

SERVICE MANUAL
Level 1&2

NOKIA
X6

RM-551 / RM-559



Transceiver characteristics

Band:

RM-559:
WCDMA HSDPA 850/1900/2100
EGSM 850/900/1800/1900
RM-551:
WCDMA HSDPA 900/1900/2100
EGSM 850/900/1800/1900

Display:

Capacitive 3.2" TFT, up to 16 million colours
nHD 16:9 widescreen aspect ratio touch screen,
640 x 360 pixel resolution

Camera:

5.0MPix CMOS, Dual LED Flash, Autofocus

Operating System:

Symbian OS ver. 9.4 Series60 5th Edition (5.0)

Connections:

WLAN 802.11b/g, A-GPS, Bluetooth wireless
technology 2.0 + EDR, 3.5 mm AV connector, USB 2.0
(micro USB)

Transceiver with BL-5J battery pack

Talk time	Standby
GSM: Up to 8 hours	GSM: Up to 449 hours
WCDMA: Up to 6 min	WCDMA: Up to 425 hours

Note:

Talk times are dependant on network parameters and
phone settings

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1. CHANGE HISTORY

Status	Version No.	Date	Comments
Approved	1.0	12.10.2009	First approved version

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:

Nokia Care Academy

<mailto:Service.Manuals@nokia.com>

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

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The availability of particular products may vary by region.

IMPORTANT

This document is intended for use by qualified service personnel only.

3. 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:

3.1 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.

3.2 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

4. ESD PROTECTION



Nokia requires that service points have sufficient ESD protection (against static electricity) when servicing the phone.

Any product of which the covers are removed must be handled with ESD protection. The SIM card can be replaced without ESD protection if the product is otherwise ready for use.

To replace the covers ESD protection must be applied.

All electronic parts of the product are susceptible to ESD. Resistors, too, can be damaged by static electricity discharge.

All ESD sensitive parts must be packed in metallized protective bags during shipping and handling outside any ESD Protected Area (EPA).

Every repair action involving opening the product or handling the product components must be done under ESD protection.

ESD protected spare part packages **MUST NOT** be opened/closed out of an ESD Protected Area.

For more information and local requirements about ESD protection and ESD Protected Area, contact your local Nokia After Market Services representative.

5. CARE AND MAINTENANCE

This product is of superior design and craftsmanship and should be treated with care. The suggestions below will help you to fulfil any warranty obligations and to enjoy this product for many years.

- Keep the phone and all its parts and accessories out of the reach of small children.
- Keep the phone dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.
- Do not use or store the phone in dusty, dirty areas. Its moving parts can be damaged.
- Do not store the phone in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the phone in cold areas. When it warms up (to its normal temperature), moisture can form inside, which may damage electronic circuit boards.
- Do not drop, knock or shake the phone. Rough handling can break internal circuit boards.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the phone.
- Do not paint the phone. Paint can clog the moving parts and prevent proper operation.
- Use only the supplied or an approved replacement antenna. Unauthorised antennas, modifications or attachments could damage the phone and may violate regulations governing radio devices.

All of the above suggestions apply equally to the product, battery, charger or any accessory.

6. BATTERY INFORMATION

Note: A new battery's full performance is achieved only after two or three complete charge and discharge cycles! The battery can be charged and discharged hundreds of times but it will eventually wear out.

When the operating time (talk-time and standby time) is noticeably shorter than normal, it is time to buy a new battery. Use only batteries approved by the phone manufacturer and recharge the battery only with the chargers approved by the manufacturer.

Unplug the charger when not in use. Do not leave the battery connected to a charger for longer than a week, since overcharging may shorten its lifetime.

If left unused a fully charged battery will discharge itself over time. Temperature extremes can affect the ability of your battery to charge.

For good operation times with Ni-Cd/NiMH batteries, discharge the battery from time to time by leaving the product switched on until it turns itself off (or by using the battery discharge facility of any approved accessory available for the product).

Do not attempt to discharge the battery by any other means. Use the battery only for its intended purpose.

Never use any charger or battery which is damaged.

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes direct connection of the + and - terminals of the battery (metal strips on the battery) for example when you carry a spare battery in your pocket or purse. Shortcircuiting the terminals may damage the battery or the connecting object.

