

SERVICE MANUAL Level 1&2

NOKIA N8-00

RM-596

Transceiver characteristics

Band

WCDMA HSPA 850/900/1700/1900/2100
EGSM 850/900/1800/1900

Display

3.5" AMOLED, up to 16.7 million colors, 16:9
widescreen aspect ratio, 640x360 pixel resolution

Camera

12 Mpix Carl Zeiss autofocus camera with CMOS
sensor, Xenon flash, 1280x720 25 fps HD video
recording

Operating System

Symbian^3

Connections:

HDMI connector with Dolby Digital 5.1 audio, analog
TV out with stereo audio via 3.5 mm AV connector,
Micro USB 2.0 with OTG support, Bluetooth 3.0, WLAN
802.11 b/g/n



Transceiver with BL-4D battery pack

Talk time	Standby
GSM: Up to 12 hours	GSM: Up to 390 hours
WCDMA: Up to 5.8 hours	WCDMA: Up to 400 hours

Note:

Talk times are dependent on network parameters
and phone settings

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CHANGE HISTORY

Status	Version No.	Date	Comments
Approved	1.0	28.6.2010	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
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.

2. 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:

2.1 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.

2.2 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

3. 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.

4. 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.

5. 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.

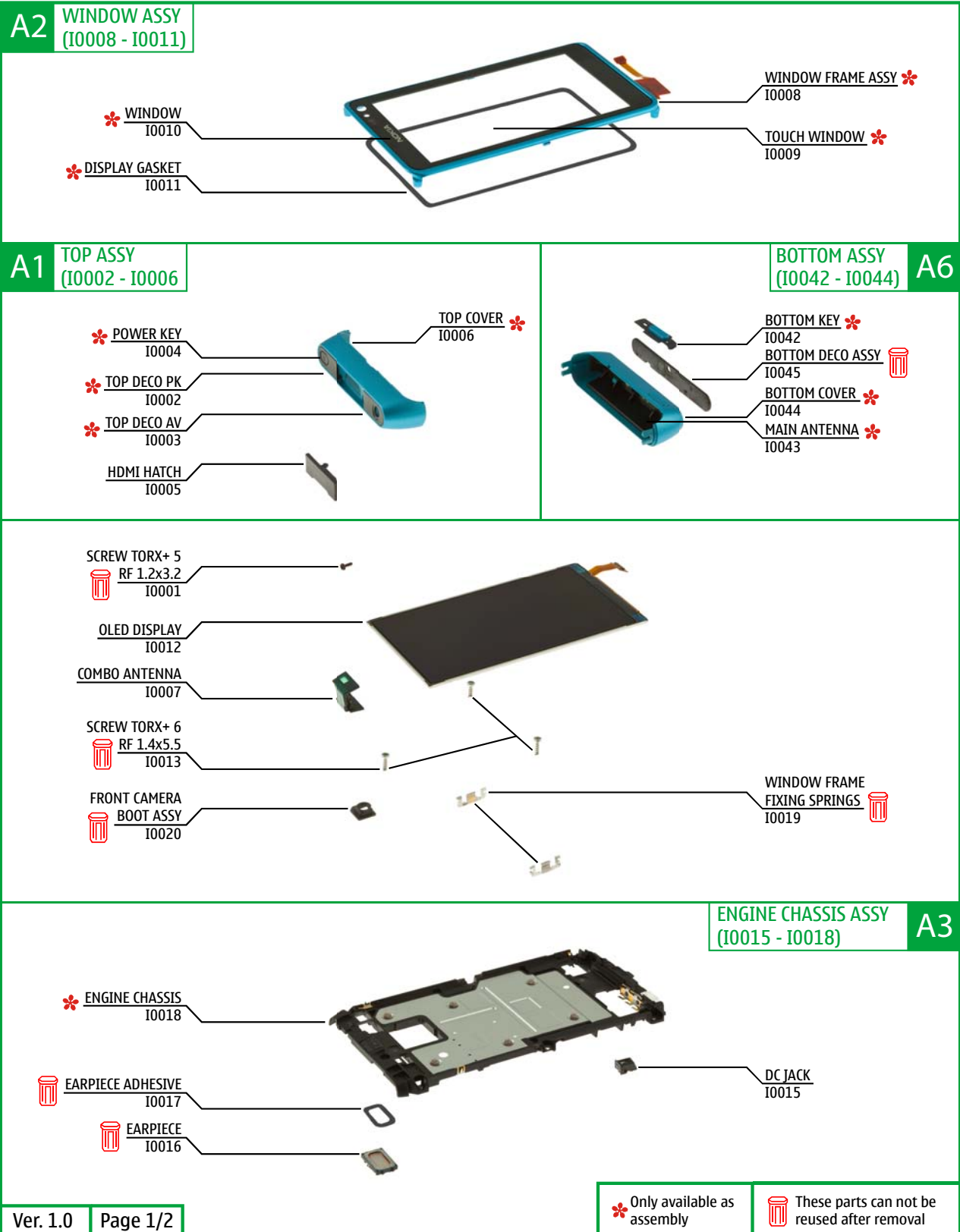
Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F).

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.

6. EXPLODED VIEW



LIGHT SWAP PACKAGE
(I0021 - I0023)

A4

PROXY SENSOR BOOT I0046

PWB SPACER ASSY I0022

FLASH MODULE I0026

CAMERA MODULE I0024

SCREW TORX+ 5 M1.4x5.0 I0025

BL-4D BATTERY I0027

BATTERY LID I0041

SCREW TORX+ 5 M1.4x5.0 I0014

BATTERY PULL-OUT TAPE I0028

BODY ASSY
(I0029 - I0040)

