SERVICE MANUAL
Level 1&2

NOKIA 6131 NOKIA 6133

RM-115

NOKIA 6126/H NOKIA 6133/B/H

RM-126

Transceiver characteristics:

Band: Quad band phone for GSM/EDGE 850/900/1800/1900MHz

Camera: 1.3-megapixel camera with 8x digital zoom
(1280 x 960 pixel resolution)

Display:

-Main: Active TFT QVGA display supports up to 16,777,216 colors
(320 x 240 pixels)

-Outer Display: Active TFT display supports up to 262,144 colors
(128 x 160 pixels)

Bluetooth

Connector: Pop-Port™ connector

Memory Card: microSD

Variant characteristics:

IrDA: Only 6131 and 6133

FM radio: Only 6131, 6133, 6133b and 6133h

HAC (Hearing Aid Compatibility): Only 6126h and 6133h

Transceiver with BL-4c 820mAh Li-Ion battery pack

Talk time	Standby	Note	Charging
up to 3.4h	up to 10days	Depends on net-work parameters	Up to 2 hours 10 minutes

Environmental characteristics:

- Lead-free soldered

TABLE OF CONTENTS

CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	5.Apr.2006	Initial draft
Approved	1.0	6.Apr.2006	Approval

1. INTRODUCTION

The purpose of this document is to help NOKIA service levels 1 and 2 workshop technicians to carry out service to NOKIA products. This Service Manual is to be used only by authorized NOKIA service suppliers, and the content of it is confidential. Please note that NOKIA provides also other guidance documents (e.g. Service Bulletins) for service suppliers, follow these regularly and comply with the given instructions.

While every endeavor has been made to ensure the accuracy of this document, some errors may exist.
If you find any errors or if you have further suggestions, please notify NOKIA using the address below:
mailto:cc-ts-rc.documentation@nokia.com

Please keep in mind also that this documentation is continuously being updated and modified, so watch always out for the newest version.

Warnings and Cautions

Please refer to the phone's user guide for instructions relating to operation, care and maintenance including important safety information. Note also the following:

Warnings:

1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI–SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. THE HANDPORTABLE TELEPHONE MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES, EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

Cautions:

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti–static workstation and that an anti–static wrist strap is worn.
3. Use only approved components as specified in the parts list.
4. Ensure all components, modules screws and insulators are correctly re–fitted after servicing and alignment.
5. Ensure all cables and wires are repositioned correctly.

Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Supplier has to take care of all precautions, which are mentioned in the service level related "Service Partner Requirements", available on NOKIA Online. Also see ESD Protection Requirements in this Service Manual.

2. GENERAL REPAIR INFORMATION

In this section the technician will get some general hints how to carry out repairs:

- To familiarize oneself with NOKIA product read the tutorials or user guide on www.nokia.com -->Support--> Phones, by selecting the Phone Model.
- Before starting the repair you must take care of ESD precautions like being in your ESD Protected Area and connecting your wristband.
- Use gloves to avoid corrosion and fingerprints.
- Protect windows and displays with a film to avoid dust and scratches.
- When cleaning the LCD Module any lint-free cloth can be used (e.g. Micro-Fibre cloth).
- When cleaning the pads you have to use a soft cloth/ESD brush and Isopropanol. It is not allowed to use a glass fiber pencil because it scratches the surface and will lead later on to corrosion.
- Mechanical parts (except shielding lids and bent parts), which didn't repair the failure, can be reused, if they are not soldered.
- When removing the shielding lids make sure to replace them with new ones, otherwise the high-frequency leakage can have an influence on the device.
- Always use original NOKIA spare parts.
- Check the soldering joints of the parts, which are concerned regarding the indicated error (e.g. soldered connectors or switches) and resolder them if necessary (Level 2 only).
- Remove redundant soldering flux after repair.
- Meet the torque requirements when assembling the unit (see also the document "torques for transceiver assembly" on NOKIA Partner Web Site/NOKIA Online).
- Always use your own equipment for testing where you are sure that it works. E.g. if the customer complains about charger function, please test the phone with your own charger to be sure if phone or charger causes the malfunction.
- A SIM card is needed for all GoNoGo tests.
- When doing the fault log entries, always note the Item code, which caused the malfunction. Also, fill in the appropriate part code from the assembly, if needed.
- Please be aware that some malfunctions could be software related and solved by an update.

- There are several documents available on NOL, which have to be followed:
-
- First, take care for the latest content pages of Service Bulletins, which are always available for each folder on NOKIA Online. This is also important to recognize, if existing documents have become invalid.
-
- The service level indicator at the bottom of each document tells the appropriate destination.

Downloads > Support Library >

1. Instructions
2. General Service Bulletins
3. Product related documents
4. Spare Part Service Bulletins
5. Service Tools Service Bulletins
6. Common Software Service Bulletins
   etc,...

Use General SB-217 as a reference or overview.

Please also check NOKIA Online (NOL) for latest news and files on a regular basis.

3. PATHFINDER FOR WORKSHOP STAFF

This is the NOL page (NOKIA Online) which is currently available in Europa, Middle East and Africa only!

In addition to the information in this Service Manual, there are several instructions and information, which have to be followed. Main documentation database is NOKIA Online with the purpose of serving different multimedia content, like video clips or interactive tutorials.

It is mandatory to watch for newest technical and organizational information on a daily basis to be updated as required (see "**Latest files in Support Library**"). Every new information has to be processed and implemented as soon as possible.
When logged into NOL you can also find needed information in different folder like:

Support Library → **Phones** →
Service Manuals
Service Bulletins
Software
Repair Information

Level 1&2 e-learning (former NOKIA CarePoint) on NOKIA Online

Former NOKIA CarePoint content, such as	• **Online Troubleshooting** • **Product information** • **Videos – Disassembly/Assembly**	can be found on **NOKIA Online**

NOKIA Online
↓
Care Services
↓
Training
↓
Phone Models

Level 1&2 e-learning courses offer a quick overview of the NOKIA phone and support for how to repair and use the phone:

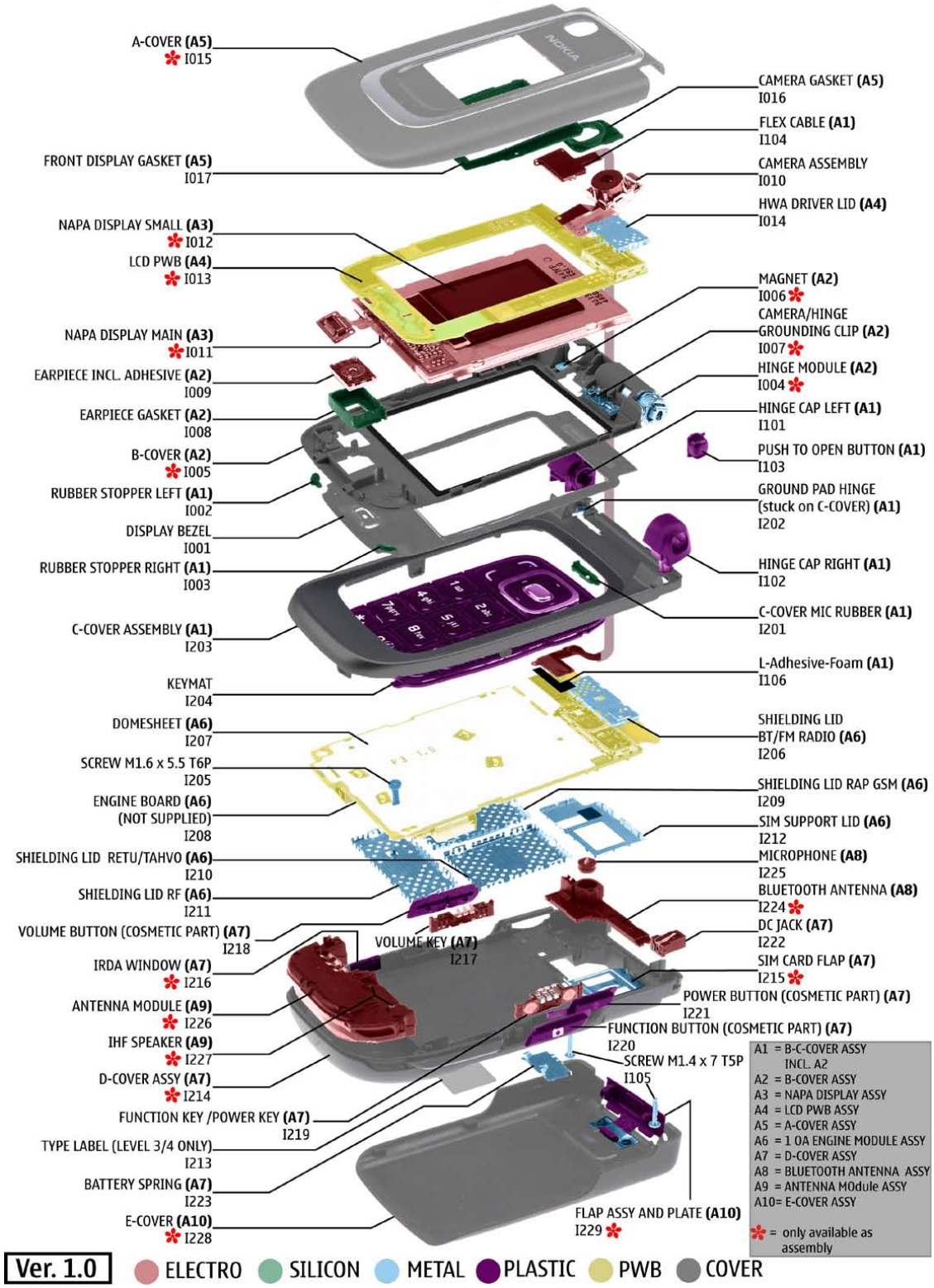
Overview & Guides	Disassembly & Assembly	Troubleshooting
Basic information about the phone, features and technologies	Instructions how to disassemble and assemble the phone	Step-by-step instructions on how to locate and repair the most common problems with the phone

To reduce the server traffic it is recommended to download newest version of huge files like videos, Phoenix packages or Service Manuals only once and distribute it internally for further use.

4. EXPLODED VIEW AND COMPONENT DISPOSAL

Recommendation for the ecologically friendly disposal of components. Colorized components show the different categories. See corresponding ITEM/CIRCUIT REF in the Spare Parts Service Bulletins on NOL.

6131 RM-115 Exploded view

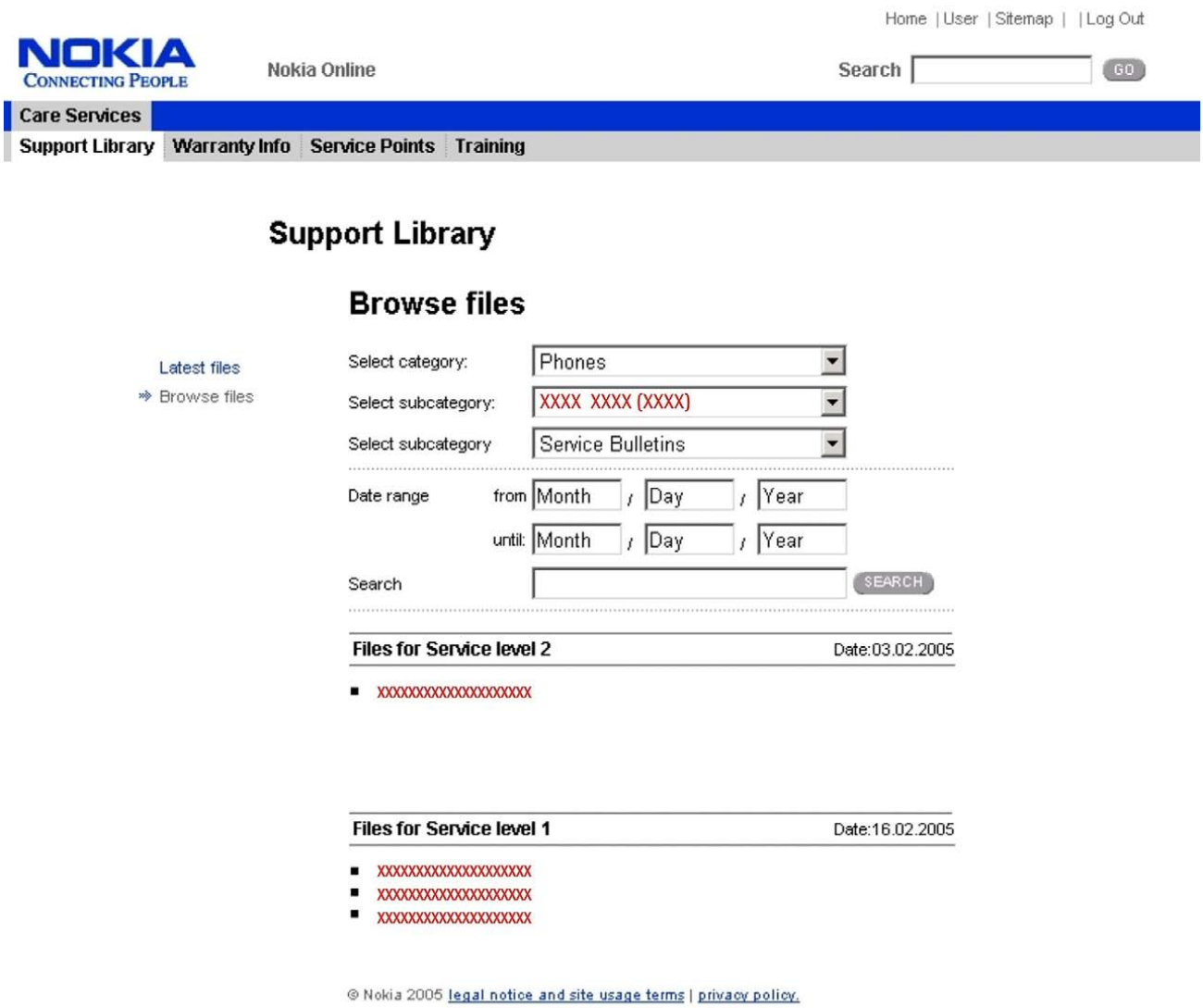


5. SPARE PARTS LIST

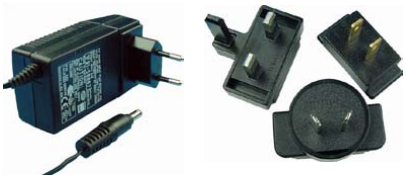
Please exchange this page (placeholder) with latest corresponding Service Bulletins (spare parts, SWAP units and service tools) from NOL!

This will ensure, that you are using up-to-date order codes only.

Therefore Service Bulletins have to be checked from NOL on daily basis.



6. SERVICE TOOLS

	**FLS-4S incl. ACF-8, Driver and User Guide** Dongle and flash device incorporated into one package, developed specifically for POS use.
	**ACF-8** Universal Power Supply is used to power FLS-4S.
	**Travel Charger AC-4** Small and lightweight charger for fast charging of your phone battery.
	**Internal Battery BL-4c** Inserted under the back cover, this Li-Ion battery provides power in a lightweight package.
	**Headset HS-23** Small and lightweight stereo headset with handsfree call handling, volume control, push to talk support, and comfortable earpieces for listening to the FM radio or music player.
	**RJ-92** Soldering Jig
	**CA-53** Service Cable to connect the PC with the Pop-Port™ connector.