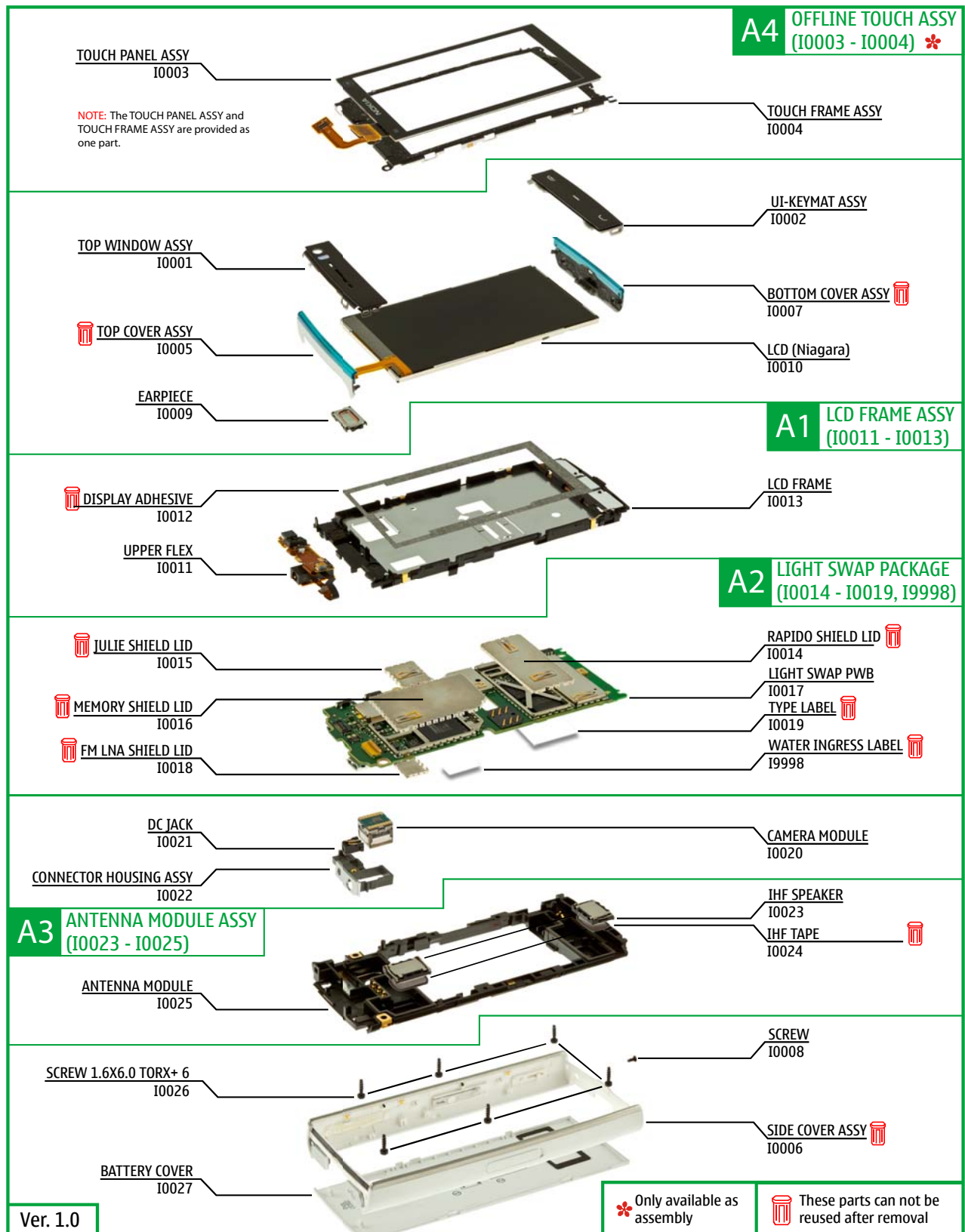
Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F).

A phone with a hot or cold battery may temporarily not work, even when the battery is fully charged. Batteries' performance is particularly limited in temperatures well below freezing.

Do not dispose batteries in a fire! Dispose of batteries according to local regulations (e.g. recycling).

Do not dispose as household waste.