A5

IHF SPEAKER I0035

IHF GASKET I0036

SIDE SWITCH I0037

CAMERA KEY I0032

LOCK KEY I0030

VOLUME KEY I0031

CAMERA WINDOW I0029

TYPE LABEL I0023

MICRO SD CARD HATCH I0034

FIXING NUT I0038

SCREW TORX+ 4 M1.4 I0039

BODY ASSY I0040

SIM CARD HATCH I0033

Only available as assembly

These parts can not be reused after removal

Ver. 1.0

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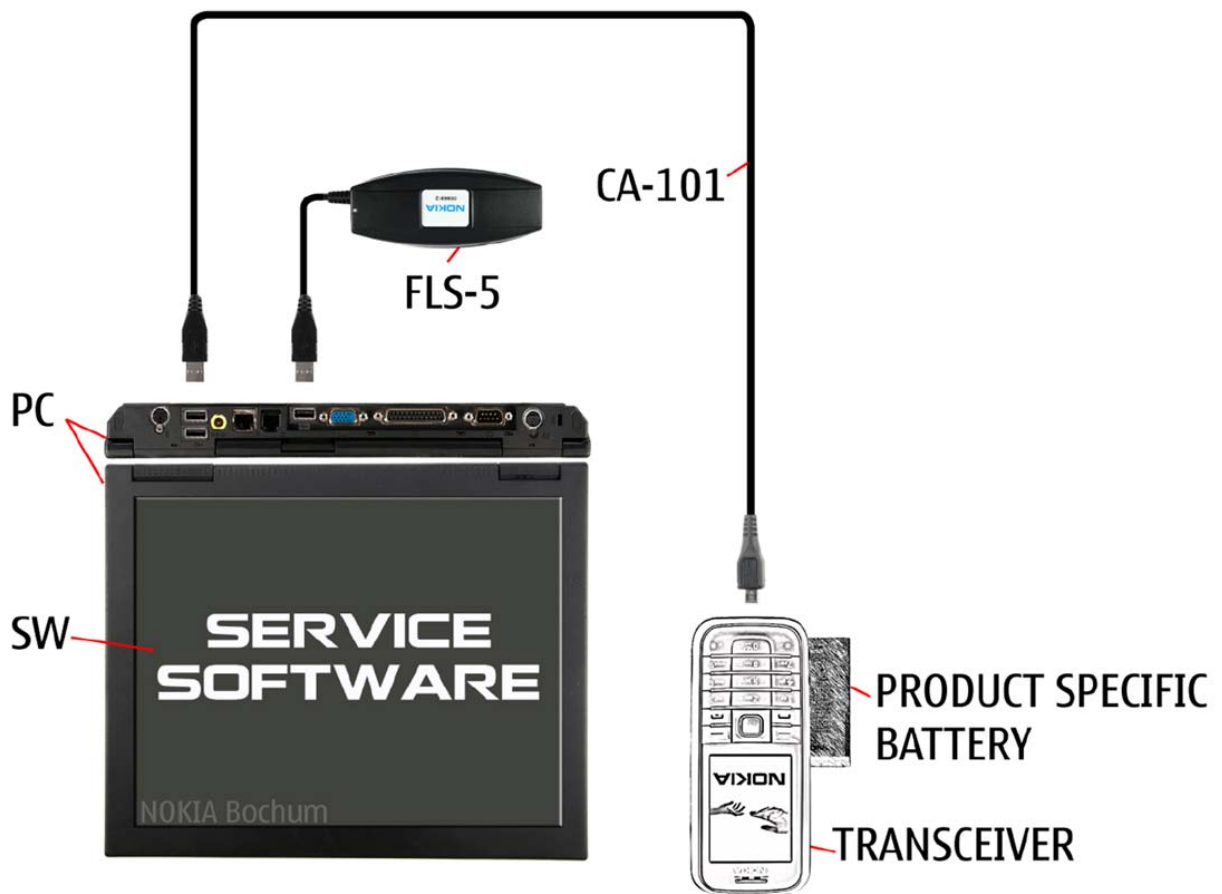
7. SERVICE DEVICES

 <p>FLS-5</p> <p>FLS-5 Flash Device</p>	 <p>CA-101 100cm</p> <p>CA-101 Service Cable</p>	 <p>AC-15 Travel Charger</p>
 <p>BL-4D Battery</p>	 <p>SS-182 Camera Removal tool</p>	 <p>Nokia 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>

8. SOFTWARE UPDATE

Flash concept (Point of Sale)

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.



9. DISASSEMBLY INSTRUCTIONS



1) Nokia N8-00 disassembly.



2) You must use the Nokia Standard Tool. You will also need the camera removal tool 182 and the DC plug.



3) Protect the WINDOW ASSY with protective film.



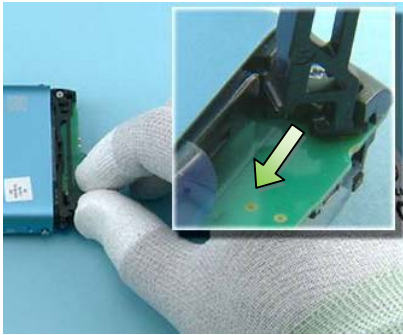
4) Unscrew the Torx+ size 4 screw 7 full turns. Do not remove the screw completely!



5) Unscrew also the second Torx+ size 4 screw on the other side of the phone 7 full turns. Do not remove the screw completely!



6) Pull out the BOTTOM ASSY to the direct and remove it.



wn end of the BATTERY LID. Release
d by pulling it into direction



8) Now the BATTERY LID can be removed.



move the BATTERY by using the
T TAPE.



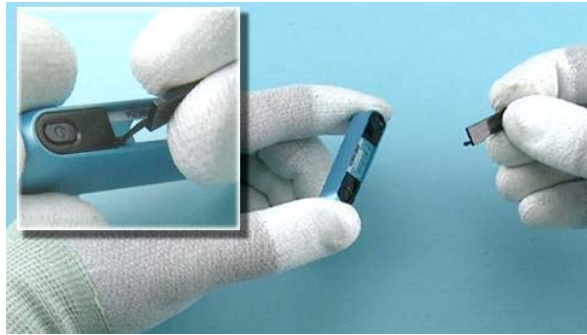
10) Open the HDMI HATCH.



Torx+ size 5 screw. Do not use it



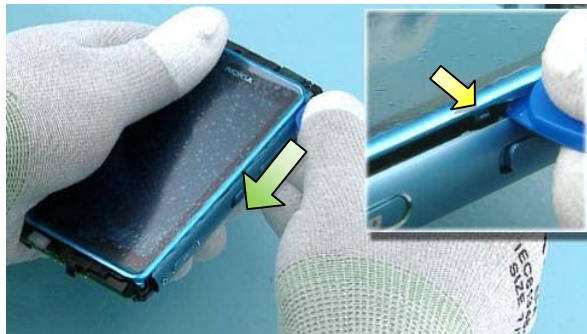
12) Remove the TOP ASSY by pushing it from the
back side to the direction shown.



13) Pull out and remove the HDMI HATCH.



14) Unscrew the four Torx+ size 5 screws order shown. These screws cannot be used. Discard them.



15) Slide SRT-6 to the direction shown to release the clip holding the WINDOW ASSY.



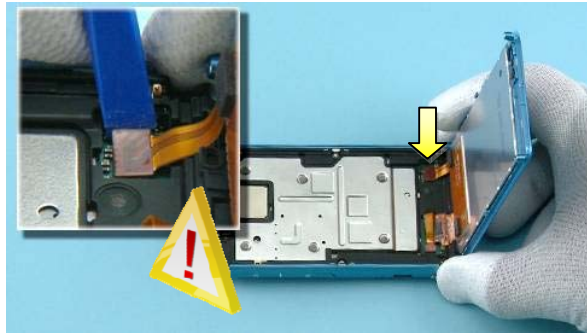
16) Release also the second clip on the other side of the phone by sliding the SRT-6 to the direction shown.



17) Carefully lift up the top side of the WINDOW ASSY to gain access to the connectors underneath. Be careful not to damage the connectors while lifting up the WINDOW ASSY!



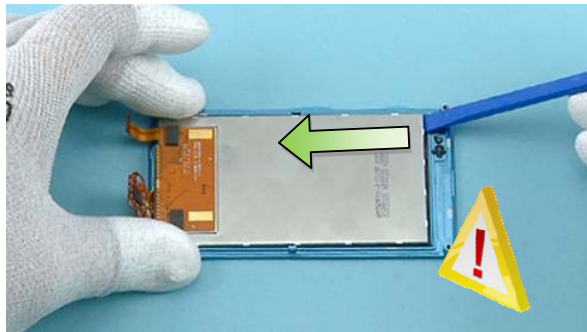
18) Use the SS-93 to open the WINDOW ASSY CONNECTOR. Be careful not to damage the connector or components nearby!



