1.1 Reassembly instructions!

3.6 LCD Module

REMOVAL

Follow the 2.1.1 – 2.1.5 Disassembly instructions!

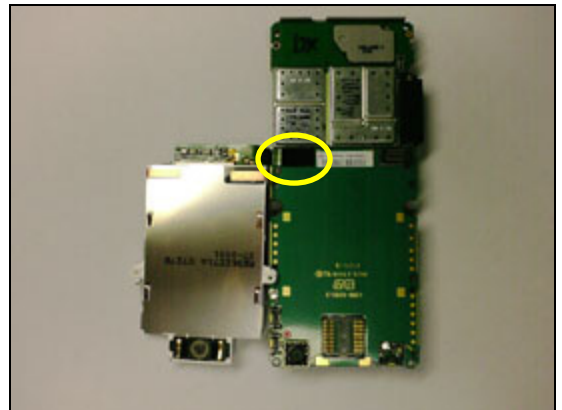
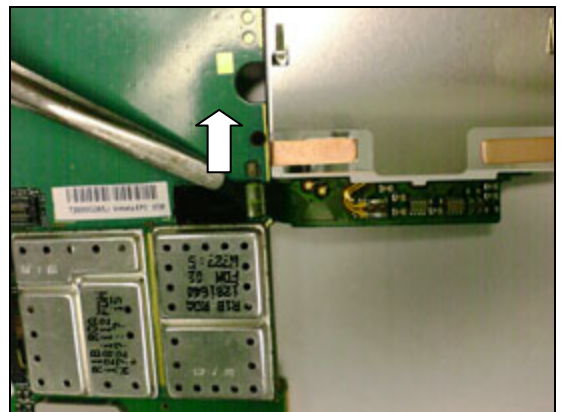
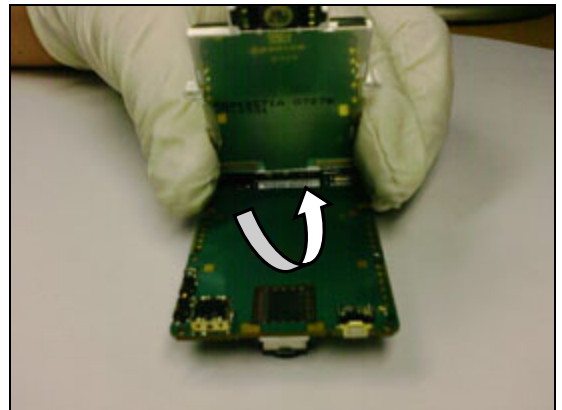
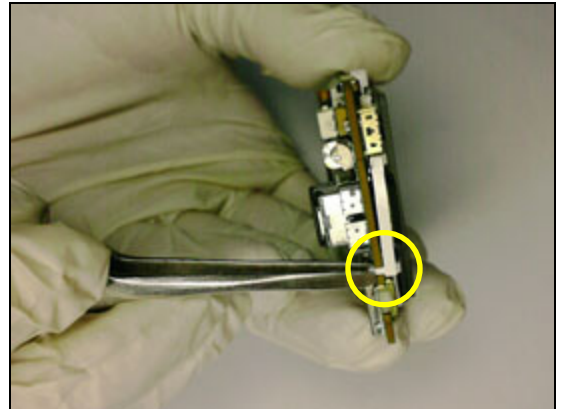
LCD Module is attached with snap to the PCBA unit.
Unsnap with blunt pair of tweezers.

Carefully lift up the LCD module.

Use the flex film opening tool to remove the flex film.

INSTALLATION

Use the flex film opening tool and insert the flex film into the connector.

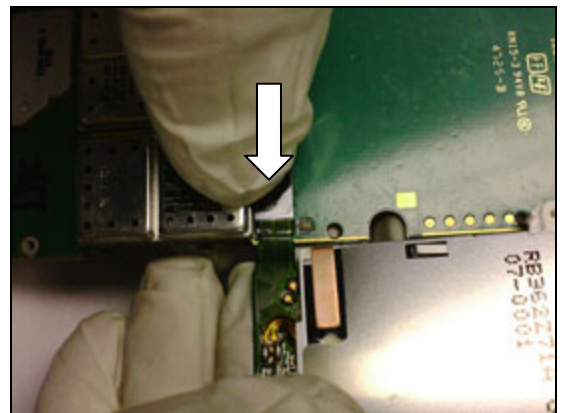


LCD Module *continued*

Use the flex film opening tool and carefully press the bar on the connector towards the connector to close it.

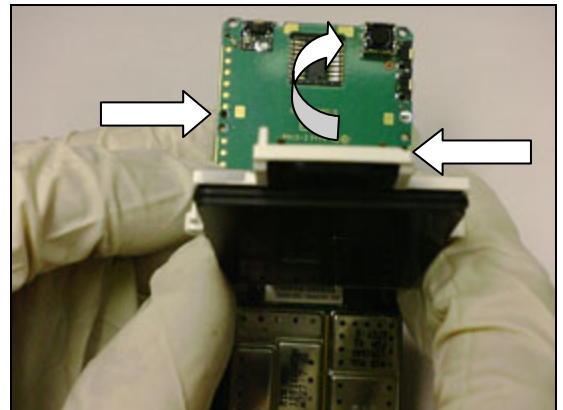


Press the bar on the connector towards the connector by finger evenly to connect completely.



THE LCD MODULE HAS GUIDING PINS!

Use the guiding pins to position the *LCD module on the PCBA unit.*



Lock the LCD module's snap to PCBA unit.



3.7 Ear Speaker

REMOVAL

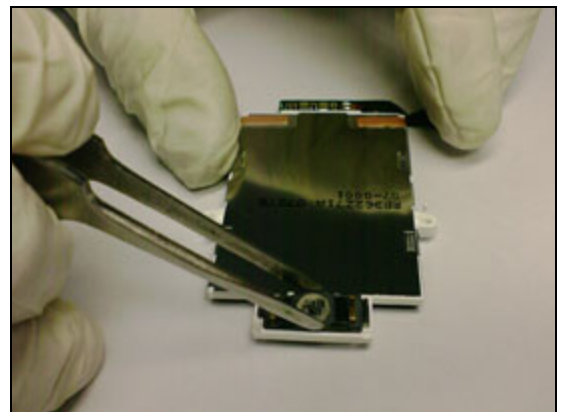
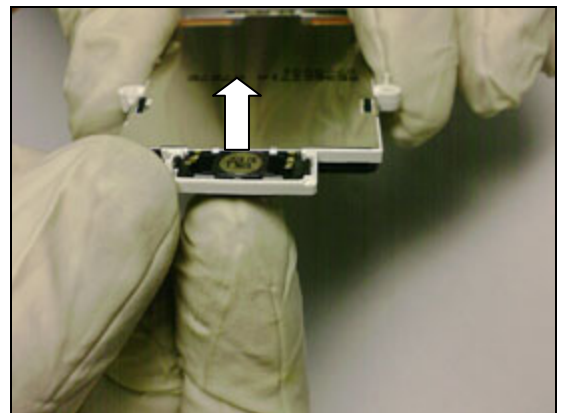
Follow the 2.1.1 – 2.1.5 Disassembly instructions!
And Follow the 3.6 Disassembly instructions!