7. EXPLODED VIEW



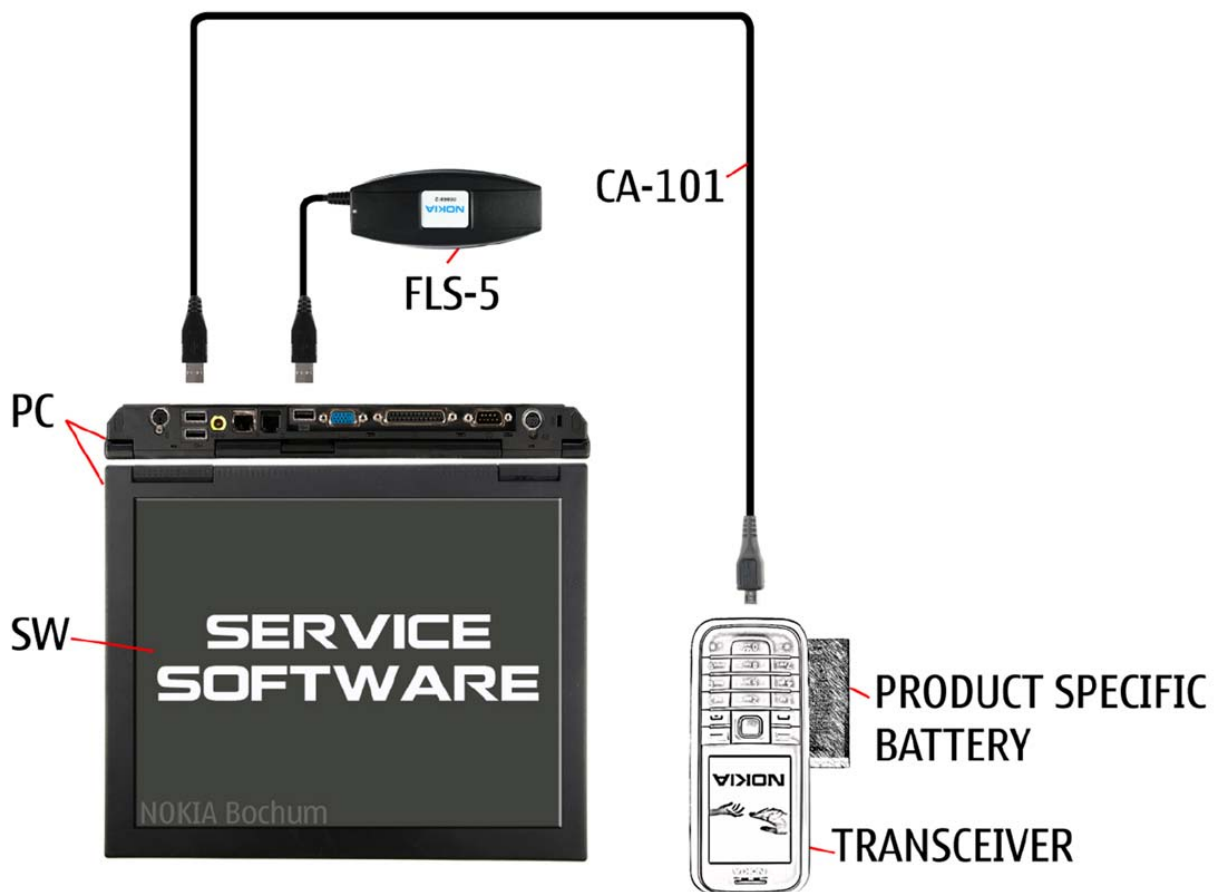
8. SERVICE DEVICES

 <p>FLS-5</p> <p>FLS-5 Flash Device</p>	 <p>CA-101 100cm</p> <p>CA-101 Service Cable</p>	 <p>SS-210 Camera Removal tool</p>
 <p>AC-8 Travel Charger</p>	 <p>BL-5J Battery</p>	 <p>NMP standard toolkit (v2) For more information, refer to the Service Bulletin (SB-011) on NOKIA Online. Supplier or manufacturer contacts for tool re-order can be found in "Recommended service equipment" document on NOKIA Online.</p>

9. SW-UPDATE

Flash concept- (Point of Sales)

To use the FLS-5 Flash Dongle, follow the user guide inside the sales package.
Please check always for the latest version of flash software, which is available on Nokia Online.



10. DISASSEMBLY INSTRUCTIONS



1) Nokia X6 disassembly.



2) You must use the Nokia Standard Toolkit version 2. You will also need the SS-210 camera removal tool.



3) Use the opening notch, to release the battery cover. Remove the battery cover.



4) Start to detach the BOTTOM COVER ASSY with the SRT-6. Insert the SRT-6 between the SIDE COVER ASSY and the BOTTOM COVER ASSY and slide it along the edge.



4) Detach also the opposite side of the cover and remove it. The BOTTOM COVER ASSY cannot be used again.