19) Open also the LCD CONNECTOR with the SS-93 by lifting it from the side shown. Be careful not to damage the connector or components nearby!



20) The WINDOW ASSY can now be separated.



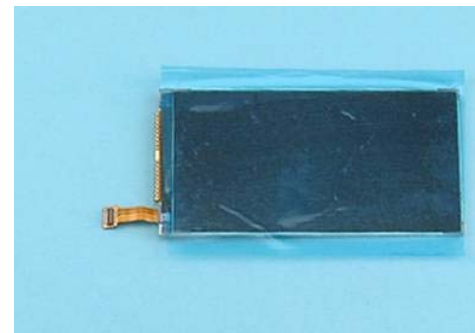
21) Insert the SS-93 between the LCD and the WINDOW ASSY. Slide the SS-93 to the direction shown to release one side of the LCD. Be careful not to damage the LCD while releasing it!



22) Release also the other side of the LCD SS-93. The LCD can now be removed.



23) Protect the other side of the WINDOW ASSY with protective film.



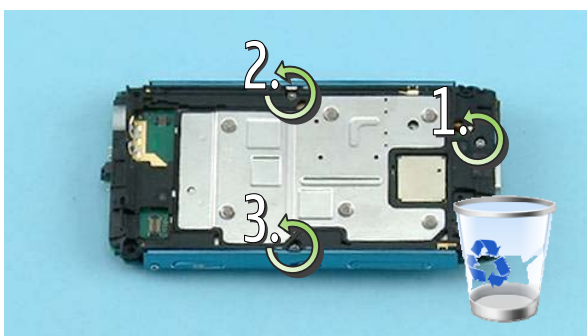
24) Protect the display with protective film.



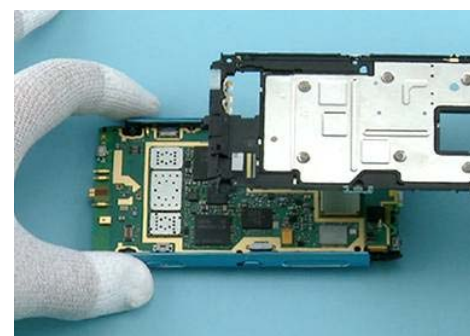
25) Release the COMBO ANTENNA with the SS-93.



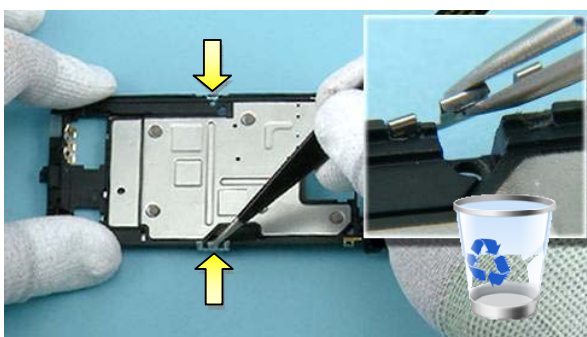
26) Remove the COMBO ANTENNA.



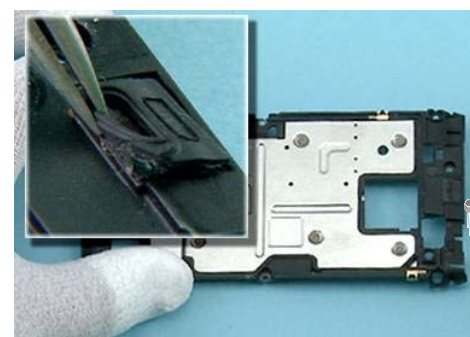
27) Unscrew the three Torx+ size 6 screws in the order shown. These screws cannot be used again. Discard them.



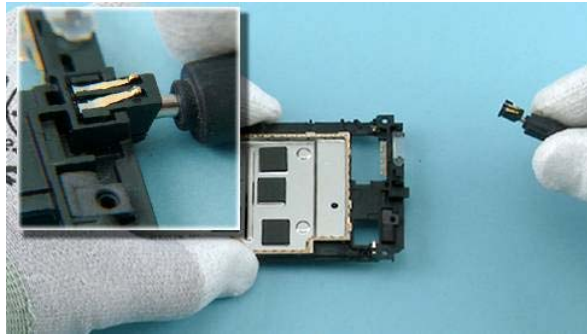
28) Lift up and remove the ENGINE CHASSIS



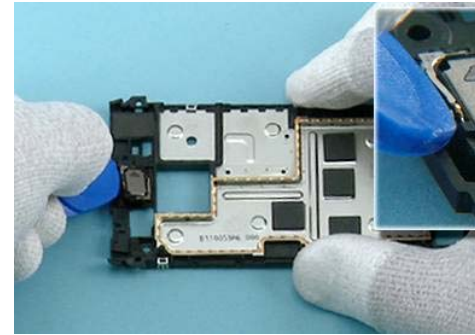
29) Use tweezers to remove the two WINDOW FRAME FIXING SPRINGS. Do not use them again. Discard them.



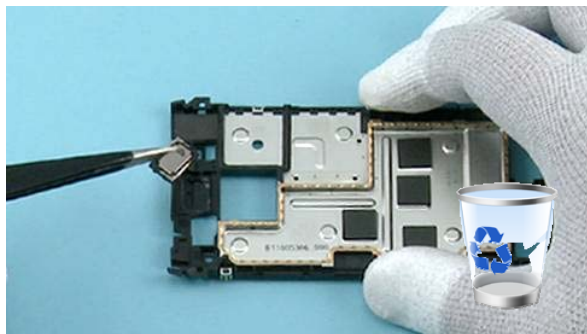
30) Remove the EARPIECE GASKET with th
Do not use it again. Discard it.



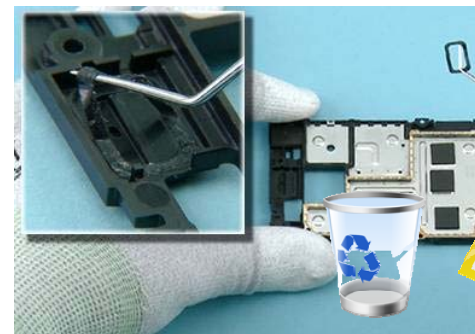
31) Use the DC plug to lift up the DC JACK.



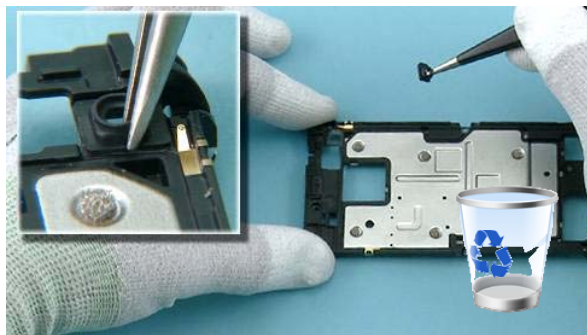
32) Release the EARPIECE with the SRT-6.