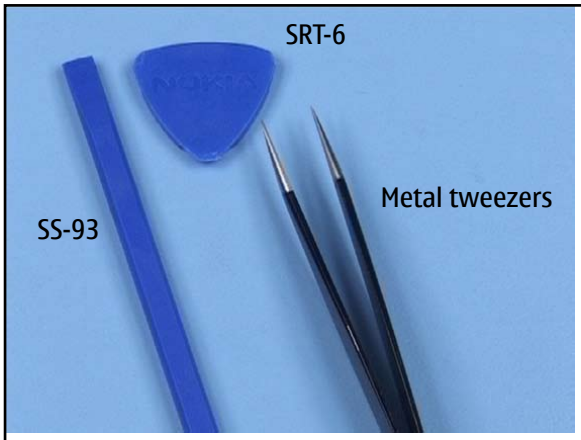
	**Lead-free Solder Wire** Mandatory for lead-free products (Level 2 only).
	**0772040 NMP Standard Toolkit** • NOKIA opening tool SRT-6 NOKIA No. 0770431 • Tonichi torque driver NOKIA No. 6901525 • Hoya micro Fibre cloth MX304 • Dastex gloves S, M, XL • Artilux goggles AH166 • Wera bit T5 867/4TX 5x50 • Wera 867/4 6IP; 50mm (Torx 6 PLUS®) • Wera bit T6 867/4TX 6x50 • Wera 867/1 5IP; 25mm (Torx 5 PLUS®) • Wera bit T6 PLUS® 867/4TX 6IP • Facom side cutter 416E • Facom T5 driver SP.14032 • Facom T6 driver SP.14033 • Facom slot screwdriver AEF. 2x35.E • Wetec tweezers 7abb SA-ESD • Wetec tweezers 22 SA-ESD • Wetec tweezers 13 SA-SMD ESD • Wetec tweezers PSF SA-ESD • Wetec ESD brush E1211 • Kaiser Fototechnik airbrush 6315 • Wetec dental tool DEM83266/0 • RS Components Scissors 323-5732

7. SW-UPDATE

Flash Concept – (Point of Sales)

To use FLS-4S Flash Dongle you have to follow the user guide inside the sales package. Please check always for the latest version of flash software, which is available on
NOKIA Online.

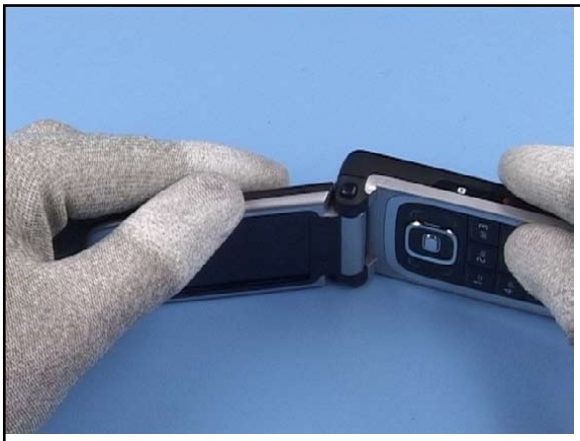
8. UPPER BLOCK DISASSEMBLY



1. Needed tools.

2. Always protect all windows with protective film against dust and scratches.

3. Remove the battery, SIM, µSD card if still inside.



4. Open the phone and place it on the table sideways.

5. Carefully lift up the lower side of the DISPLAY BEZEL, first with the dental tool.

6. Now continue with the SRT-6 and remove the DISPLAY BEZEL. Starting from the shown position up to the earpiece section.

7. Remove both RUBBER STOPPERS with tweezers.

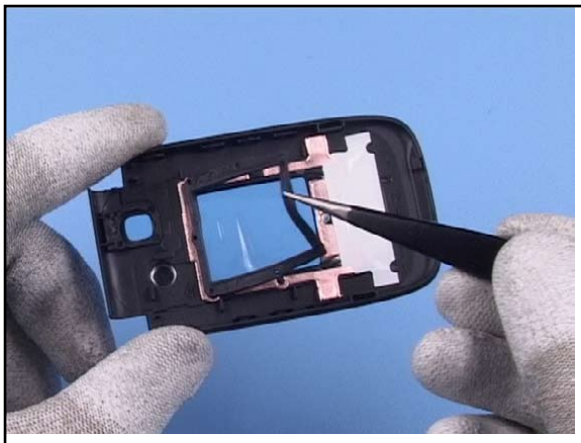
8. Protect the inner side of the lower block.

9. Gently unlock the A-COVER from the backside.

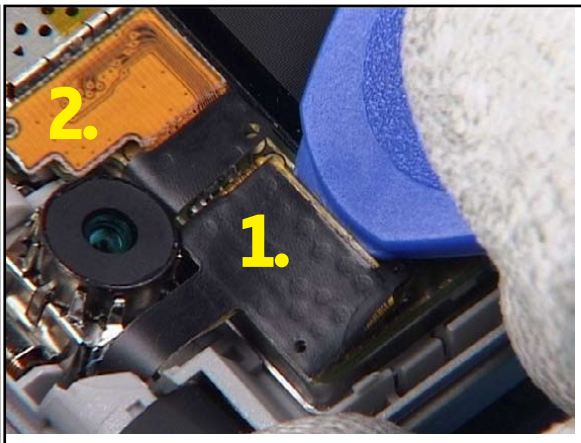
10. Now, shift along the SRT-6 to release the underneath snaps.

11. Do the same procedure at the long sides of the A-COVER.

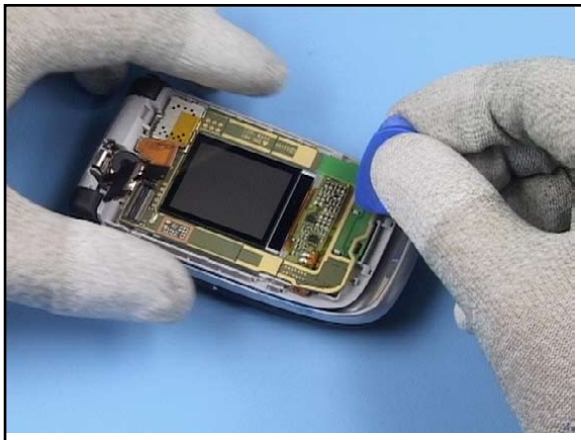
12. Now, remove the A-COVER by sliding it around 4mm to the shown direction and then lift it up.



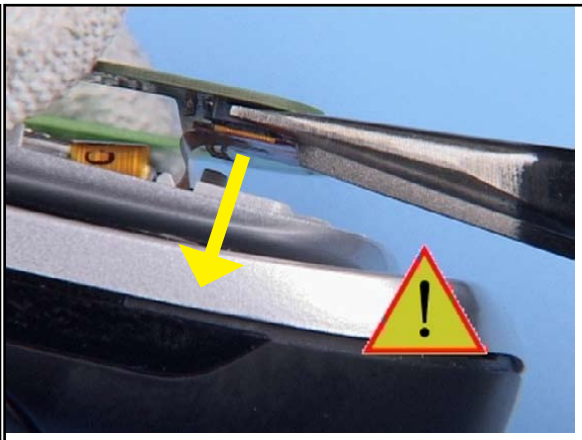
13. Take out the FRONT DISPLAY GASKET.



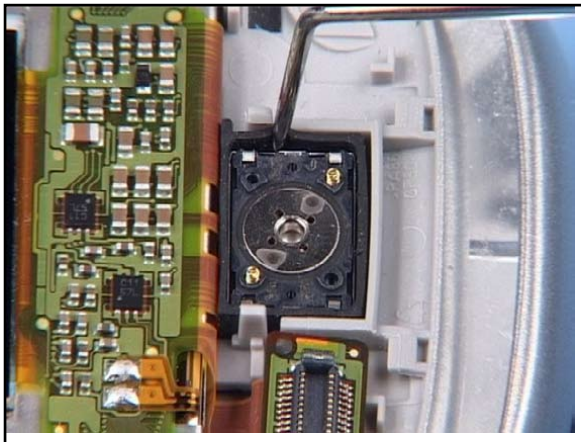
14. Carefully open the two flex connectors with the SRT-6.