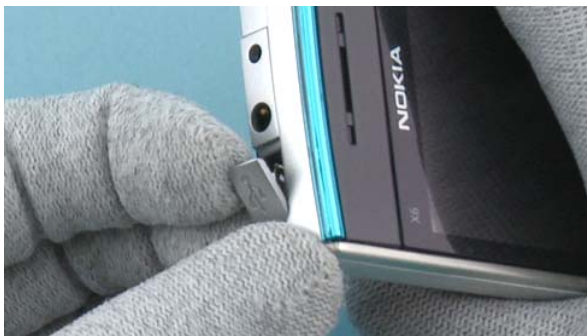
6) Unscrew the phillips size 0 screw. Note that this screw can be reused. Do not discard it!



7) Use the SRT-6 to release the clips and the adhesive holding the TOP COVER ASSY.



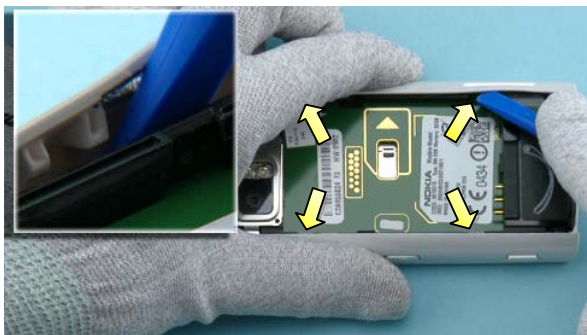
8) Remove the top cover. Do not use it again.



9) Before releasing the SIDE COVER ASSY, open the USB door.



10) Release the clips on the bottom side of the device with the SS-93.



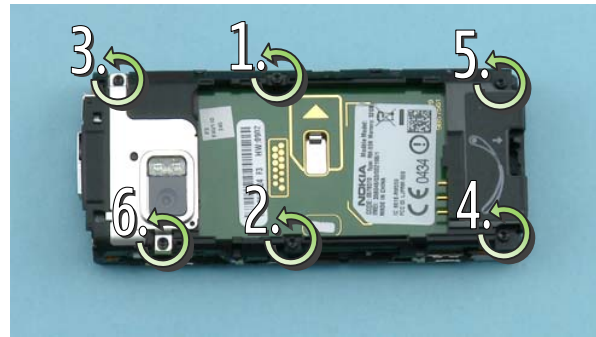
11) Then release the four side clips with the SS-93.



12) Release the SIDE COVER ASSY on bottom side as shown.

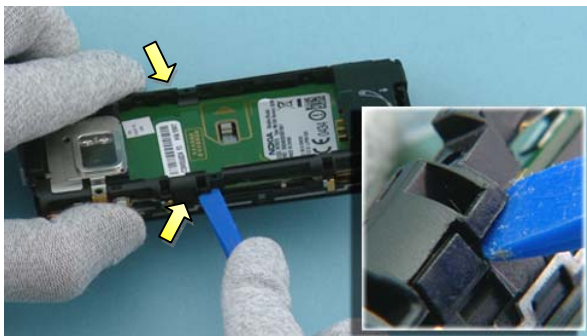


13) Remove the SIDE COVER ASSY. Discard it.

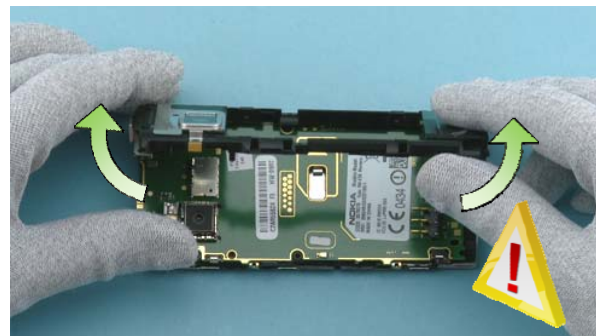


14) Unscrew the six TORX+ size 6 screws in the order shown.

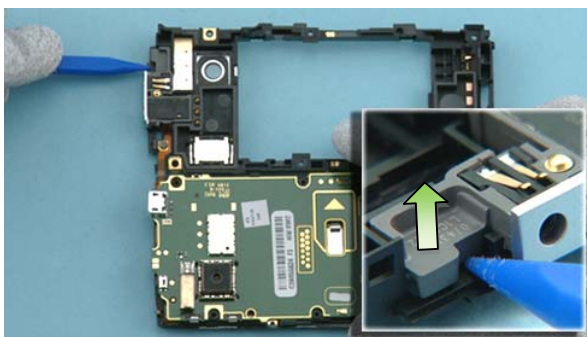
Note that these screws can be reused. Do not discard them!