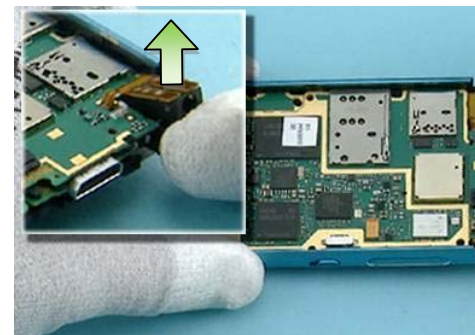
33) Remove the EARPIECE with the tweezers. The EARPIECE cannot be used again. Discard it.



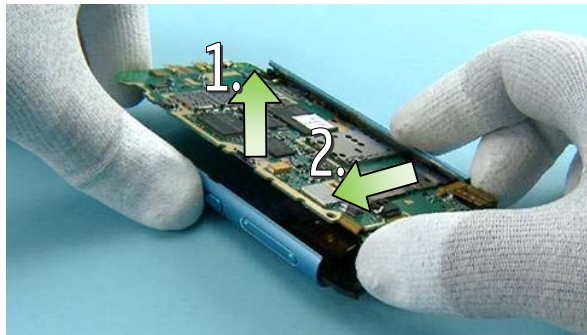
34) Remove the EARPIECE GASKET with the dental tool. Be careful not to injure yourself with the end of the dental tool! The EARPIECE GASKET is reusable. Discard it.



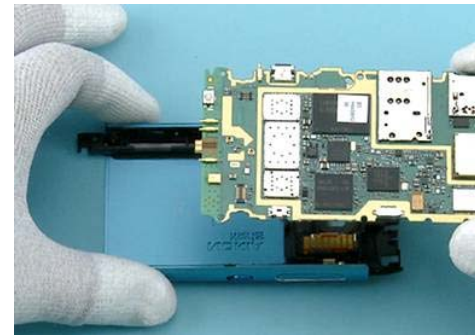
35) Remove the FRONT CAMERA BOOT with the tweezers. Do not use it again. Discard it.



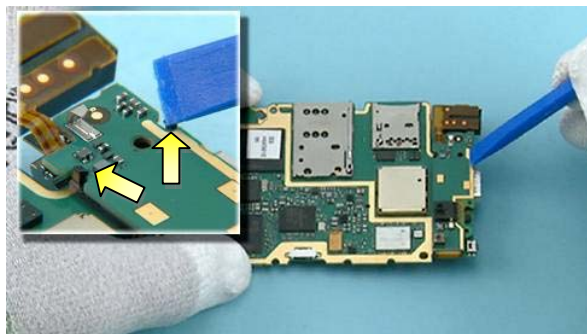
36) Lift up the AV JACK carefully as shown, releasing the ENGINE BOARD.



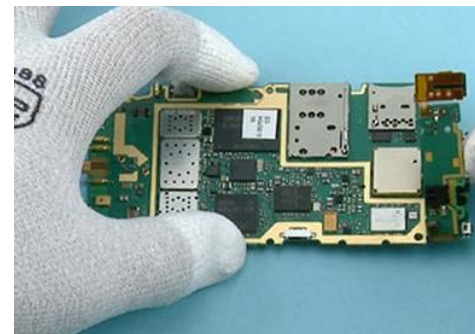
37) To separate the ENGINE BOARD from the BODY ASSY, lift up the shown side (1). Then pull the ENGINE BOARD to the direction shown (2).



38) The ENGINE BOARD can now be separated from the BODY ASSY.



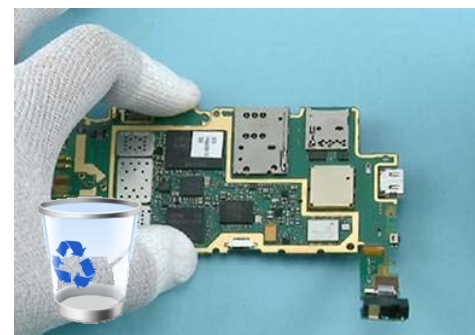
39) Open the two clips holding the SUB PWB with the SS-93.



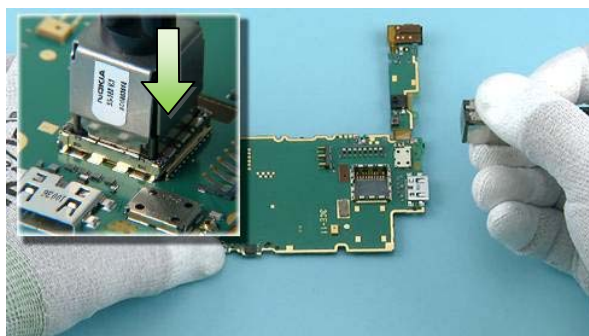
40) Turn over the SUB PWB. Be careful not to damage the flex!



41) Use the SS-93 to release the SUB PWB SUPPORT. Be careful not to damage the components nearby!



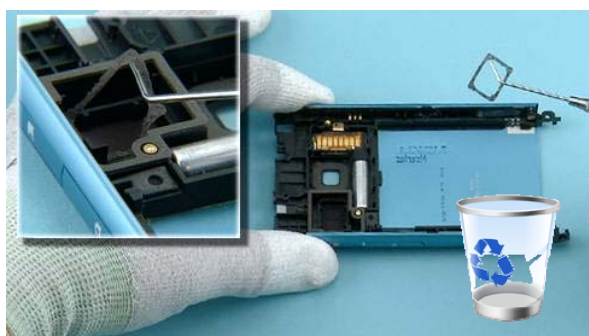
42) Remove the SUB PWB SUPPORT. Do not touch the components again.



43) To release the CAMERA, push down the camera removal tool SS-182 until camera retaining clips are released. Lift up the SS-182 and remove the CAMERA.



44) Release the IHF SPEAKER with the der and remove it with the tweezers. Do not SPEAKER again.



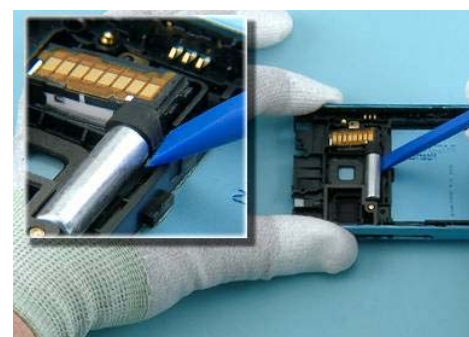
45) Remove the IHF SPEAKER GASKET with the dental tool. Do not use it again. Discard it.



46) Pull out and remove the SD CARD HAT



47) Remove also the SIM CARD HATCH.



48) Carefully lever out the FLASH MODULE SS-93.



49) Remove the FLASH MODULE with the tweezers.



50) Release the SIDE SWITCH with the dental pick. Remove it with the tweezers.



51) Unscrew the Torx+ size 4 screw to release the FIXING NUT.



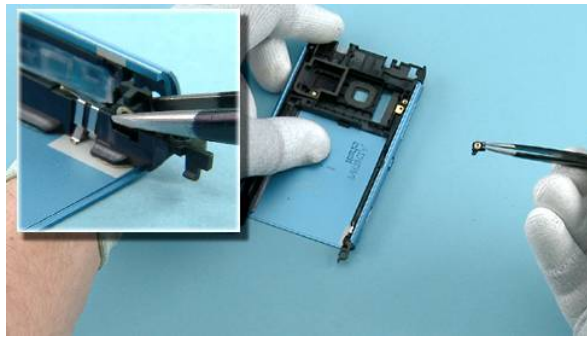
52) Remove the screw and the FIXING NUT with the tweezers.