Push the *ear speaker* upward with finger as shown in the picture.

INSTALLATION

Notice the pin direction before inserting the *ear speaker* to the LCD module' speaker hole.

Press the *ear speaker* evenly to be inserted into the speaker hole properly



3.8 M2 & SIM Assembly

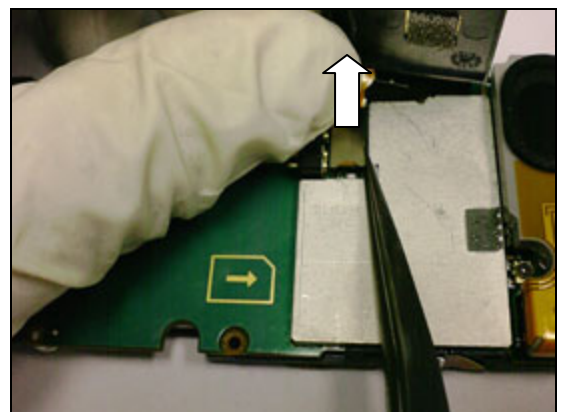
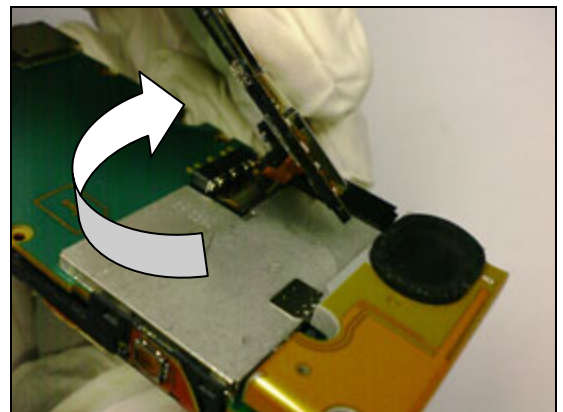
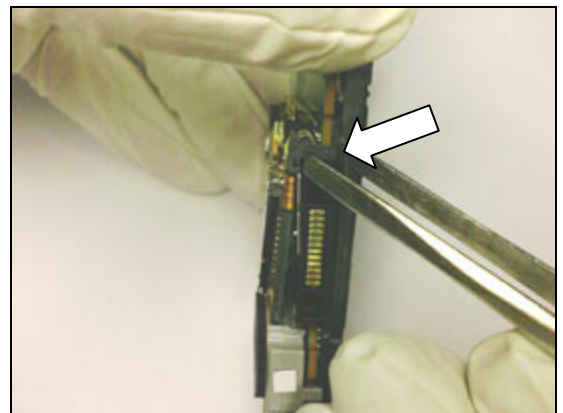
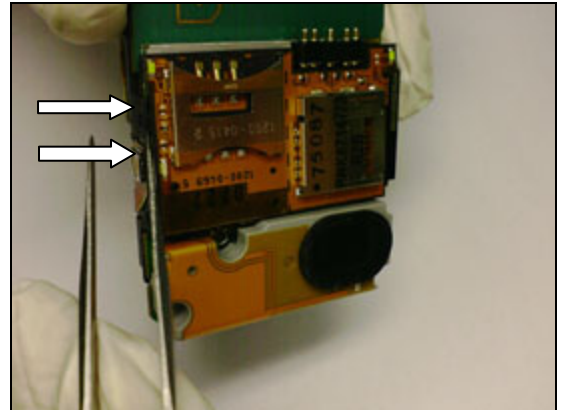
REMOVAL

Follow the 2.1.1 – 2.1.4 Disassembly instructions!

M2 SIM assembly is attached with snaps to the PCBA unit and Keypad support plate respectively. Release the snaps with blunt pair of tweezers.

Lift the *M2 SIM assembly* from *PCBA unit* carefully.

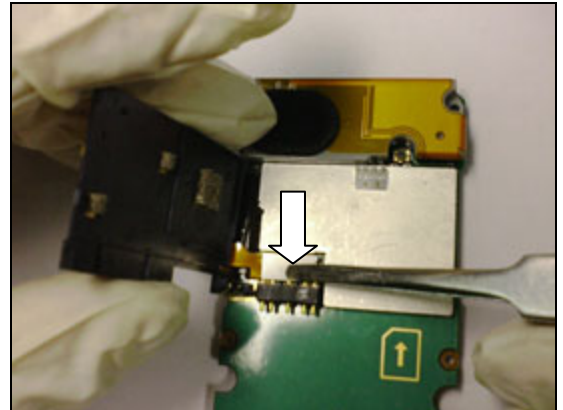
Open the *M2 SIM assembly connector* carefully. Take care not to damage the FPCB.



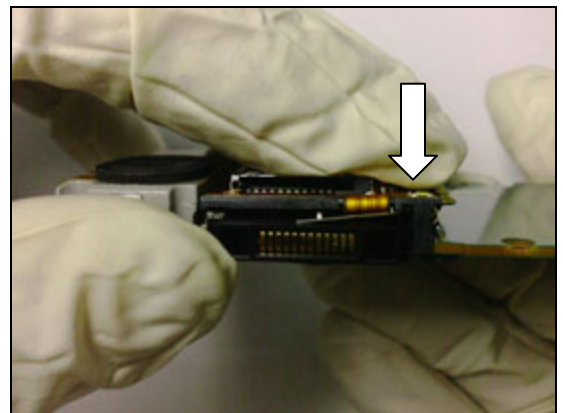
M2 & SIM Assembly continued

INSTALLATION

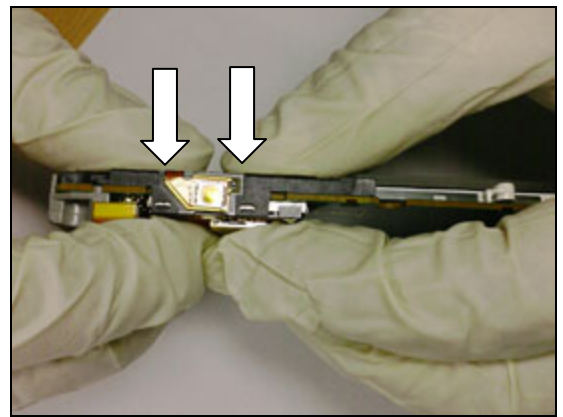
Use the blunt pair of tweezers to assemble the connector.



