

SERVICE MANUAL Level 1&2

Nokia N9

RM-696



Transceiver characteristics

Band

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

Display

3.9" OLED display, 16:9 widescreen aspect ratio,
854 x 480 resolution

Camera

8 Mpx Carl Zeiss autofocus camera with CMOS sensor, Dual LED flash, 1280x720 30fps HD video recording

Operating System

Meego

Connections:

WLAN 802.11 a/b/g/n
NFC (Near Field Communication)
Micro USB 2.0
Bluetooth 2.1
Stereo audio out via 3.5mm AV connector

Transceiver with BV-5JW battery pack

Talk time	Standby
GSM: Up to 11 hours	GSM: Up to 380 hours
WCDMA: Up to 7 hours	WCDMA: Up to 450 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	01.07.2011	First approved version
Approved	2.0	27.07.2011	Page 15: Updated disassembly sequence so that the CHASSIS SIDE HOOK is removed before the CHASSIS. Page 9: Changed the EARPIECE HOUSING LID name to the EARPIECE BOOT.
Approved	3.0	18.08.2011	Page 23: Added solder components
Approved	4.0	30.08.2011	Page 9: Added SENSOR FLEX I0032 to the Exploded View
Approved	5.0	03.10.2011	Page 9: Added FRONT CAMERA FLEX I0033 to the Exploded View Page 18: Added disassembling instructions for FRONT CAMERA FLEX

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.

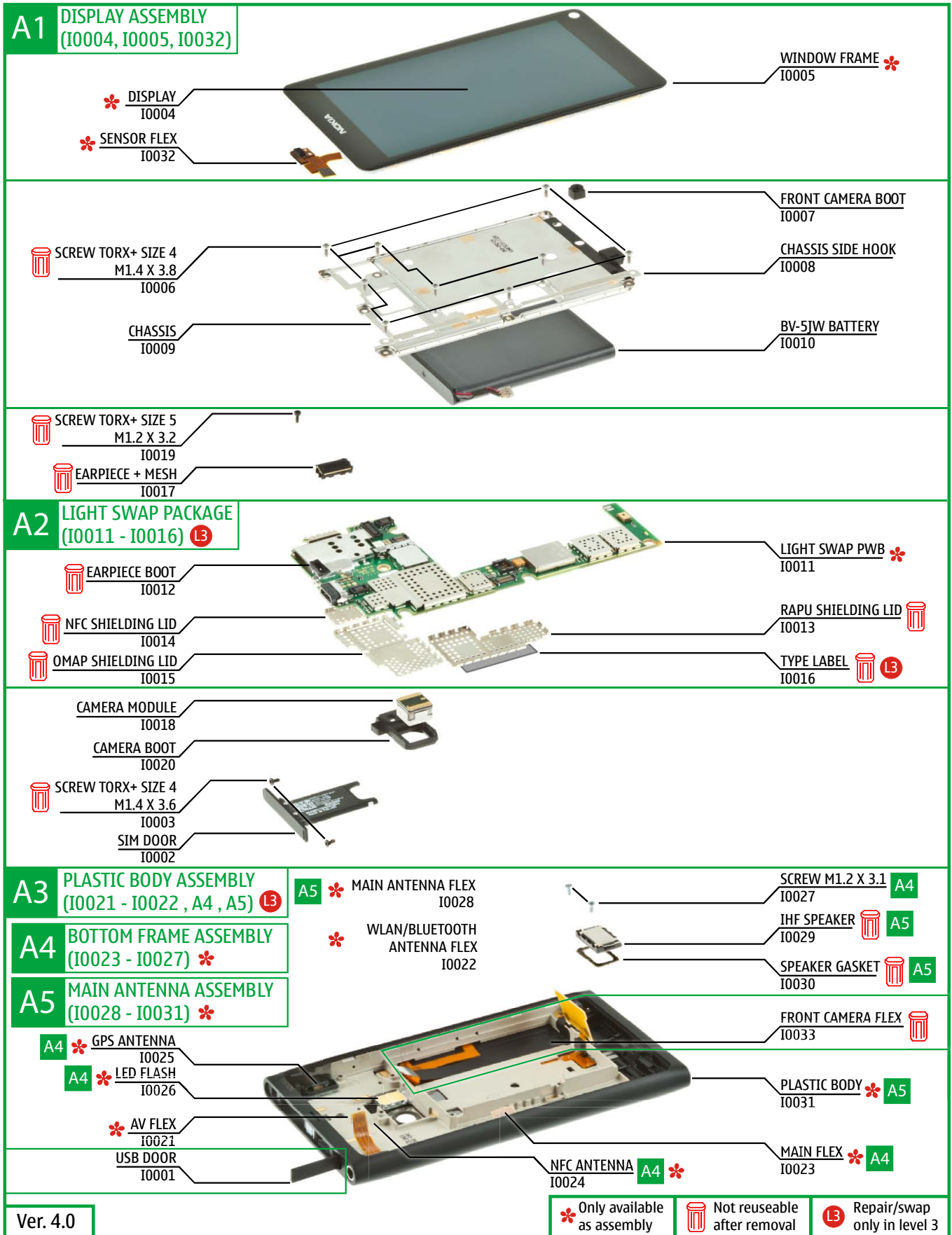
Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F).