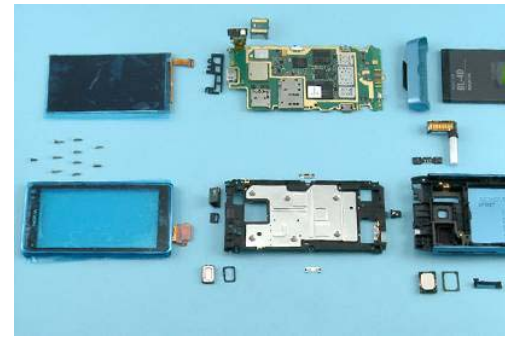
53) To release the second FIXING NUT, unscrew the Torx+ size 4 screw.



54) Remove the screw with the tweezers.



55) Remove the FIXING NUT.



56) The Nokia N8-00 disassembly is now complete.

-END OF DISASSEMBLY-

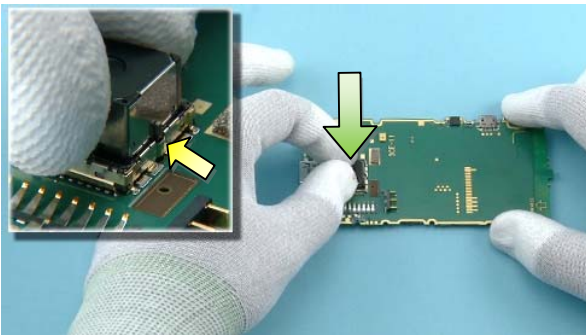
10. ASSEMBLY INSTRUCTIONS



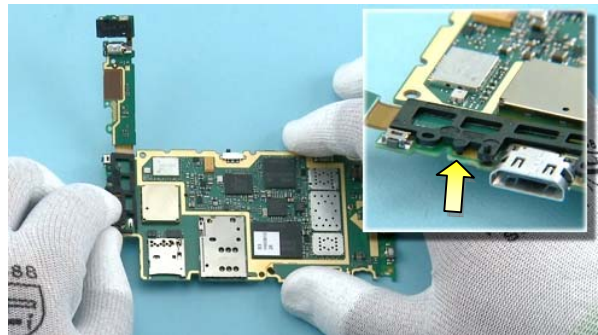
1) Nokia N8-00 assembly.



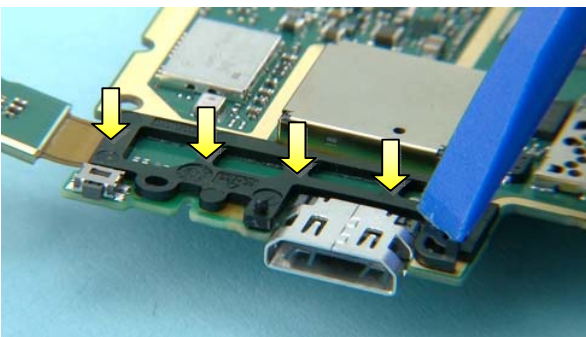
2) For assembling you need the Nokia Standard Toolkit version 2.



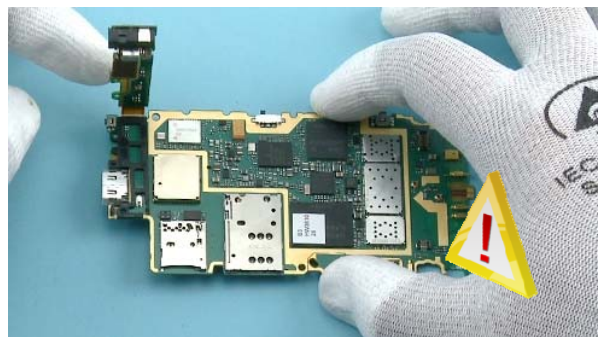
3) When inserting the CAMERA MODULE, check that the shown clip is on the same side as the guiding notch. Press the CAMERA MODULE carefully to attach the camera retaining clips.



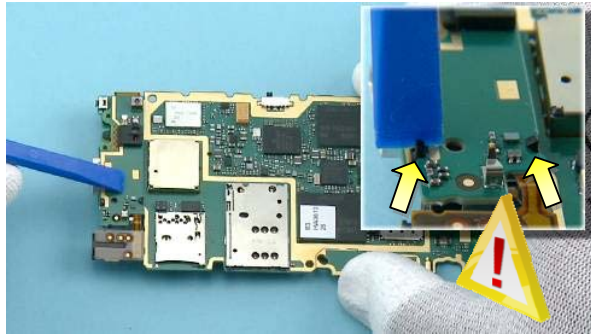
4) Place a new SUB PWB SUPPORT to the ENGINE BOARD by using the shown guiding pin.



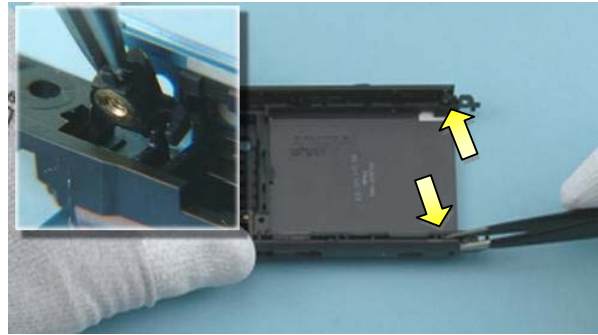
5) Press the SUB PWB SUPPORT along the edges with the SS-93 to activate the adhesive.



6) Place the SUB PWB on top of the SUB PWB SUPPORT. Be careful not to damage the flex!



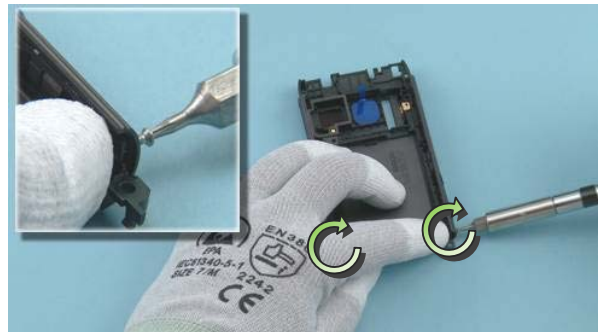
7) Press the SUB PWB carefully with the SS-93. Make sure the two clips shown are locked.



8) Insert the two FIXING NUTS.



9) Note that there are two different TORX+ size 4 screw heads used in this device. The first two screws are countersunk heads.



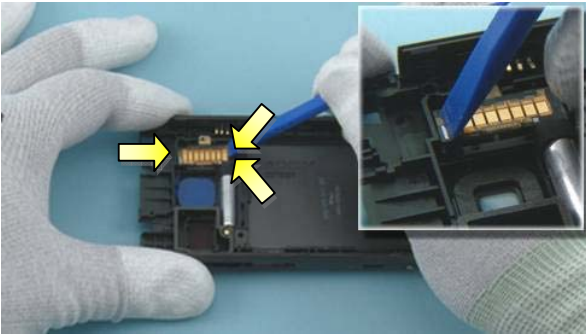
10) Hold the FIXING NUTS in place with your finger. Tighten the two TORX + size 4 screws until the FIXING NUTS stay in place. Do not tighten them completely! If the screws are tightened too much the BOTTOM COVER cannot be assembled.