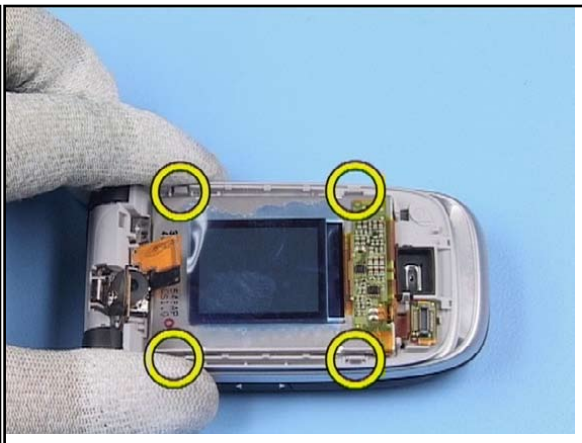
15. Release the two hooks which hold the LCD PWB into place.



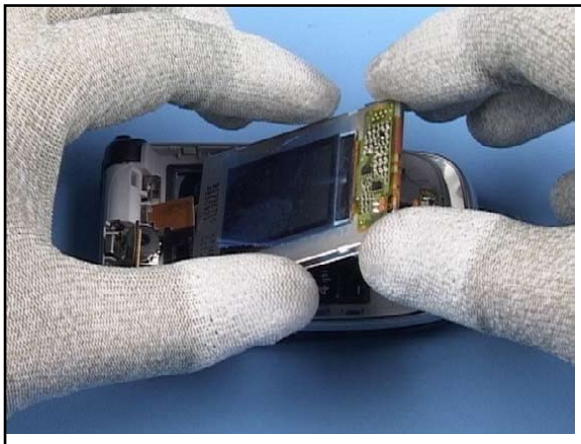
16. Lift the board only a bit and open the flex connector carefully in the shown direction.



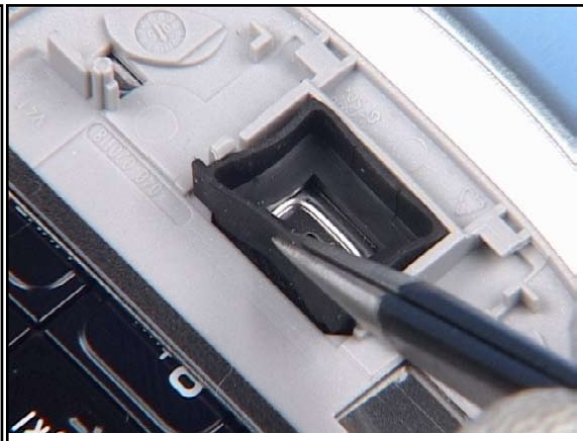
17. Ease out and remove the EARPIECE. Do not touch the spring contacts.



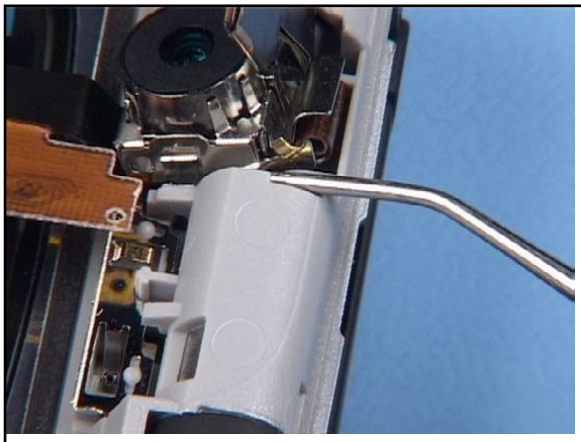
18. Unlock the four clips with hold the NAPA DISPLAY MAIN.



19. Now, remove the NAPA DISPLAY MAIN.



20. Remove the EARPIECE GASKET with tweezers.

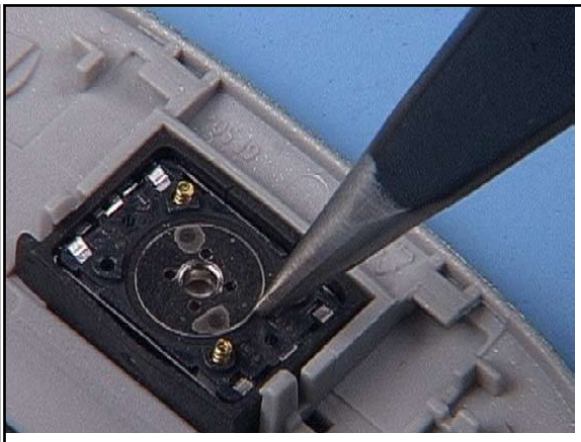


21. Stick with the dental tool between the CAMERA and the B-COVER to unlock the CAMERA ASSEMBLY.

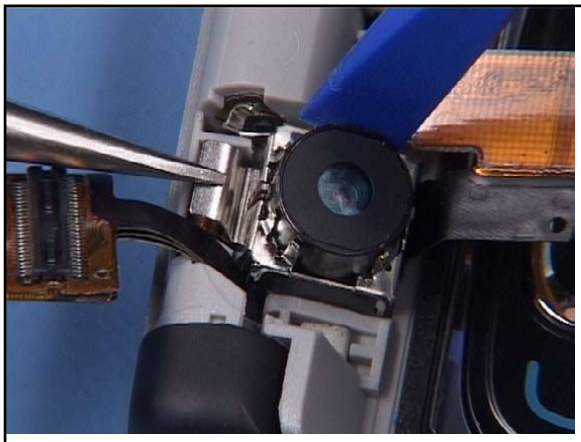
22. The disassembly procedure is now complete.

9. UPPER BLOCK ASSEMBLY

1. Insert the EARPIECE GASKET properly.

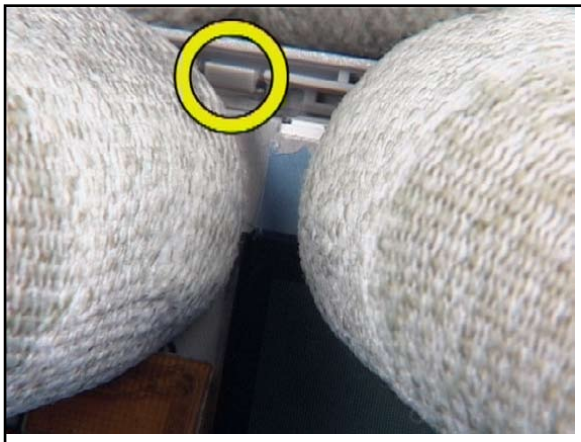


2. Ensure that the dust net is glued on the Earpiece, then place the EARPIECE evenly into the Gasket.

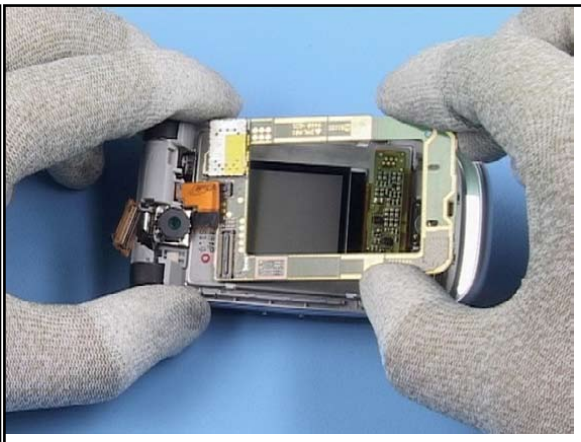


3. Position the Camera Assembly into the guides of the B-COVER. Take care not to damage the board to board or camera flex foil.