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



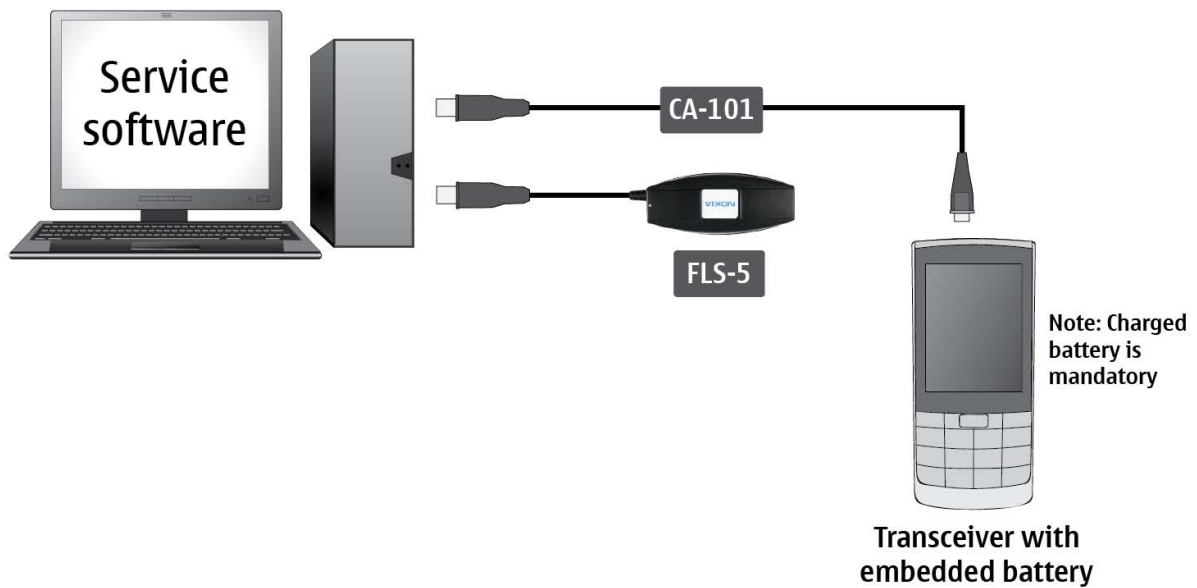
7. SERVICE DEVICES

 <p>CA-185CD Service Cable</p>	 <p>AC-16 Travel Charger</p>	 <p>Camera removal tool SS-210</p>
 <p>Phillips size 00 screwdriver</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 N9 disassembly.