Press the *M2 SIM assembly* down onto the *PCBA unit* to snap together.



Press the *Keypad support plate* down to make it snap to *M2 SIM assembly*.

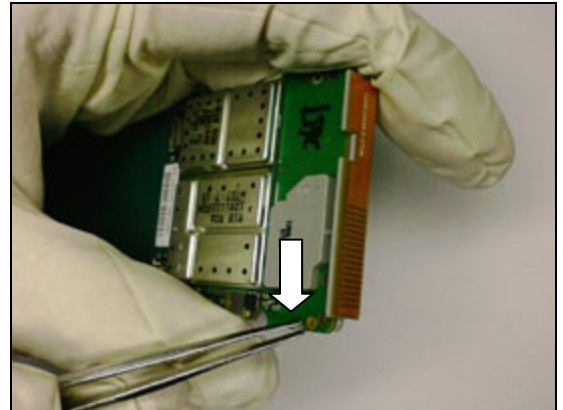


3.9 Antenna box & Speaker / Gasket

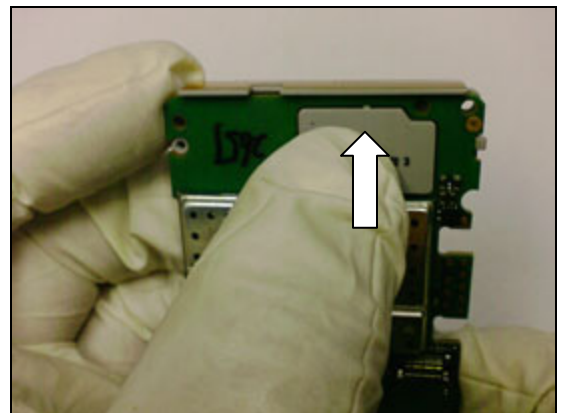
REMOVAL

Follow the 2.1.1 – 2.1.4 Disassembly instructions!

Use the blunt pair of tweezers to release the snap between *Antenna box and PCBA unit*.

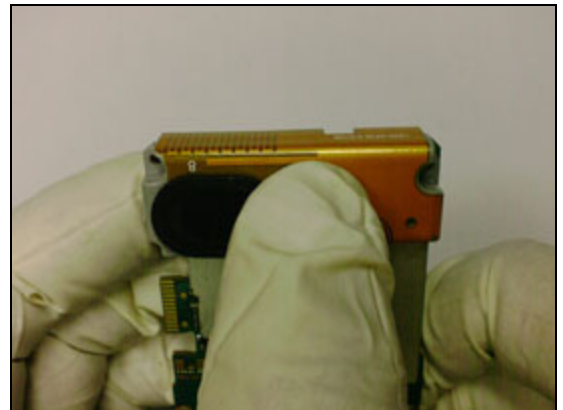


Use your finger to remove the *Antenna box* from *PCBA unit*.



INSTALLATION

Use your finger to carefully press it into the antenna guide hole until it's secured with a snap fit.



SPEAKER GASKET REMOVAL & INSTALLATION

Use the blunt pair of tweezers to remove the *speaker gasket*.



3.10 Camera Module & Camera lens

REMOVAL

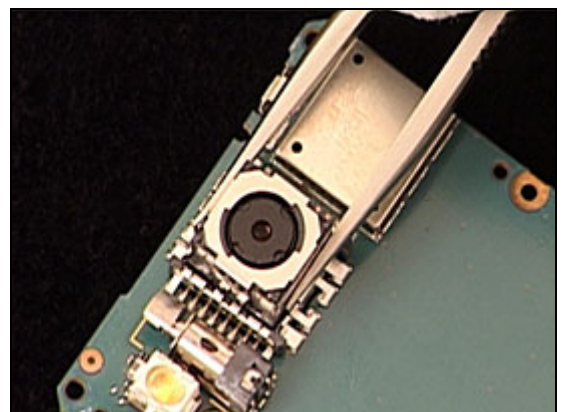
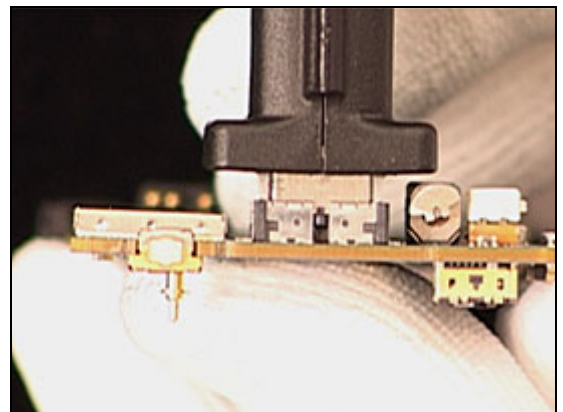
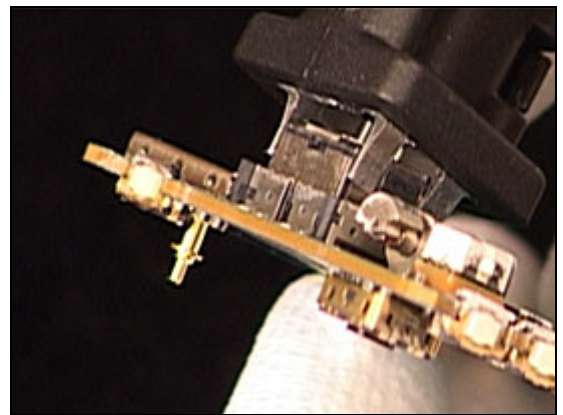
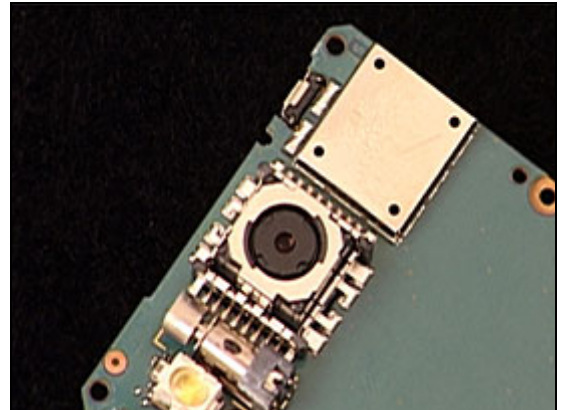
Follow the 2.1.1 – 2.1.4 Disassembly instructions!

Use 3Mpixel camera removal tool to remove Camera 3Mpixel.

Position the 3Mpixel camera tool according to the picture.

Push the 3Mpixel camera tool to bottom and wiggle the tool side to side before lifting the tool up.