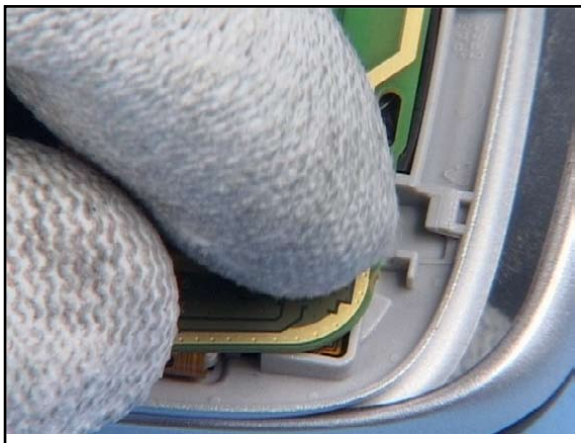
4. Put the NAPA DISPLAY Main into the B-COVER guides.



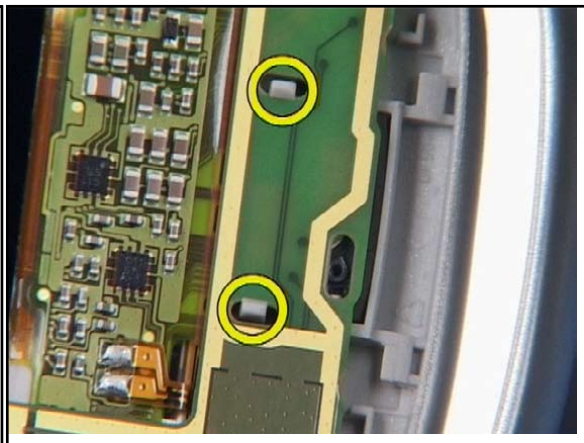
5. Be sure to lock all the four clips of the DISPLAY. Ensure that display connector is placed properly in the correct position of the B-COVER.



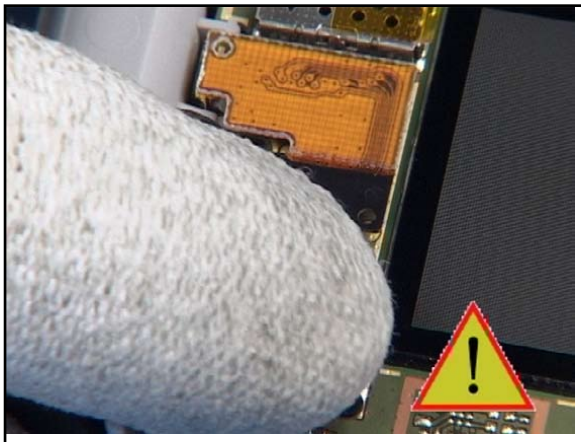
6. Place the PCD PWB and pay attention to the flex connectors.



7. Properly lock the LCD connector.



8. Check that the snaps are closed.



9. Carefully close the two flex connectors without touching the CAMERA.

10. Put the Front DISPLAY GASKET to the A-COVER. Pay attention that all guiding pins fit to the gasket. Check also proper position of the CAMERA GASKET.

11. Put the A-COVER to the right guides first.

12. Then press down and lock the other underneath snaps.

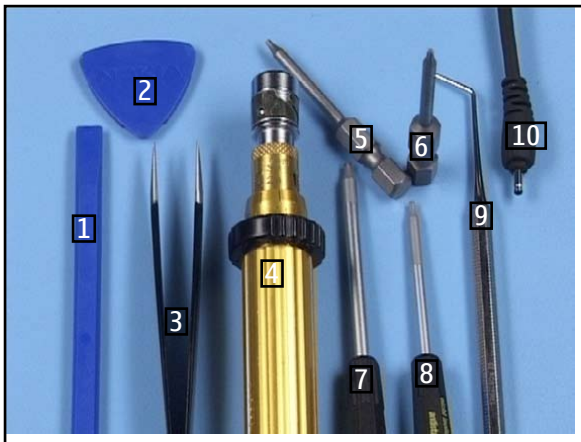
13. Check that no gaps exist.

14. Place the two RUBBER STOPPERS.

15. Exactly position the DISPLAY BEZEL. Start on the top (earpiece section) by sliding in the bezels' hooks to the B-COVER, press gently all over the bezel to ensure that whole part adhere properly.

16. The assembly procedure is now finished.

10. LOWER BLOCK DISASSEMBLY

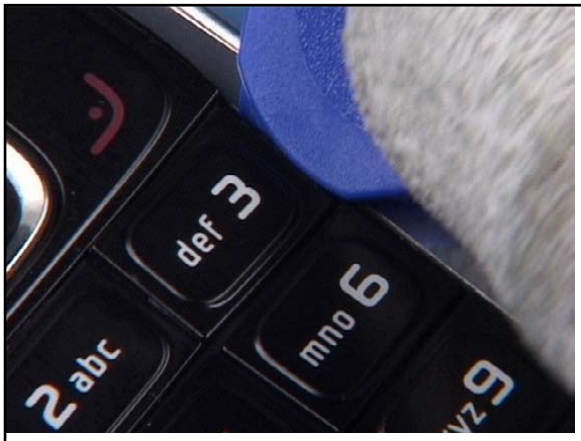


1. Needed tools: 1. SS-93, 2. SRT-6, Metal tweezers, 4. Torque driver, 5. Torx plus size 5 bit, 6. Torx plus size 6 bit, 7. Torx plus driver size 6, 8. Torx plus driver size 5, 9. Dental pick and 10. DC-Plug.

2. Note that all windows are covered with protection film.

3. Unlock and remove the E-COVER.

4. Check that there is no SIM or SD card still inserted before continuing.



5. Carefully pry open the KEYMAT with SRT-6 at key 3.

6. Undo both screws in the order shown and discard them.

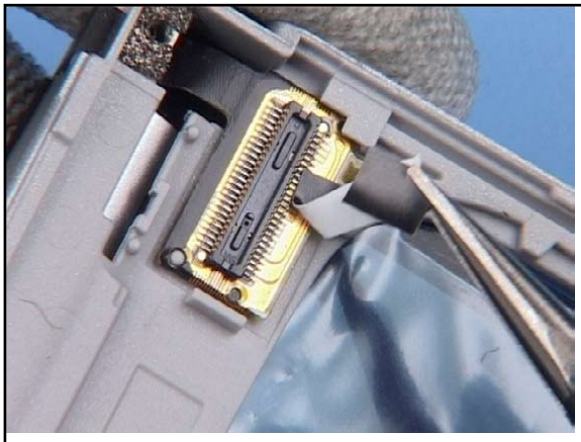
7. These screws are covered with locking compound and can't be reused again.

8. Hold the assembly as shown. Locate the 2 holes in the D-COVER.

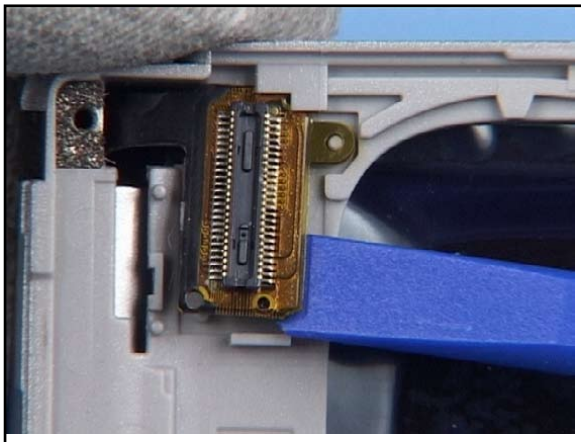
9. Use the dental pick to unlock the clips at both sides.