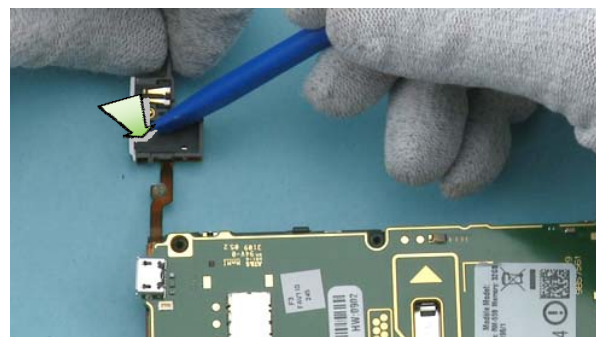
15) Release the snaps of the ANTENNA MODULE ASSY, with the SS-93.



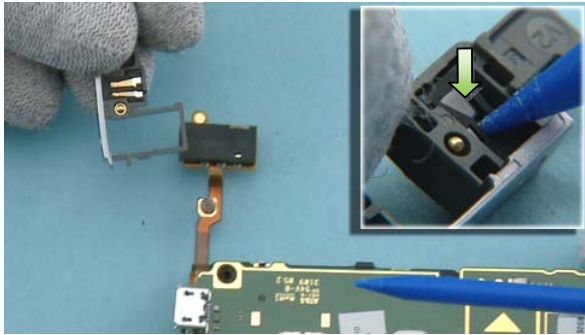
16) Turn over the ANTENNA MODULE ASSY as shown in the picture. Be careful not to break the flex.



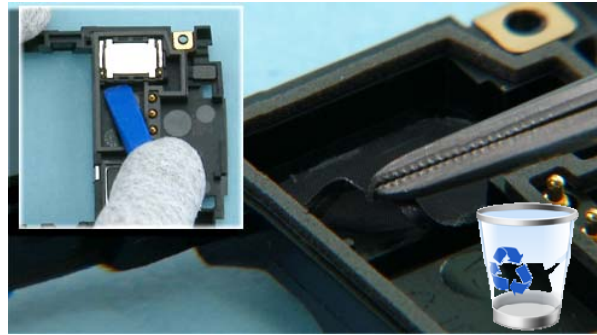
17) Release the CONNECTOR HOUSING ASSY with the SS-93.



18) Push the AV CONNECTOR through the CONNECTOR HOUSING ASSY with the SS-93.



19) Release the DC JACK using the same procedure.



20) Lift up the IHF SPEAKER with the SS-93. Then remove the IHF TAPE with the tweezers. Do not use the adhesive again.



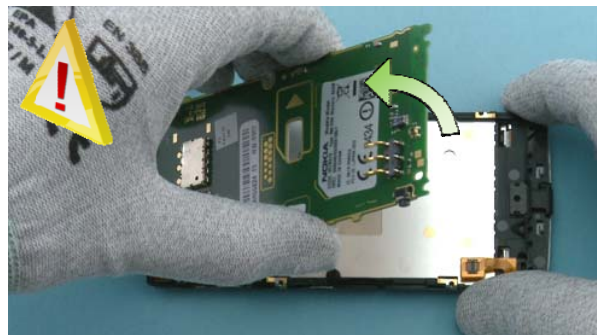
21) Release the second IHF SPEAKER with the SS-93.



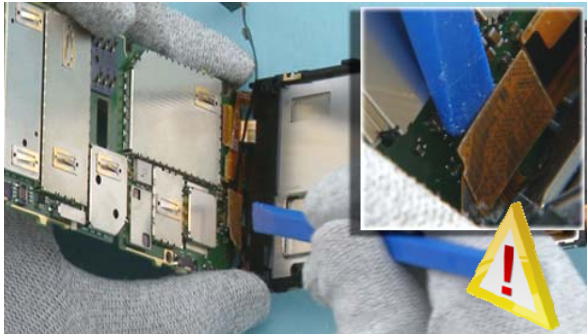
22) Remove the IHF TAPE with the tweezers. Do not use it again.