Use tweezers to remove the 3Mpixel camera



Camera Module & Camera lens *continued*

INSTALLATION

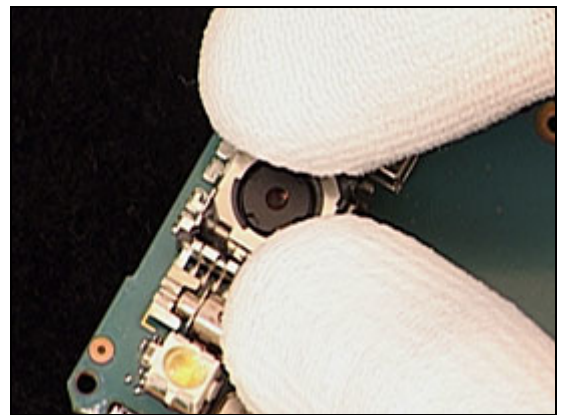
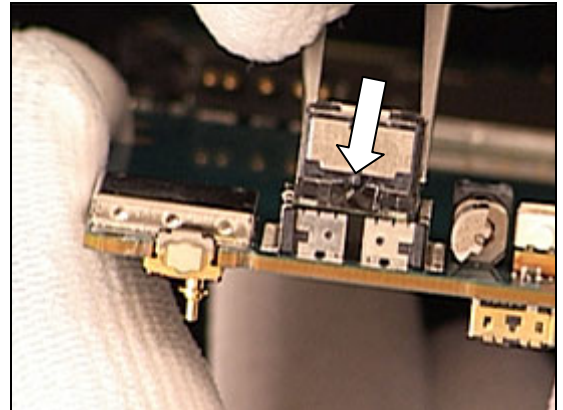
Notice the small slot in the socket and the small slot in the *Camera 3Mpixel*.

Use tweezers to position the *Camera 3Mpixel*

Press gently on the top of the *Camera 3Mpixel* until it snaps into place.

CAUTION! DO NOT TOUCH THE LENS

Follow the 4.1.5 – 4.1.9 Reassembly instructions!



3.11 VGA Camera

REMOVAL

Follow the 2.1.1 – 2.1.5 Disassembly instructions!

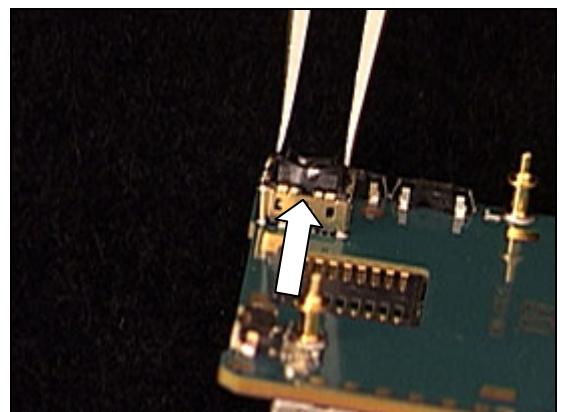
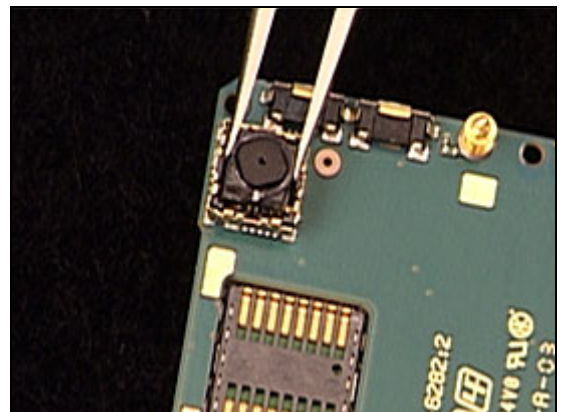
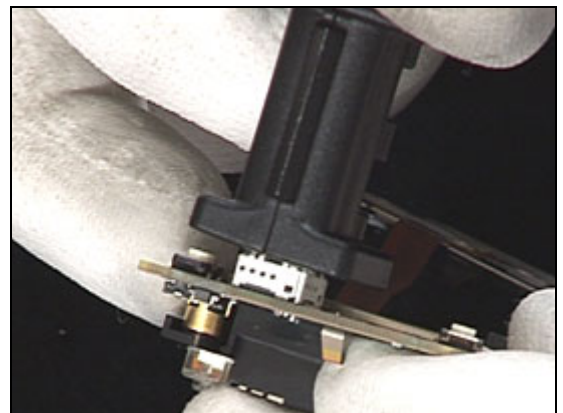
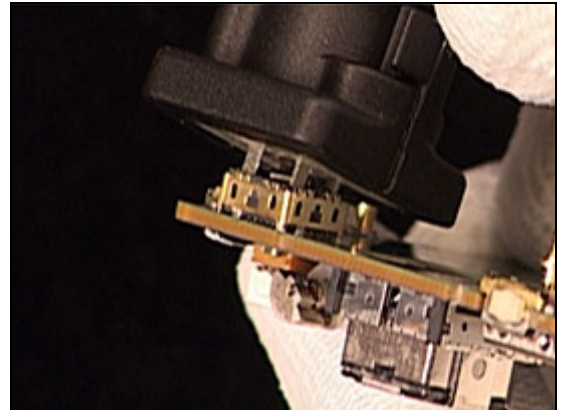
Use VGA camera removal tool to remove VGA Camera.

Push the VGA camera tool to bottom and wiggle the tool side to side before lifting the tool up.

Use tweezers to remove the VGA camera

INSTALLATION

Notice the small slot in the socket and the small slot in the VGA camera.

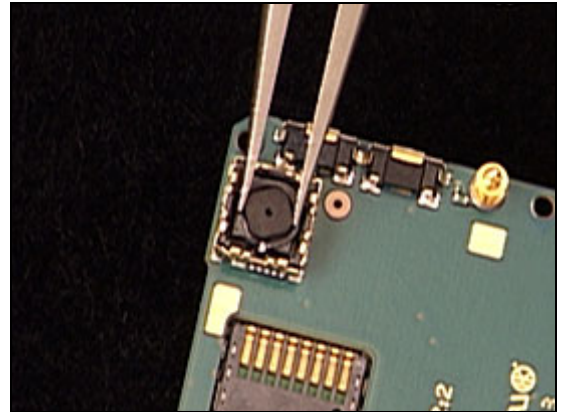


VGA Camera *continued*

Use tweezers to position the VGA camera

Press gently on the top of the *VGA camera* until it snaps into place.

Follow the 4.1.1 – 4.1.5 Reassembly instructions!