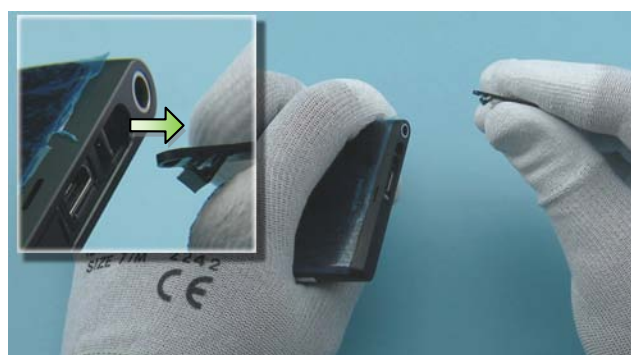
2) You must use the Nokia Standard Toolkit version 2. You will also need the camera removal tool SS-210 and a Phillips size 00 screwdriver.



3) Protect the DISPLAY ASSEMBLY with protective film.



4) Open the USB DOOR by pushing it from the shown place.



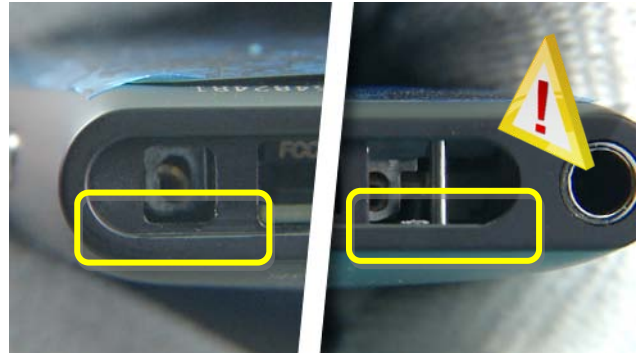
5) Remove the USB DOOR by pulling it to direction shown.



6) Open the SIM DOOR by pulling the release notch to direction shown. Pull out and remove the SIM DOOR.



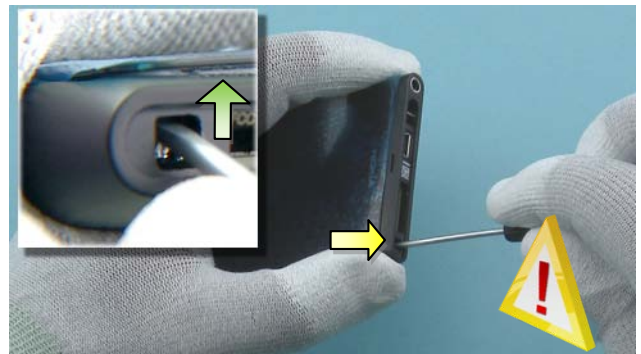
7) Unscrew the two Torx+ size 4 screws. Do not use them again. Discard them.



8) When releasing the DISPLAY ASSEMBLY be very careful not to damage the highlighted parts of the PLASTIC BODY with the screwdriver!



9) Insert a flathead screwdriver in the shown hole on the top side of the phone. Twist the screwdriver so that the DISPLAY ASSEMBLY slightly rises out of the PLASTIC BODY. Be careful not to damage the PLASTIC BODY.



10) Insert a flathead screwdriver in the shown hole and push it up to release the other side of the DISPLAY ASSEMBLY. Be careful not to damage the PLASTIC BODY.



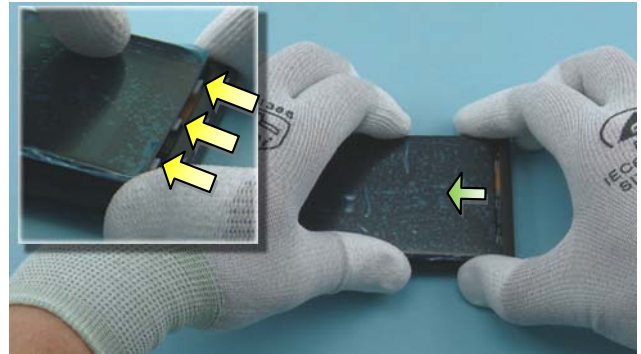
11) Slide the SRT-6 along the top side of the phone, between the DISPLAY ASSEMBLY and the PLASTIC BODY. Be careful not to damage the shown flex located halfway the top side.