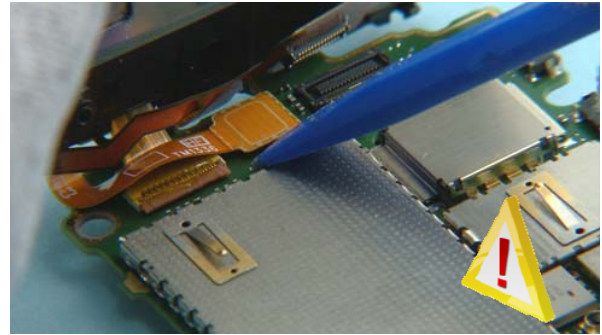
23) Disconnect the UI FLEX with the SS-93. Be careful not to damage the connector or nearby components!



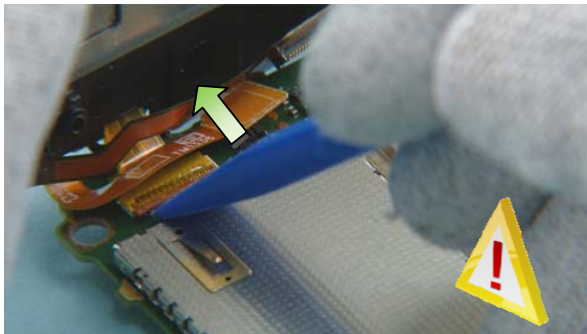
24) Lift up the engine board as shown. Be careful not to damage connectors.



25) Open the UPPER FLEX connector with the SS-93. Be careful not to damage the connector or the components nearby!



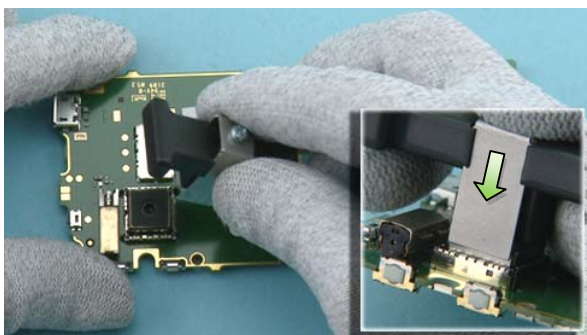
26) Open the TOUCH PANEL ASSY connector with the SS-93. Be careful not to damage the connector or the components nearby!



27) Unlock the locking mechanism of the LCD CONNECTOR. Then carefully pull the LCD CONNECTOR to the direction shown.



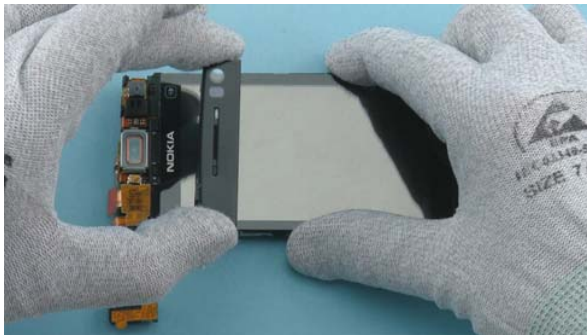
28) The engine board can now be separated.



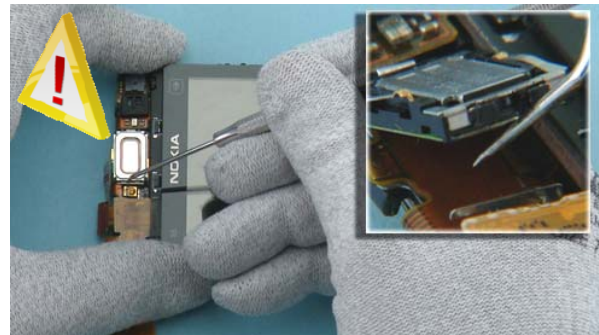
29) Use the camera removal tool SS-210, to detach the CAMERA. Press the SS-210 down until the camera retaining clips are released. Lift up the SS-210 and remove the camera.



30) Release the clip holding the TOP WINDOW ASSY with the dental tool. Be aware of the sharp point of the dental tool - be careful not to injure yourself.



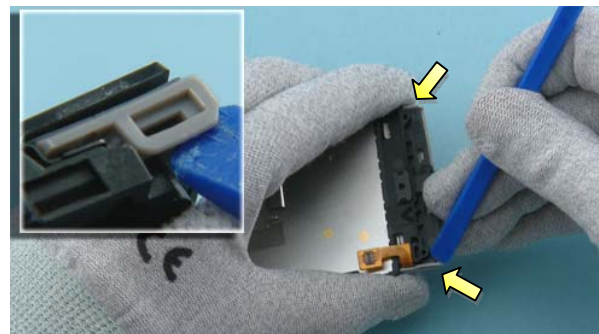
31) Lift up and remove the TOP WINDOW ASSY.