11) Place the SIDE SWITCH with the tweezers. Use the dental tool to lever the SIDE SWITCH under the two shown clips. Be careful not to injure yourself with the sharp end of the dental tool!



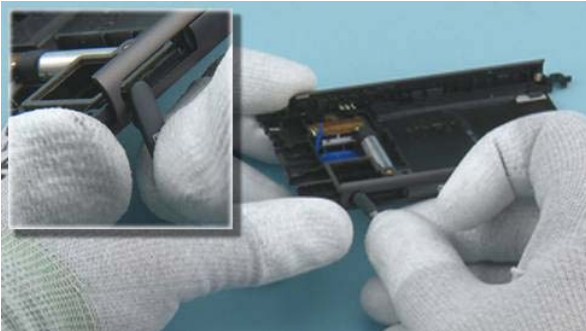
12) Place the FLASH MODULE with the tweezers.



13) Push down the FLASH MODULE with the SS-93 to attach the three clips.



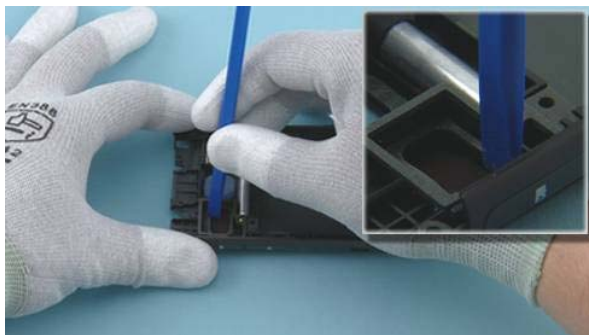
14) Insert the SIM CARD HATCH fastener into the BODY ASSY cavity. Then press the SIM CARD HATCH into place.



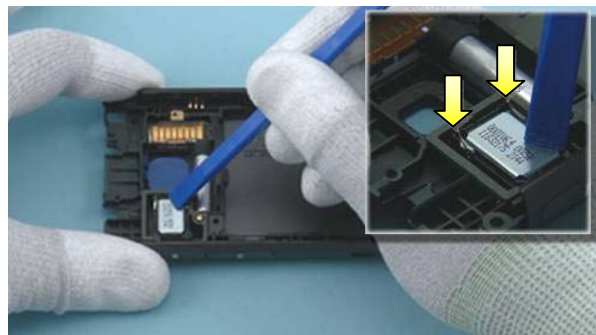
15) Insert the SD CARD HATCH by using the same procedure as with the SIM CARD HATCH.



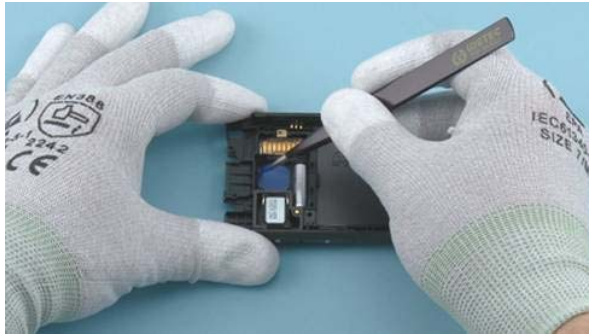
16) Remove the IHF GASKET protective film.



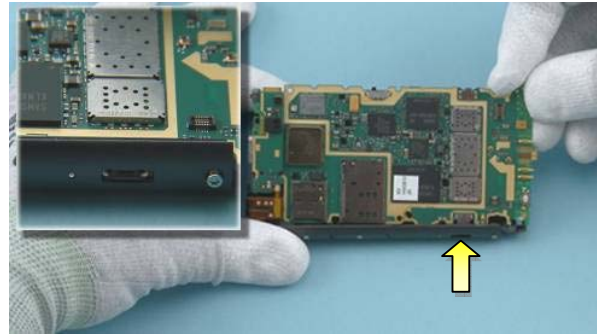
17) Place the IHF GASKET with the tweezers. Press it down carefully with the SS-93 to activate the adhesive.



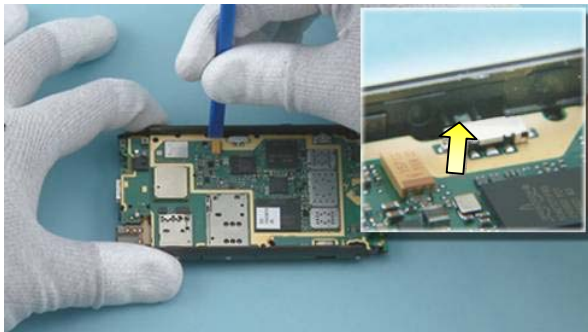
18) Place the IHF SPEAKER. Make sure that the IHF SPEAKER springs point towards the FLASH MODULE. Press the speaker with the SS-93 to activate the adhesive.



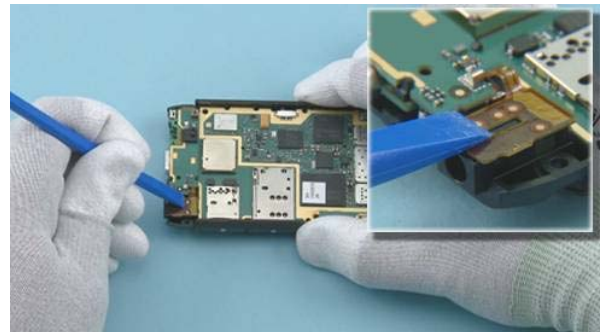
19) Remove the camera lens protective film with the tweezers.



20) To insert the ENGINE BOARD to the BODY ASSY, first insert the side where the USB CONNECTOR is located.



21) Lower down the other side of the ENGINE BOARD. Make sure the LOCK KEY is placed as shown in the small picture.



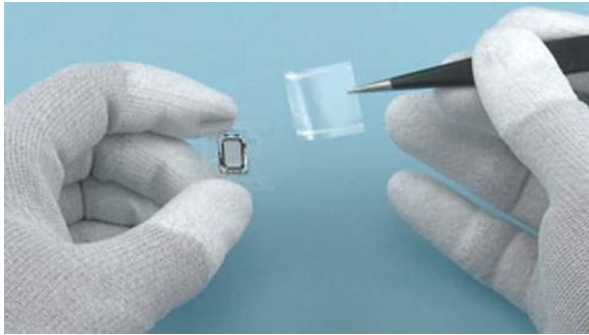
22) Press the AV CONNECTOR with the SS-93 until it snaps into place.



23) Remove the EARPIECE ADHESIVE protective film.