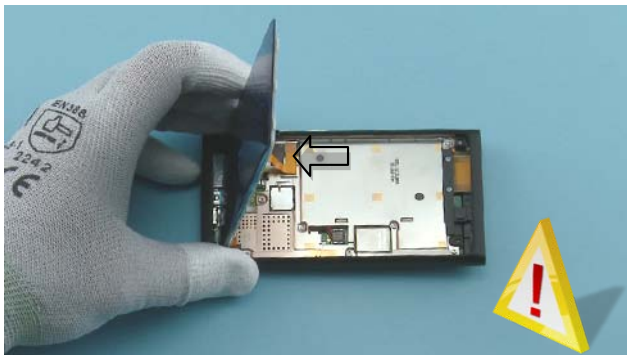
12) Use the SRT-6 to open the left side of the DISPLAY ASSEMBLY.



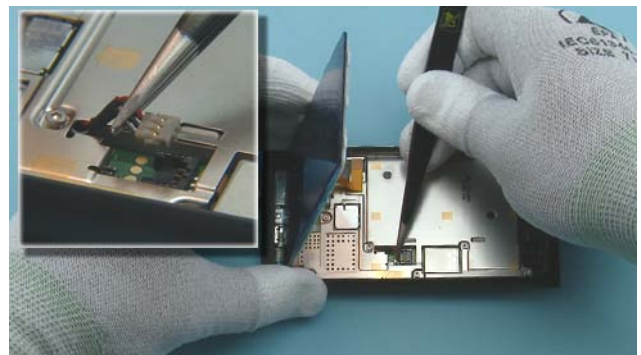
13) Use the SRT-6 to open the right side of the DISPLAY ASSEMBLY.



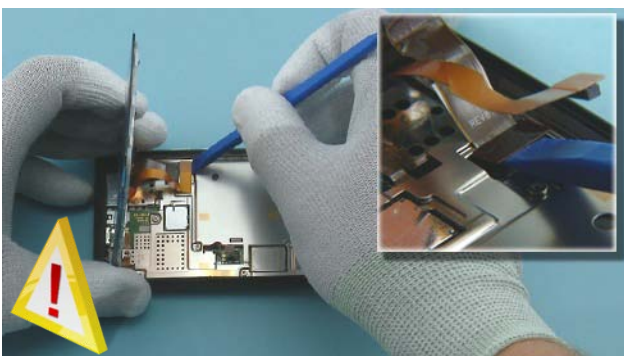
14) Slightly pull the DISPLAY ASSEMBLY to direction shown to release the three remaining clips.



15) Turn the DISPLAY ASSEMBLY over. Be careful not to damage the connectors underneath the DISPLAY ASSEMBLY.



16) Disconnect the BATTERY with the tweezers to avoid short circuit.



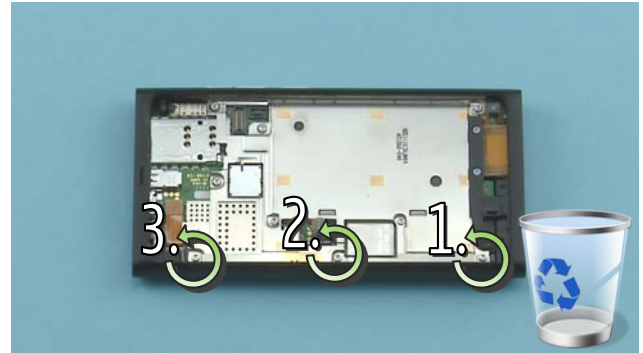
17) Use the SS-93 to disconnect the two DISPLAY ASSEMBLY connectors. Be careful not to damage the connectors or any nearby components.



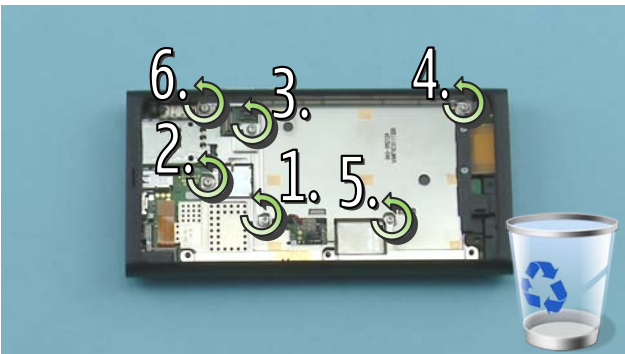
18) Remove the DISPLAY ASSEMBLY.