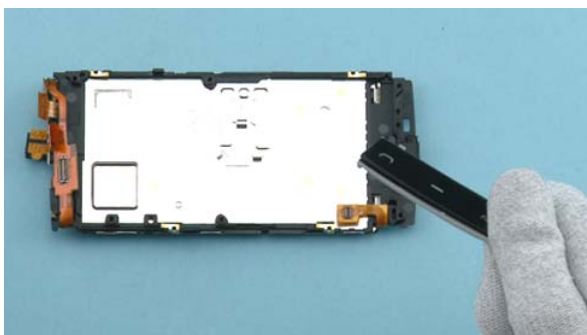
32) Use the dental tool to carefully lift up the EARPIECE. Be careful not to damage the flex underneath.



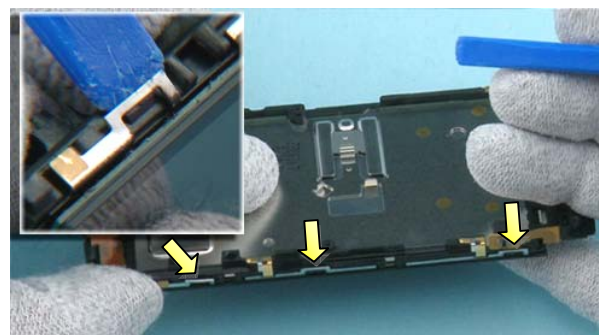
33) Release the two clips holding the UI-KEYMAT ASSY using the SS-93.



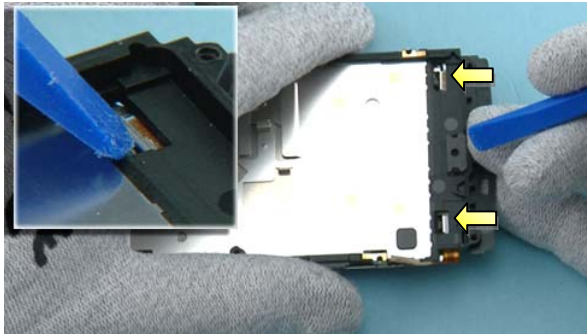
34) Then release the clips on both sides of the UI-KEYMAT ASSY.



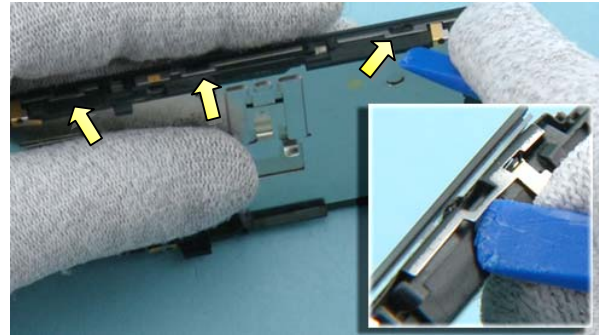
35) Remove the UI-KEYMAT ASSY.



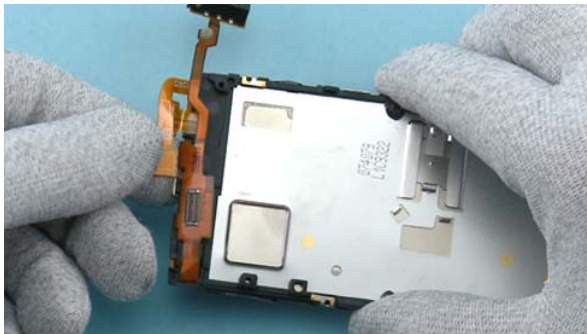
36) Use the SS-93, to release the three clips holding the TOUCH FRAME ASSY.



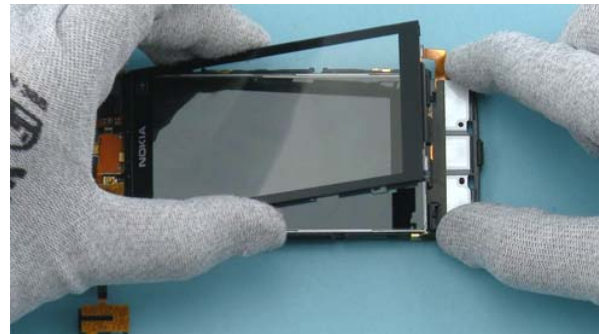
37) Detach the two clips on the bottom end of the device.