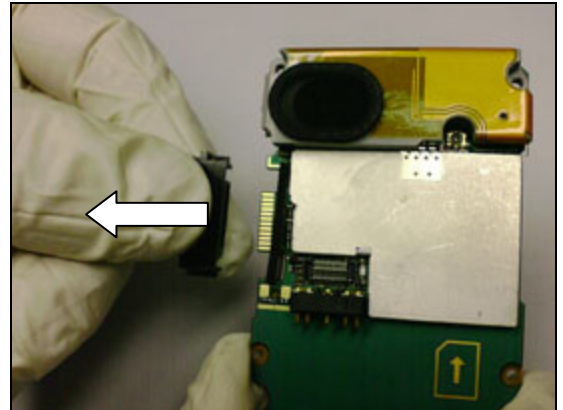


3.12 System Connector & System Connector gasket

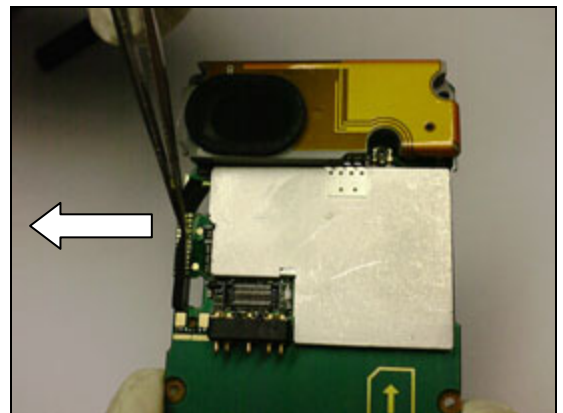
REMOVAL

Follow the 2.1.1 – 2.1.5 Disassembly instructions!

Use your fingers to remove the *System Connector*.



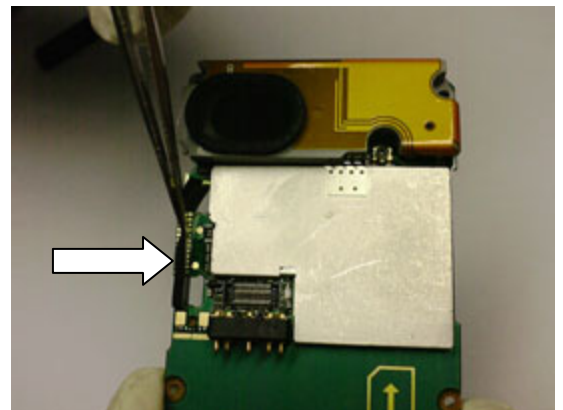
Use the tweezers to remove the *system connector gasket*.



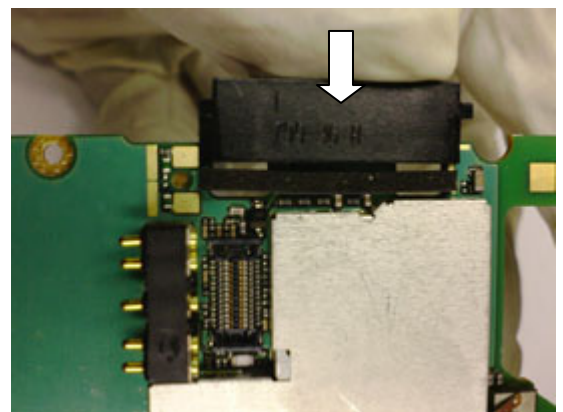
INSTALLATION

NOTE THE ORIENTATION OF THE SYSTEM CONNECTOR!

Use the tweezers to mount the *system connector gasket*.



Use your fingers to mount the *System Connector*.



3.13 Keypad Assembly Navi

REMOVAL

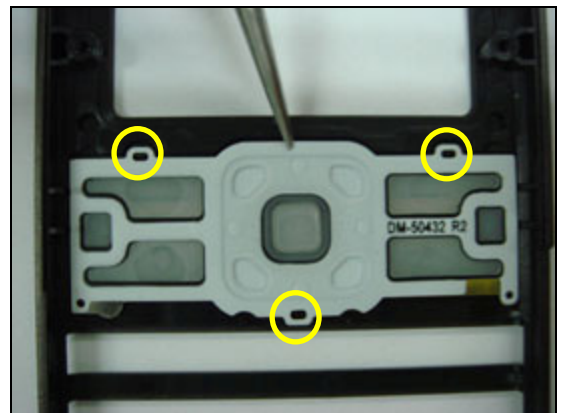
Follow the 2.1.1 – 2.1.3 Disassembly instructions!

Use tweezers to separate *Keypad assembly Navi* from the *front cover*. .



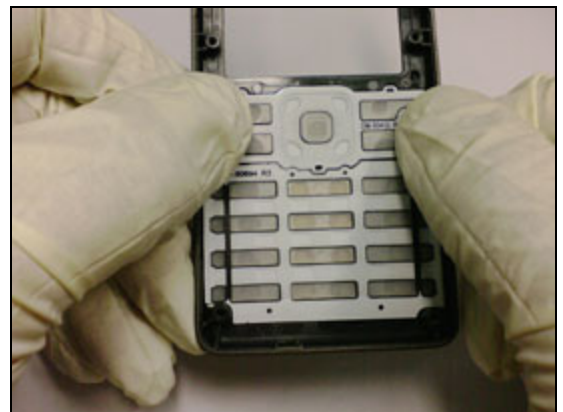
INSTALLATION

Position the *keypad assembly Navi* into the *front cover*.



Carefully press to attach the *keypad assembly Navi* to the *front cover*.

Follow the 4.1.4 – 4.1.5 Reassembly instructions!



3.14 Keypad Assembly Numeric

REMOVAL

Follow the 2.1.1 – 2.1.3 Disassembly instructions!

Use tweezers to separate *Keypad assembly Numeric* from the *front cover*.



INSTALLATION

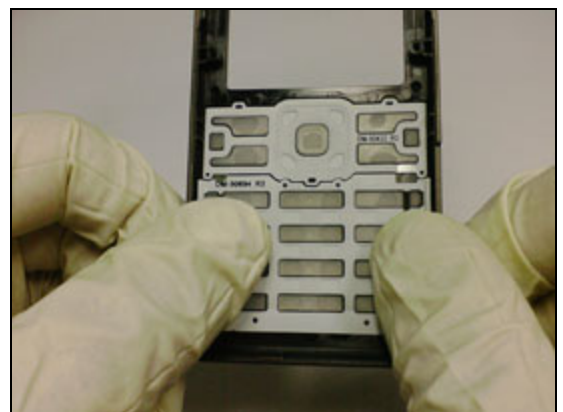
Position the *keypad assembly Numeric* into the *front cover*.



Band the *Keypad assembly Numeric* and insert it to the other side as shown in the picture.