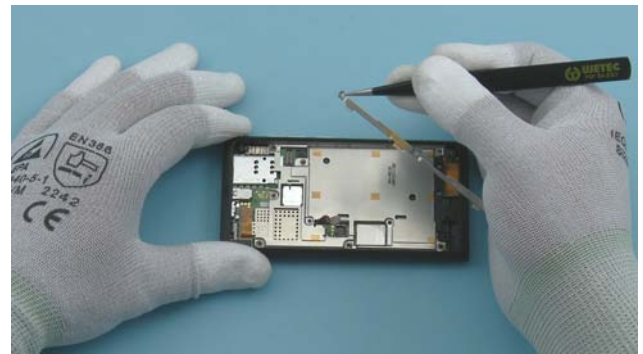
19) Remove the FRONT CAMERA BOOT with the tweezers.



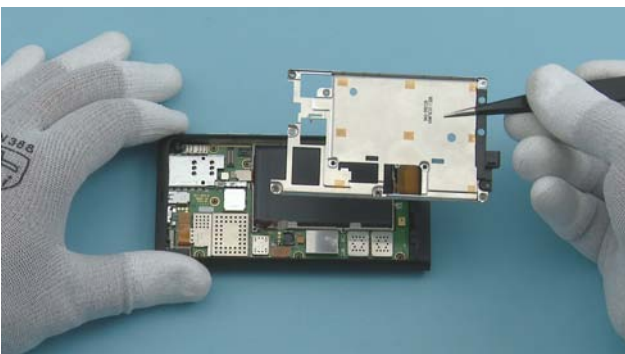
20) Unscrew the three Torx+ size 4 screws of the CHASSIS SIDE HOOK. Do not use them again. Discard them.



21) Unscrew the six Torx+ size 4 screws of the CHASSIS. Do not use them again. Discard them.



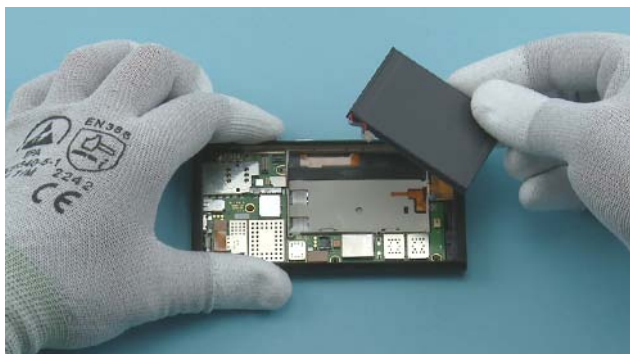
22) Remove the CHASSIS SIDE HOOK with the tweezers.



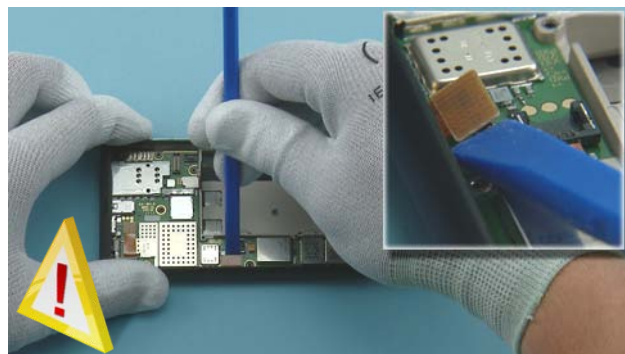
23) Remove the CHASSIS with the tweezers.



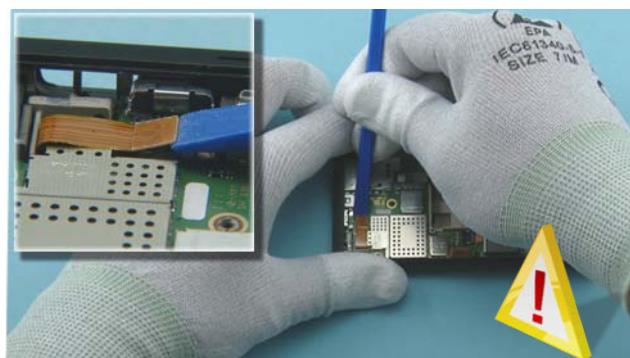
24) Use the sharp end of the SS-93 to lift up the BATTERY.