10. Separate the covers.

11. Remove the MIC-RUBBER with tweezers.

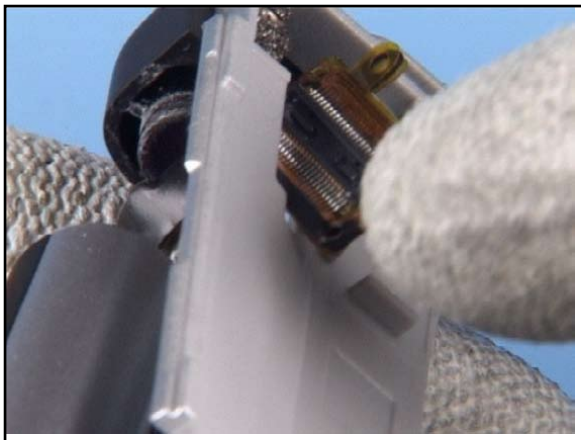


12. Peel up the L-ADHESIVE FOAM.



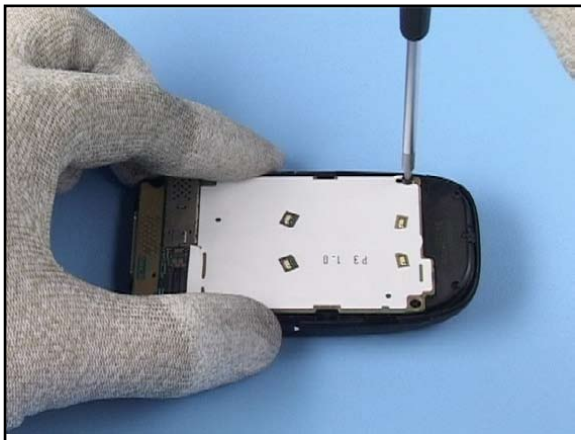
13. Release the FLEX FOIL connector with the SS-93.

14. Loosen the C-COVER from the HINGE, also using the SS-93.

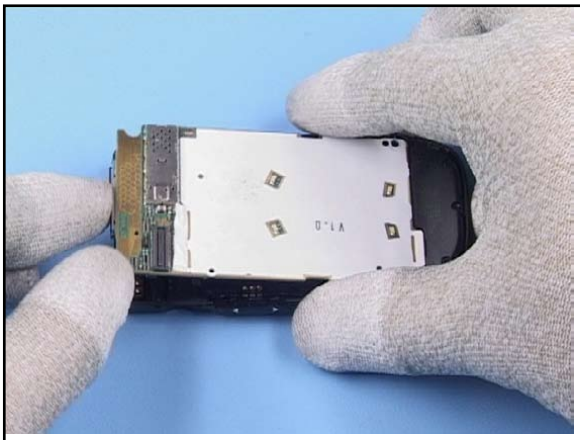


15. Carefully separate the C-COVER from the Upper Block and carefully slot the flex connector through the C-COVER. Always use a new C-COVER.

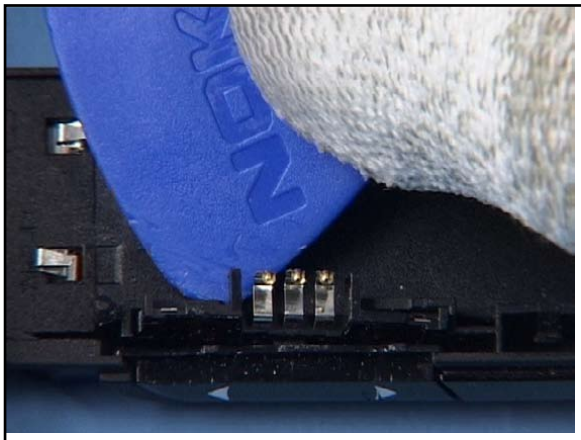
16. Remove the HINGE CAP RIGHT and then the Push to Open Button.



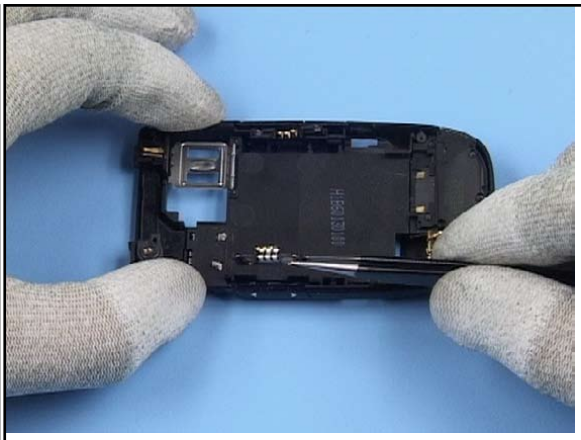
17. Undo the Torx Plus size 6 screw.



18. Lift out the PWB.

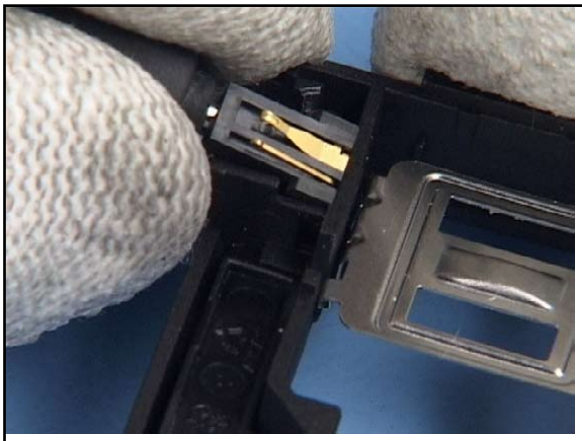


19. Loosen the VOLUME KEY and on the opposite side the FUNCTION/POWER KEY with SRT-6. Take care not to bend the springs.



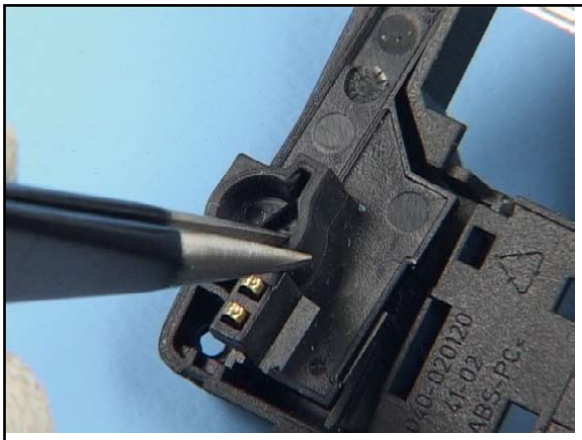
20. Remove the VOLUME KEY and on the opposite side the FUNCTION/POWER KEY with tweezers. Take care not to bend the springs.

21. Release all buttons with the SRT-6 as shown.



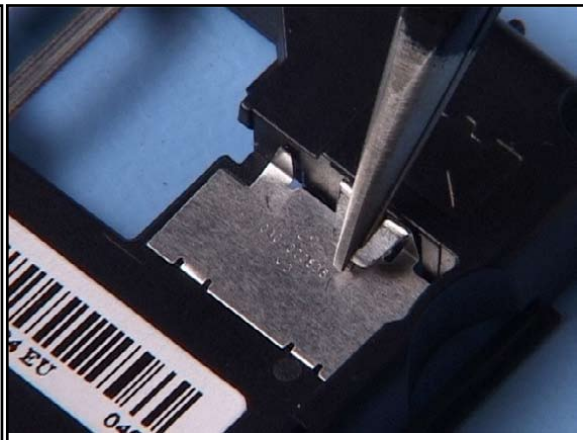
22. Remove the DC JACK with the DC Plug.

23. Ease out the MICROPHONE and remove it with tweezers. Do not touch the springs.



24. Remove the BLUETOOTH ANTENNA with tweezers.

25. The ANTENNA ASSY can be released with the SRT-6 easily.

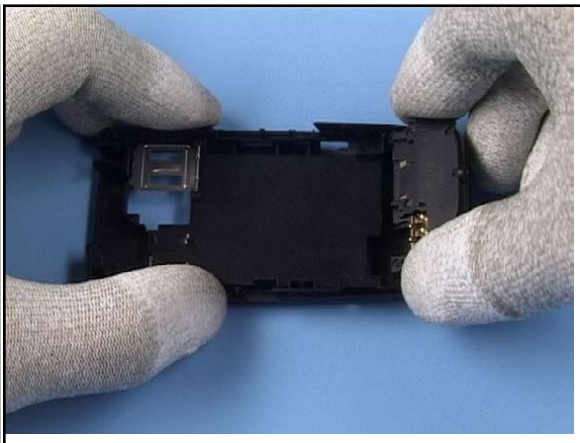


26. Use the tweezers to unlock the BATTERY SPRING.

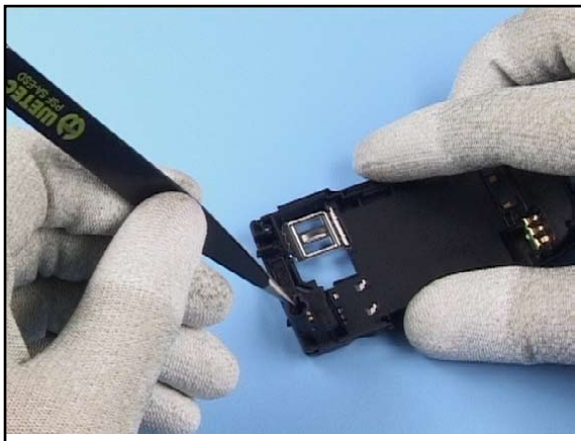
27. The disassembly procedure is now complete.