Carefully press to attach the *keypad assembly Numeric* to the *front cover*



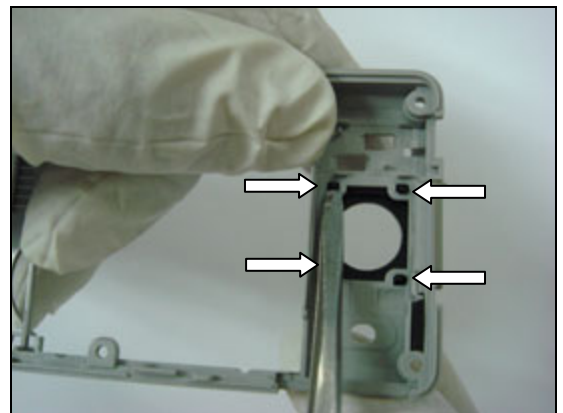
3.15 Camera cap Assembly

REMOVAL

Follow the 2.1.1 – 2.1.4 Disassembly instructions!



Use the blunt pair of tweezers to remove *Camera cap* from the *Frame assembly*.



INSTALLATION

Use your finger and press the *Camera cap*.

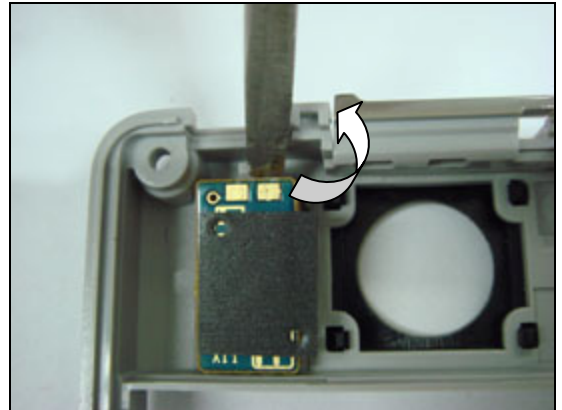


3.16 Camera door PWBA

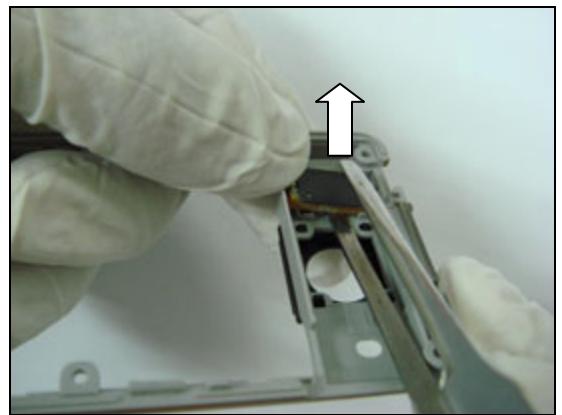
REMOVAL

Follow the 2.1.1 – 2.1.4 Disassembly instructions!

Lift up the *Camera door PWBA* with the tweezers.

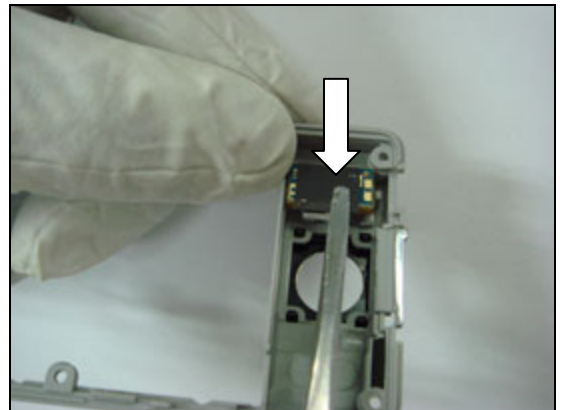


Use tweezers to pull up the *Camera door PWBA*.



INSTALLATION

Place the *Camera door PWBA* on the frame and press it evenly.



3.17 Camera Key Assembly

REMOVAL

Follow the 2.1.1 – 2.1.3 Disassembly instructions!

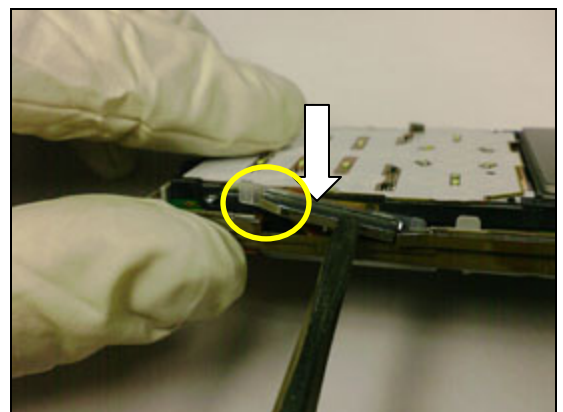
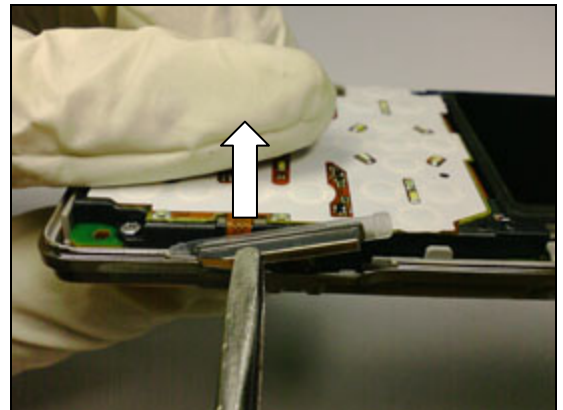
Remove the *camera key assembly*.

The *Camera key assembly*

INSTALLATION

THE FRAME HAS GOT TWO GUIDING PINS!

Attach the *camera key assembly* at both ends.
Note the right direction of the *Camera Key assembly* when assembling.



3.18 On/Off Key Assembly

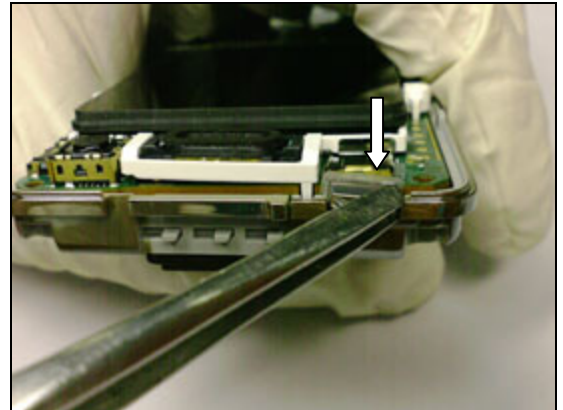
REMOVAL

Follow the 2.1.1 – 2.1.3 Disassembly instructions!

Use the tweezers to remove the *power key assembly*.

INSTALLATION

Use the tweezers to mount the *power key assembly*.