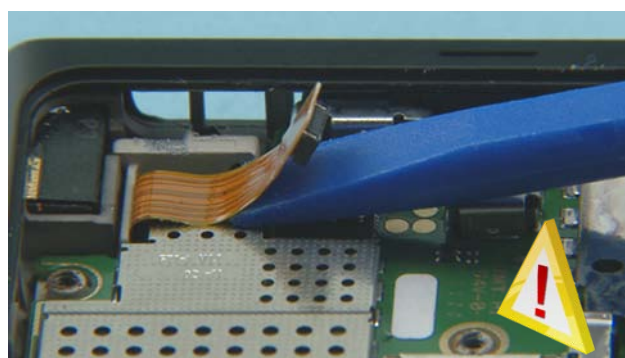
25) Remove the BATTERY.



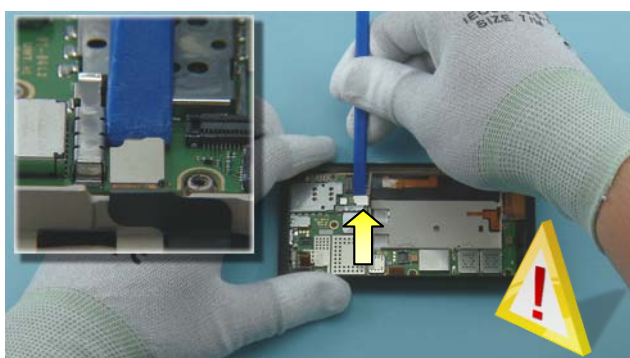
26) Disconnect the MAIN FLEX connector with the SS-93. Be careful not to damage the connector or any nearby components.



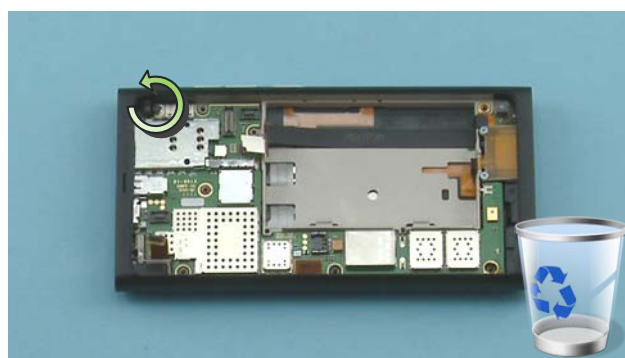
27) Disconnect the AV FLEX connector with the SS-93. Be careful not to damage the connector or any nearby components.



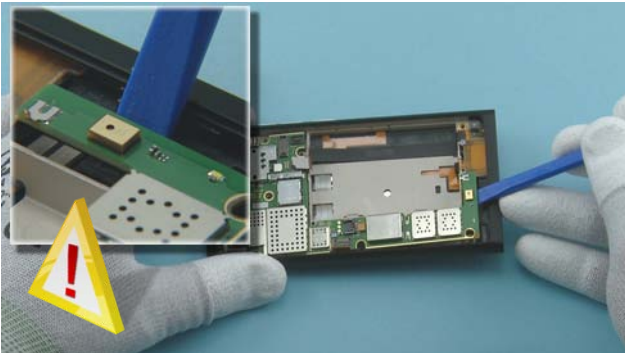
28) Release the AV FLEX adhesive with the SS-93. Be careful not to damage the connector or any nearby components.