11. LOWER BLOCK ASSEMBLY

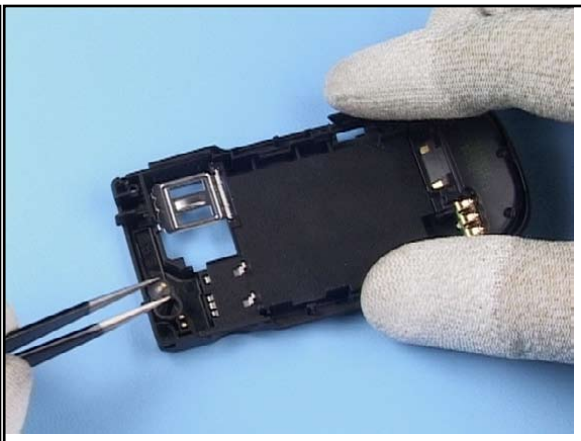
1. Insert the BATTERY SPRING and click it into its place.



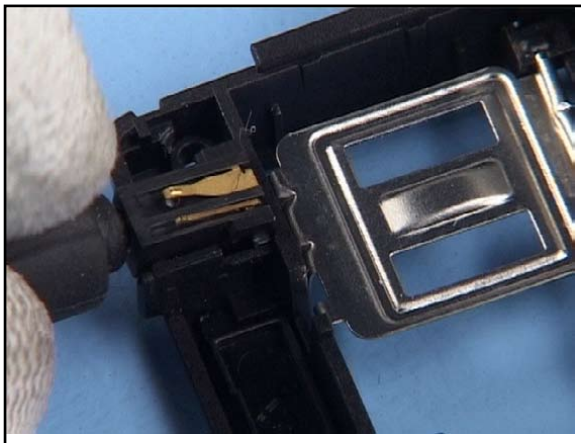
2. Insert the ANTENNA MODULE into its compartment.



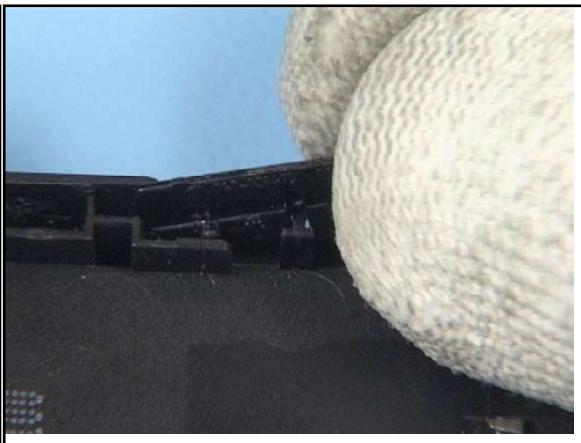
3. Place the BLUETOOTH ANTENNA.



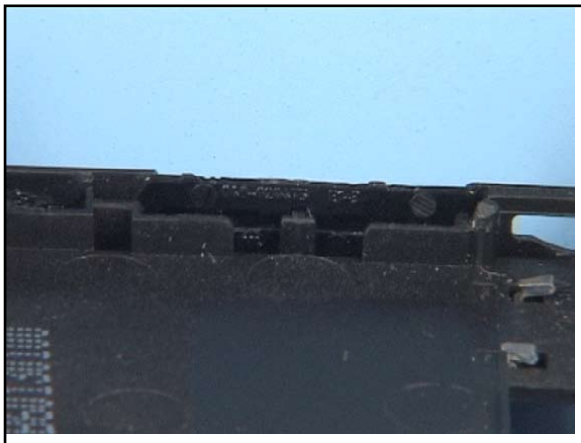
4. Carefully insert the MICROPHONE into its compartment.



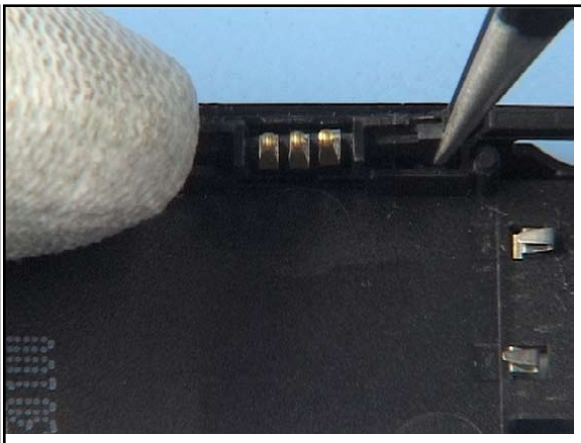
5. Use the DC Plug to reassemble the DC JACK.



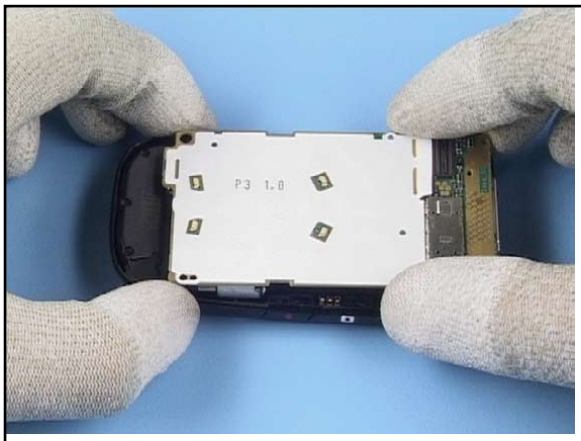
6. Insert the Buttons and lock them with your fingers.



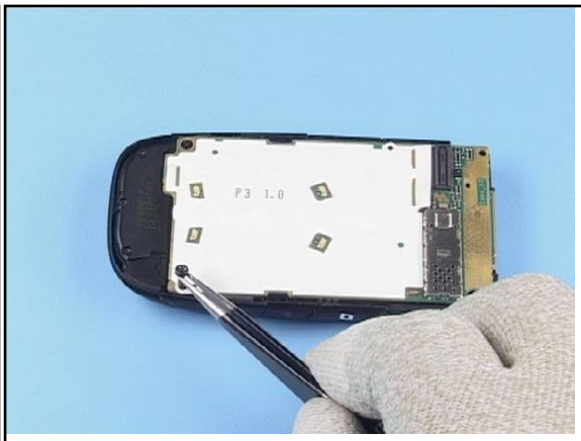
7. Check the correct positioning of the keys before continuing.



8. Now insert the VOLUME KEY and on the opposite side the FUNCTION/POWER KEY. Take special care not to bend the spring contacts.