3.19 Volume Key Assembly

REMOVAL

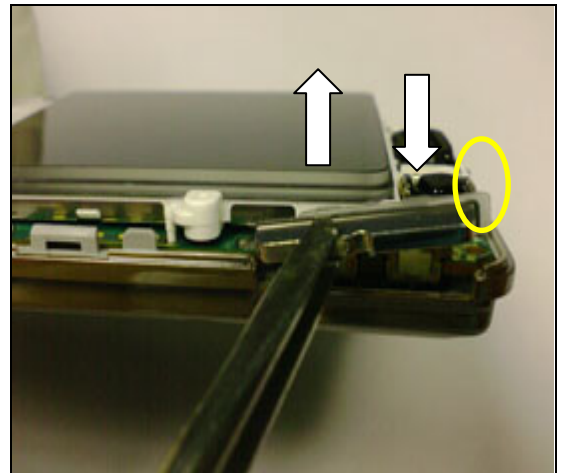
Follow the 2.1.1 – 2.1.3 Disassembly instructions!

Use the tweezers to remove the *Volume key assembly* from the frame.

INSTALLATION

Use the tweezers to mount the *Volume key assembly*.

Note the right direction of the *Camera Key assembly* when assembling.



3.20 KRH Label

REMOVAL

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 hot air, if needed
- Carefully remove the *label* without causing scratches
- If there still are residues, clean the surface with isopropyl alcohol

INSTALLATION

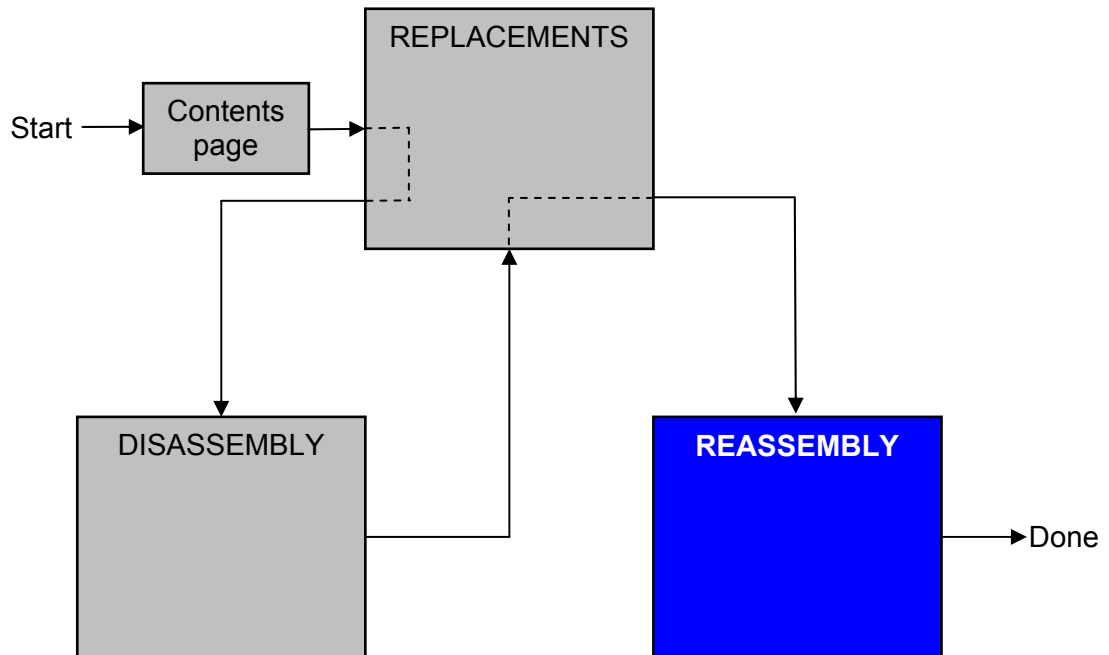
- Check that the proper *label* format is loaded in the Zebra printer
- Write a new *label* by using the program “Label make” and check that the printing is OK
- Take the new *label* and place it onto the frame as in the adjacent picture

ONE LABEL ONLY IS ALLOWED!



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

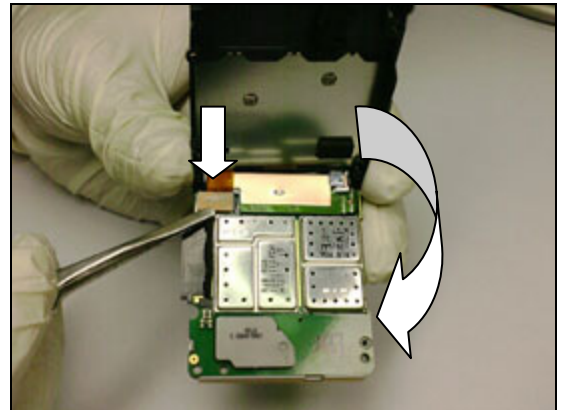
The reassembly is done in the following sequence:

1. Keypad support plate asm
2. Frame asm
3. PBA unit
4. Front Cover asm
5. Battery (a) and Battery Cover (b)

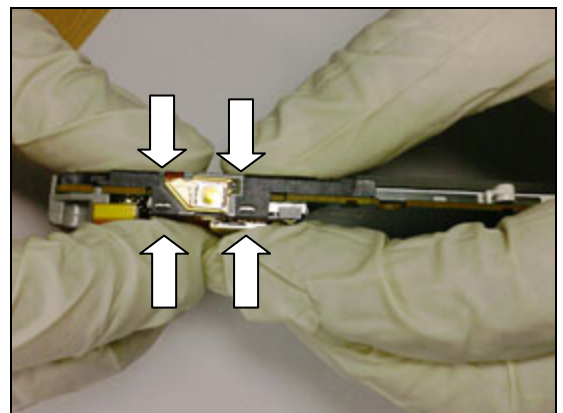


4.1.1 Keypad support plate Assembly

Connect the connector between *Keypad support plate assembly* and *PCBA unit*.

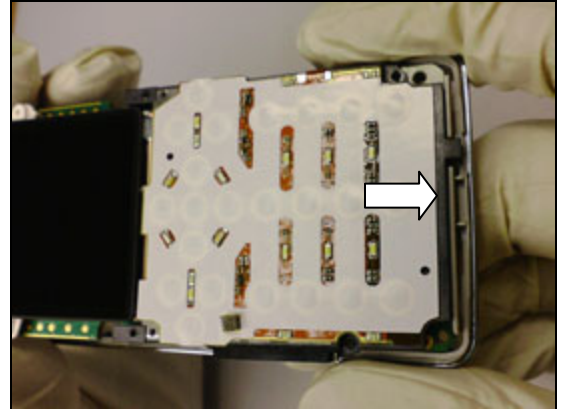


Press the *Keypad support plate* down to make it snap to *M2 SIM assembly*.