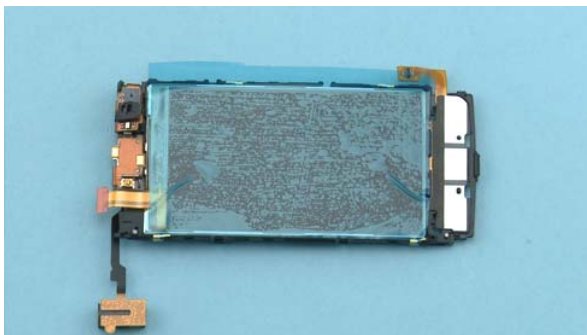
38) Then release the three remaining clips on the other side of the TOUCH FRAME ASSY.



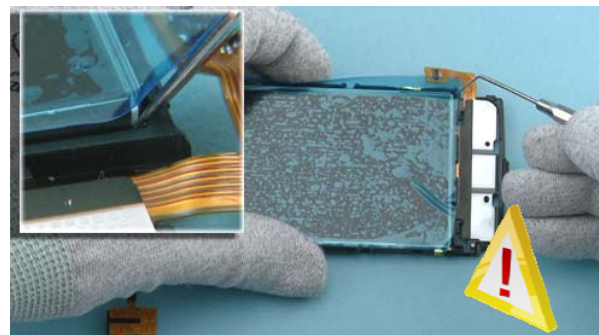
39) Untangle the TOUCH ASSY FLEX.



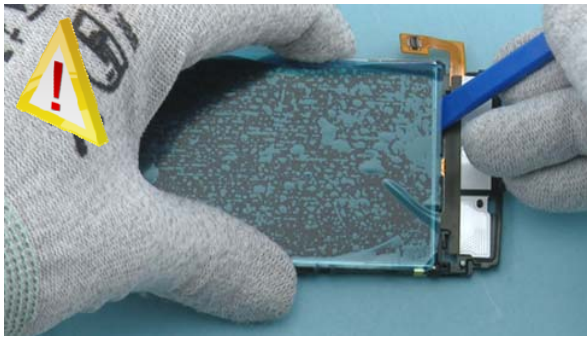
40) Lift up the TOUCH FRAME ASSY and the TOUCH PANEL ASSY.



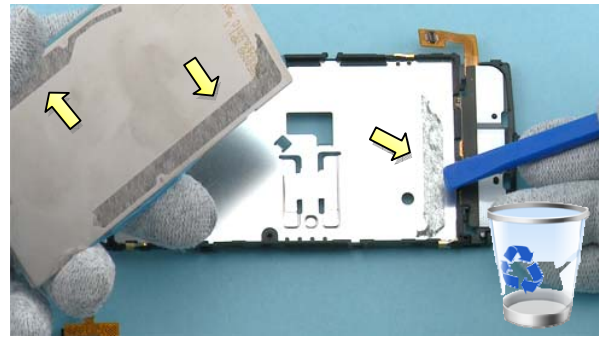
41) Protect the LCD with protective film.



42) Use the dental tool to slightly lift up the LCD. Be very careful not to break the LCD!



43) Carefully loosen the adhesive with the SS-93 and remove the LCD.



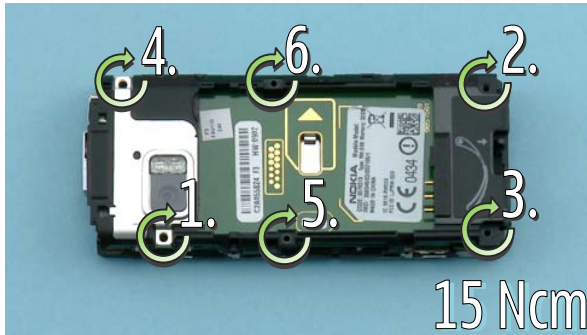
44) Remember to remove the DISPLAY ADHESIVE from the LCD and the LCD FRAME with the SS-93. The DISPLAY ADHESIVE cannot be reused.



45) Nokia X6 disassembly is now complete.

-END OF DISASSEMBLY-

11. ASSEMBLY HINTS



1) Tighten the six TORX + size 6 screws to the torque of 15 Ncm in the order shown.



2) Tighten the phillips size 0 screw to the torque of **XX** Ncm.

12. SOLDER COMPONENTS