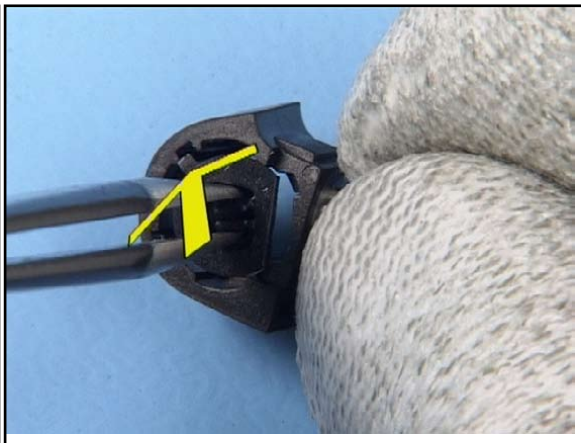


9. Place the ENGINE BOARD into the D-COVER.



10. Insert the board screw with tweezers.

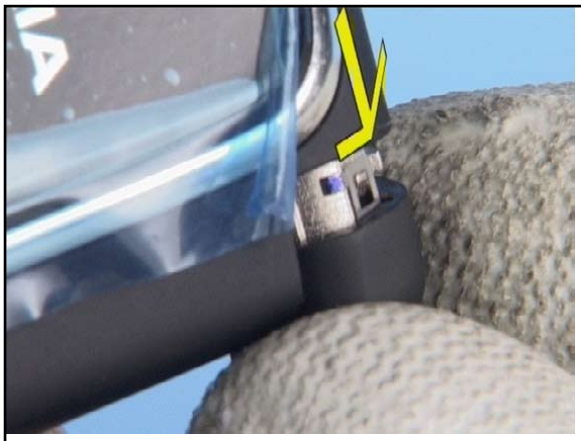
11. Set the correct torque and tighten in.



12. Place the Push to Open Button into the HINGE CAP RIGHT.

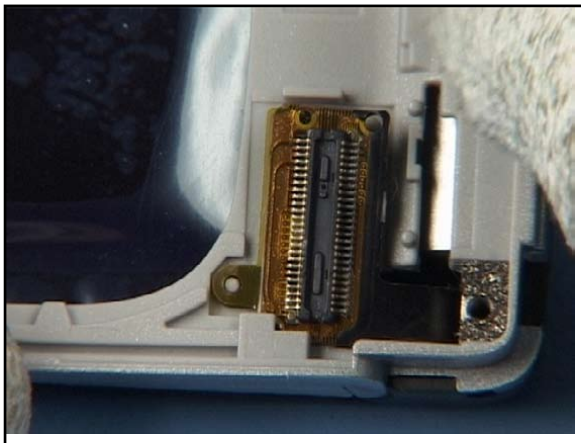
13. Slot the flex connector through the D-COVER with caution.

14. Be sure not to squash the FLEX FOIL when assembling the HINGE.

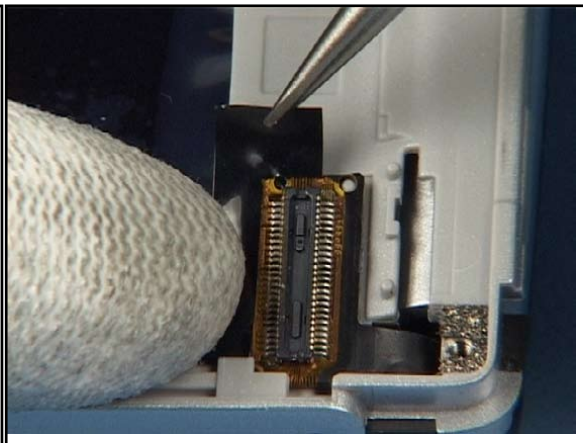


15. Only one position is possible for the HINGE CAP RIGHT assembly.

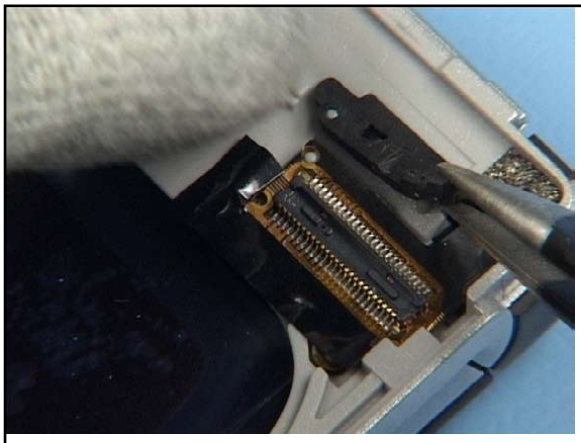
16. Squeeze together the HINGE CAP RIGHT and the new C-COVER. Ensure both hinges are pressed into C-COVER correctly.



17. Position the flex connector onto its guide pins.

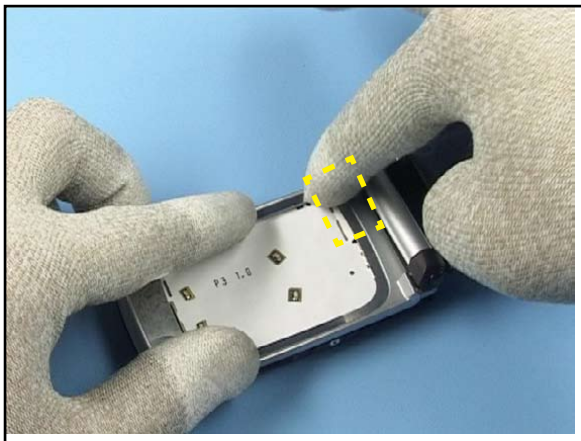


18. Attach the connector with the L-ADHESIVE FOAM. Ensure that the L-ADHESIVE FOAM is placed correctly, not covering the contact area and leaving enough space for closing the connector properly.

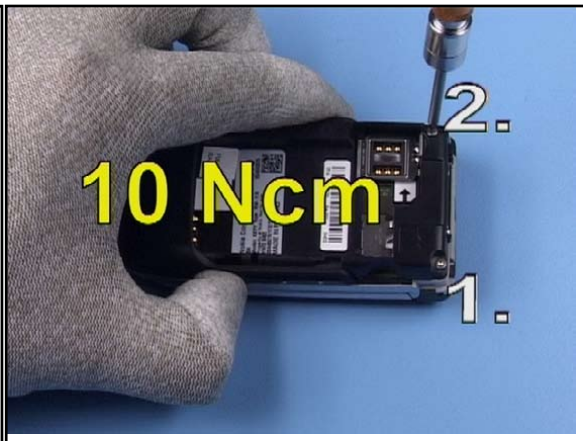


19. Place the MIC RUBBER.

20. Open B-C.COVER by pressing the release button, then mount the C-COVER with the Upper Block onto the D-COVER.



21. Press onto the shown area to lock the connector properly. A “click” noise can be heard when pressing on the C-COVER.



22. Close the unit, turn it upside-down and fasten the two screws in the order shown. Check C-D cover for gaps (especially in the antenna area), to ensure that it is properly closed.

23. Mount the E-COVER and close the Flap.

24. Finally, assemble the KEYMAT, starting from the lower side.

25. Make sure that it fits correctly.

26. Check all windows for cleanliness.

12. GONOGO TEST

To test the Camera, Bluetooth and IRDA functionality refer to the 6125 User`s guide.

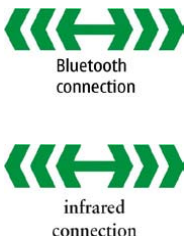
The User´s Guide is available on www.nokia.com.

Before starting the GoNoGo test, check that camera window is clean. If not, clean the window with cloth.

Bluetooth test
You need another Bluetooth device (e.g. 6230) to do a GoNoGo test.
Make sure that Bluetooth is activated in the reference unit. The distance of the devices should be not more than 5m from each other.

Infrared test
You need another infrared device (e.g. 6230) to do a GoNoGo test. The infrared windows of the devices must be directed to each other and should have a distance of approximate 15 cm. Make sure that infrared is activated in receiver device.

Warning: Do not point the IR (infrared) beam at anyone's eye or allow it to interfere with other IR devices. This device is a Class 1 Laser product.



Reference unit, Bluetooth /infrared activated

Test unit

13. BATTERY TEST

A battery tester lets you test the capacity of NOKIA batteries.

Please refer to the actual information on NOKIA Online.

http://www.astratec.co.uk/

http://www.cadex.com/