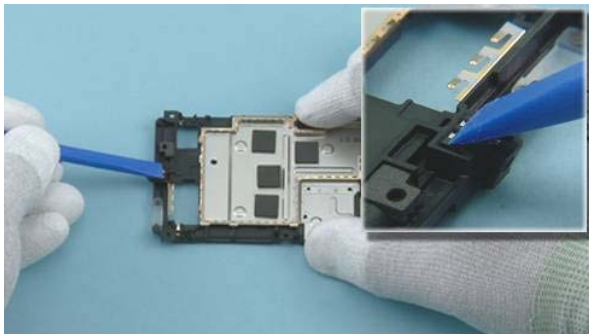
24) Use the tweezers to place the EARPIECE ADHESIVE. Activate the adhesive by carefully pressing down on it with the SS-93. Remove the blue EARPIECE ADHESIVE protective film.



25) Remove the new EARPiece from the protective film.



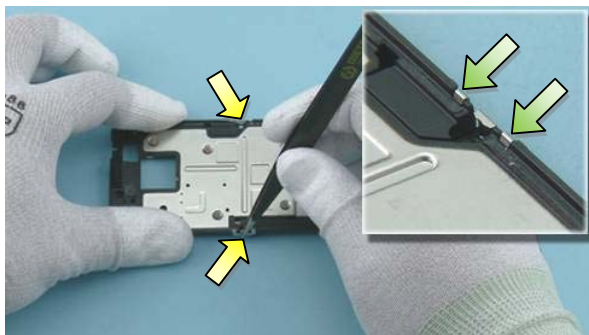
26) Place the EARPiece and press it with the SS-93 to activate the adhesive.



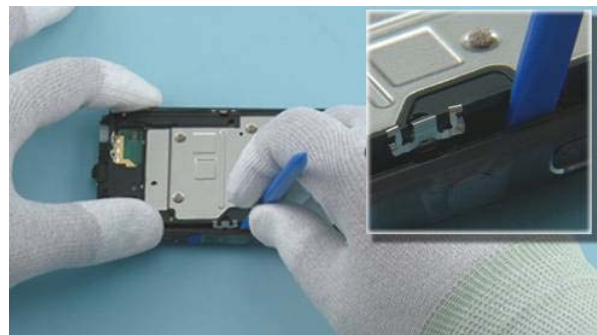
27) Insert the DC JACK with the tweezers and firmly press down on it with the SS-93 until it moves into its socket.



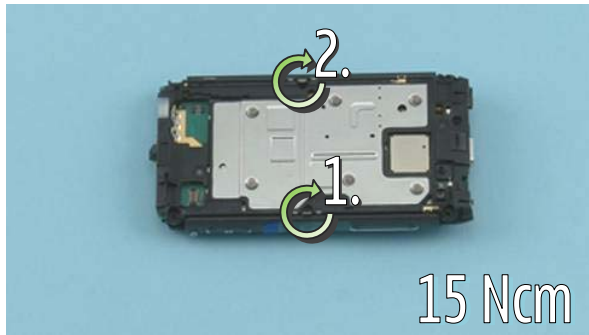
28) Place the FRONT CAMERA BOOT ASSY.



29) When placing the two WINDOW FRAME FIXING SPRINGS, press down on the shown places to get the springs correctly in their place.



30) Use the SS-93 to spread the sides of the BODY ASSY and push down the ENGINE CHASSIS ASSY to lock the springs.



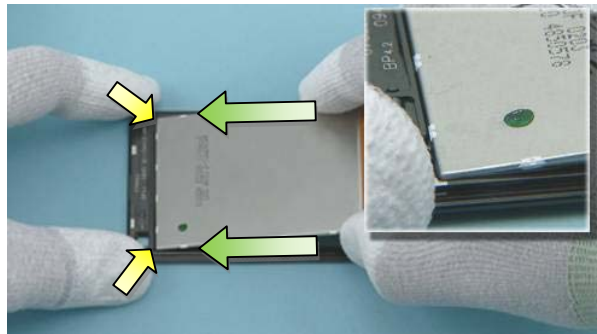
31) Tighten the two TORX + size 6 screws to the torque of 15 Ncm in the order shown.



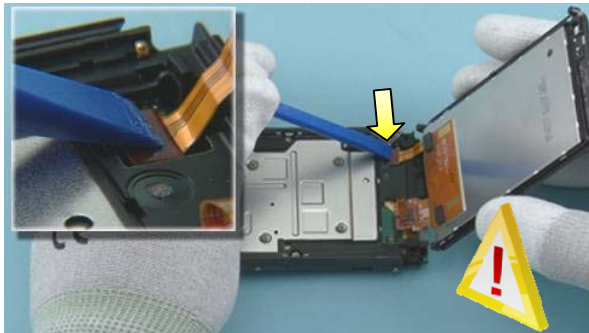
32) Tighten the TORX + size 6 screw to the torque of 8 Ncm.



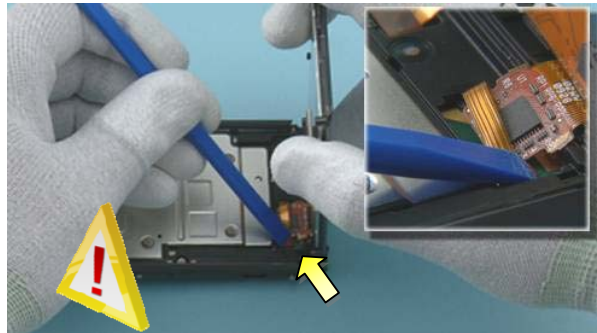
33) Push the COMBO ANTENNA into place.



34) Remove the display protective film and lower down the other end of the DISPLAY. Align the DISPLAY to the WINDOW ASSY according to the small edge on the WINDOW ASSY. Press and slide fingers along the sides of the DISPLAY to activate the adhesive.



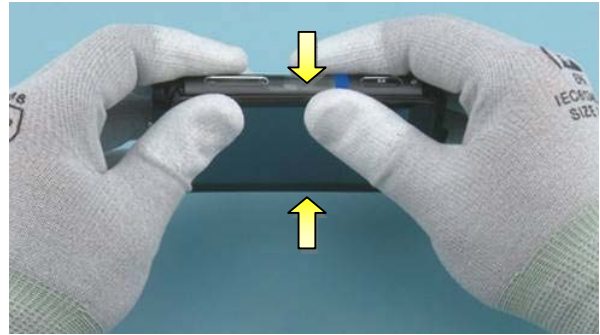
35) Hold the WINDOW ASSY as shown. Connect the DISPLAY CONNECTOR by pressing down on it carefully with the SS-93. Be careful not to damage the connector or components nearby!



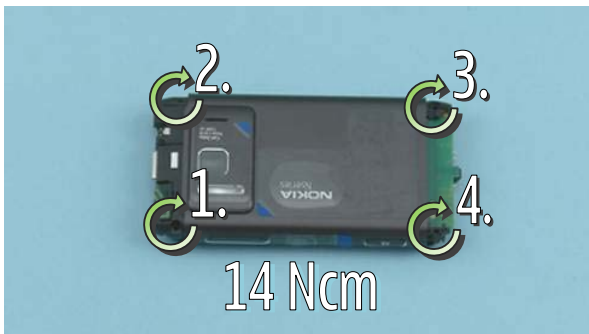
36) Connect the WINDOW ASSY CONNECTOR by carefully pressing it down with the SS-93. Be careful not to damage the connector or components nearby!



37) Carefully place down the WINDOW ASSY. Make sure that the connectors remain connected!