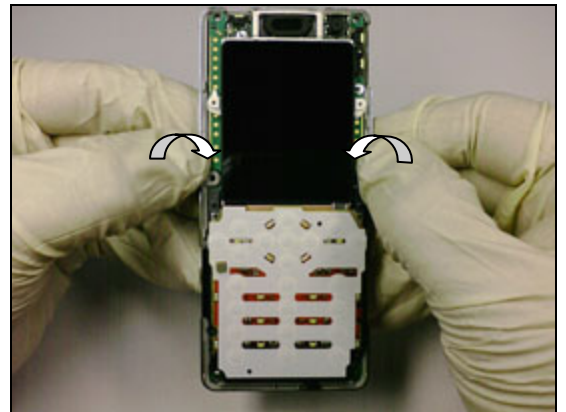


4.1.2 PCBA Unit & Frame Assembly

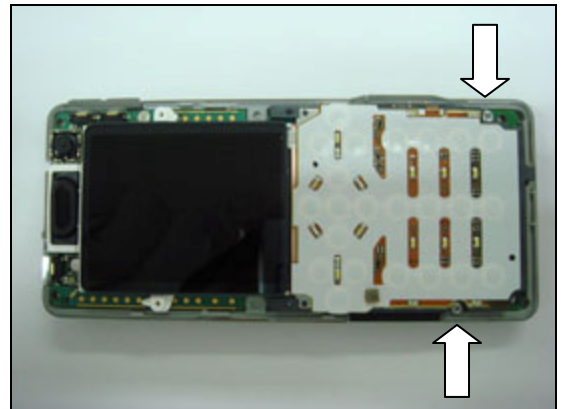
Align the end of *PCBA unit* with the end of *Frame assembly*.



Press the *PCBA unit* to snap to the *Frame assembly*.



Install two silver screws with torque screwdriver at 11 Ncm with a JCIS.



4.1.3 Front Cover Assembly

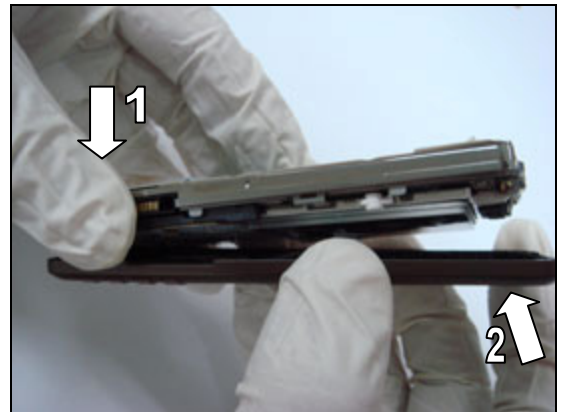
KEY REASSEMBLY

Follow the 3.18 – 3.20 Reassembly instructions!

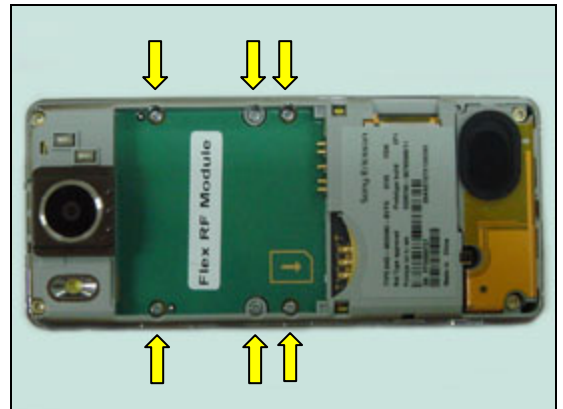
- Camera Key Assembly
- On/Off key Assembly
- Volume Key Assembly



Assemble the *Front cover* and *PCBA unit* using the order shown.



Install four silver screws (marked with a yellow arrow) with torque screwdriver at 11 Ncm with a JCIS.

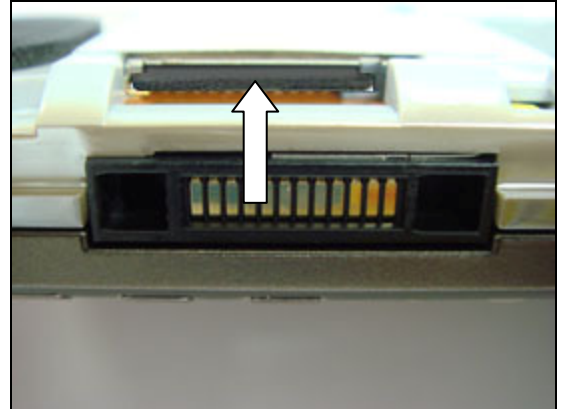


Install four golden screws (marked with a red arrow) with torque screwdriver at 17 Ncm with a T6 bit.



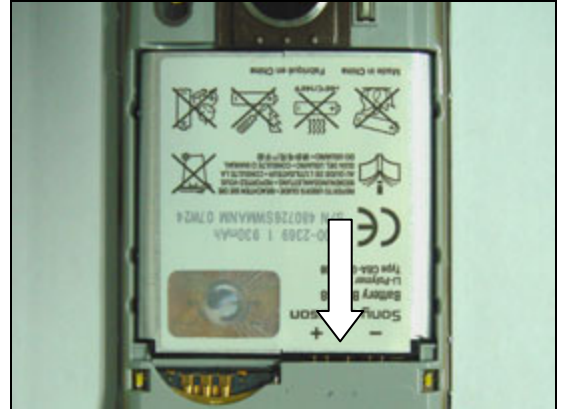
4.1.4 Memory Stick Micro (M2) 128 MB

Assemble (push in until it locks) a new *memory stick micro (M2) 128 MB* with your fingers.



4.1.5 Battery & Battery Cover Assembly

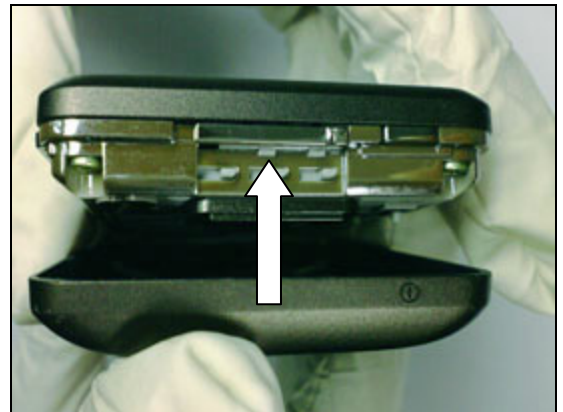
Put the top of the *battery* against the battery connector.
Press the *battery* down at the bottom of the battery compartment.



Align the bottom of the *Battery cover assembly* with the guide line of the *Flame assembly*.



Use your hands to close the *Battery cover assembly*.



Press the *Power key* after assembly completed to check up the operation.



5 Revision history

Rev.	Date	Changes / Comments
A	2007-09-24	Initial release