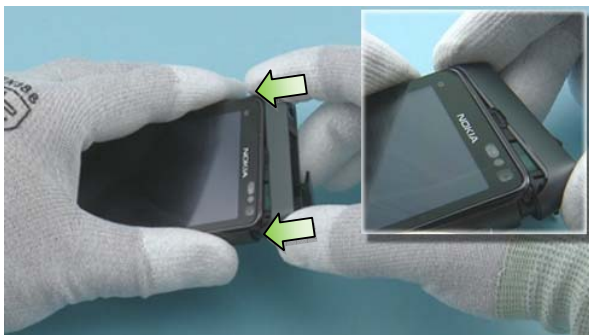
38) Press the WINDOW ASSY from both sides to get the WINDOW FRAME FIXING SPRINGS locked.



39) Tighten the four TORX + size 4 screws to the torque of 14 Ncm in the order shown.



40) Remove the protective film from the TOP COVER and open the HDMI HATCH.



41) Push the TOP COVER into place and close the HDMI HATCH. Make sure that the TOP COVER is in its place by firmly pressing on both corners of the TOP COVER.



42) Tighten the TORX + size 5 screw to the torque of 11 Ncm.



43) Close the HDMI HATCH and check that the TOP COVER edges are attached properly.



44) Place the BATTERY PULL-OUT TAPE to the BATTERY as shown. Press it down slightly to activate the adhesive.



45) Insert the BATTERY as shown.



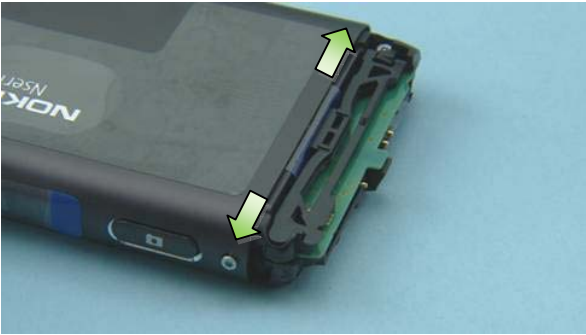
46) Place the shown end of the BATTERY LID and then lower down the other end. Note that the BATTERY PULL-OUT TAPE is left under the BATTERY LID.



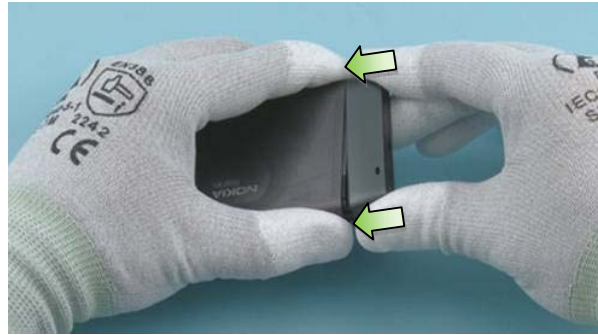
47) Remove the protective film of the BOTTOM DECO ASSY.



48) And attach it to the BOTTOM COVER.



49) Press and hold both of the two shown screws in.



50) Then place the BOTTOM COVER as shown and press it into its place. If the BOTTOM COVER does not go in properly, loosen up the side screws a bit.



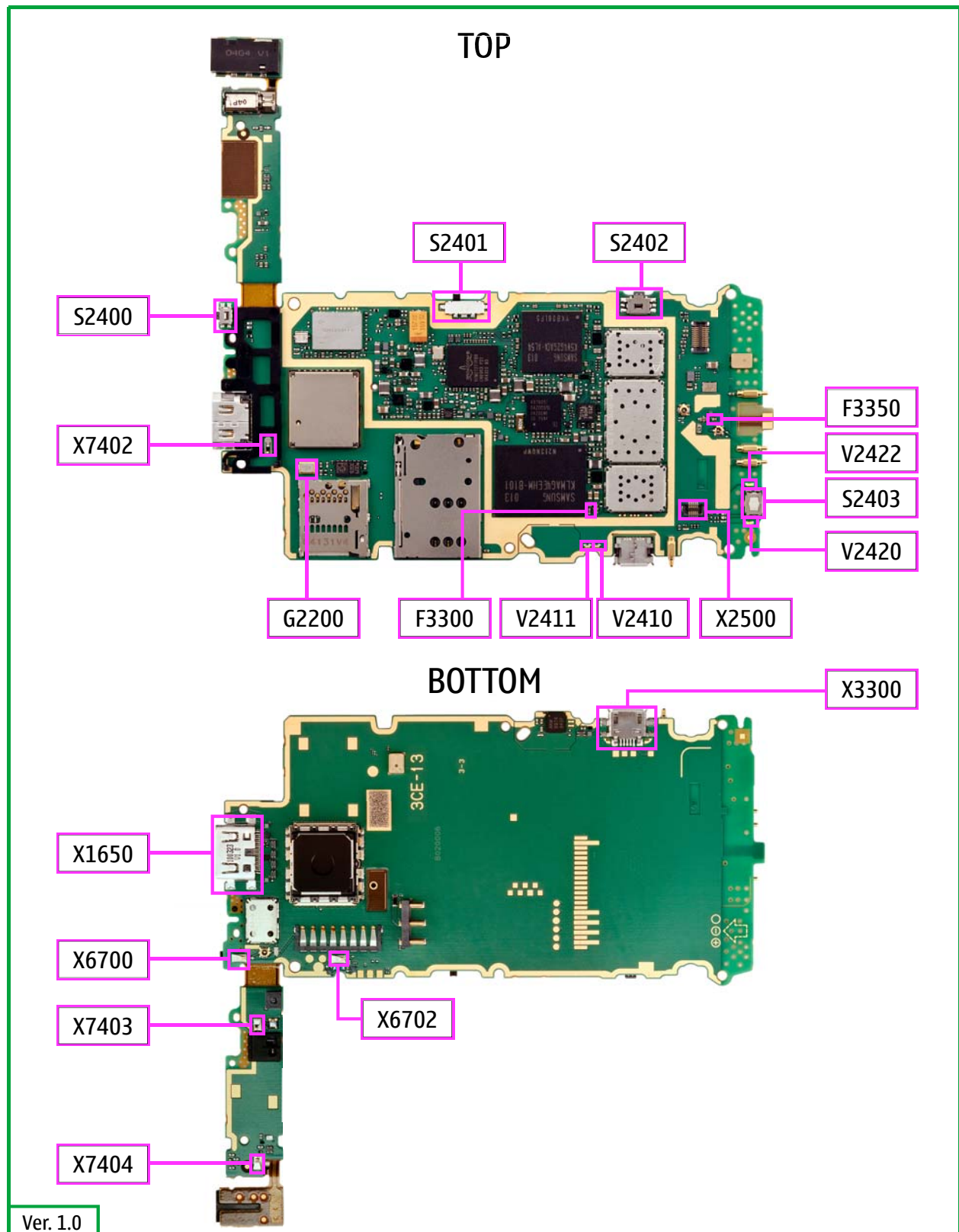
51) Hold the BOTTOM COVER in its place and tighten the TORX + size 4 screws to the torque of 21 Ncm on both sides.



52) Nokia N8-00 assembly is now complete.

-END OF ASSEMBLY-

11. SOLDER COMPONENTS



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