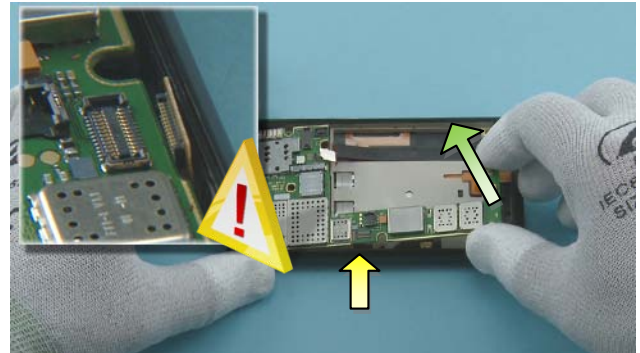
29) Disconnect the FRONT CAMERA FLEX connector with the SS-93. Be careful not to damage the connector or any nearby components.



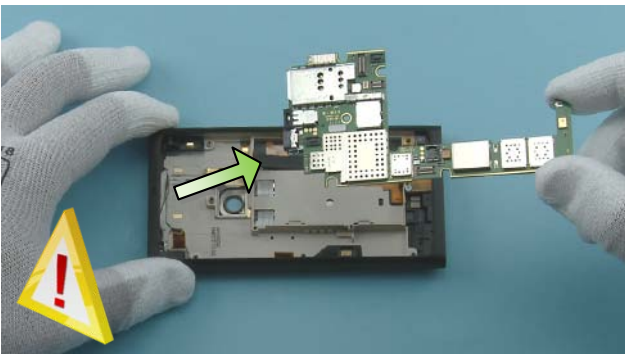
30) Unscrew the Torx+ size 5 screw. Do not use it again. Discard it.



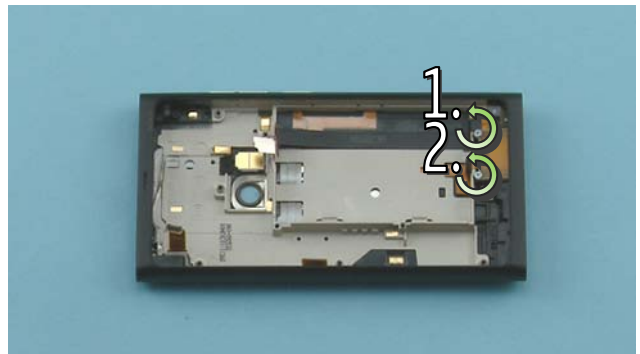
31) Carefully lever up the ENGINE BOARD with the SS-93 from the bottom side of the phone.



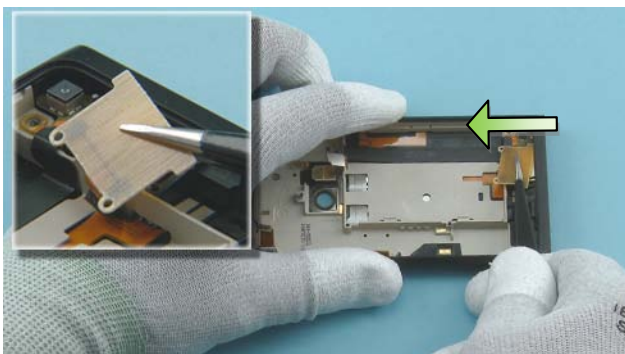
32) Lift up the ENGINE BOARD from the bottom side of the phone. Be careful not to damage the connector between the ENGINE BOARD and the PLASTIC BODY.



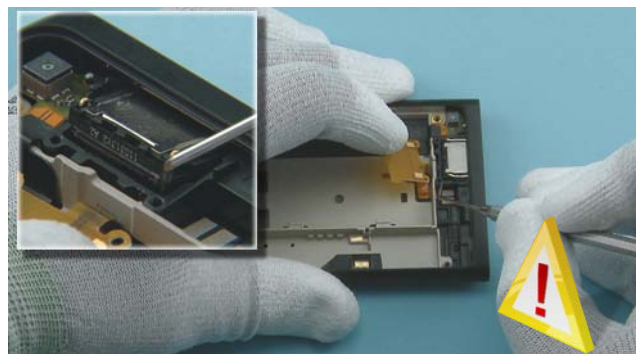
33) Carefully remove the ENGINE BOARD to direction shown.



34) Unscrew the two screws of the IHF SPEAKER FLEX with a Phillips size 00 screwdriver.



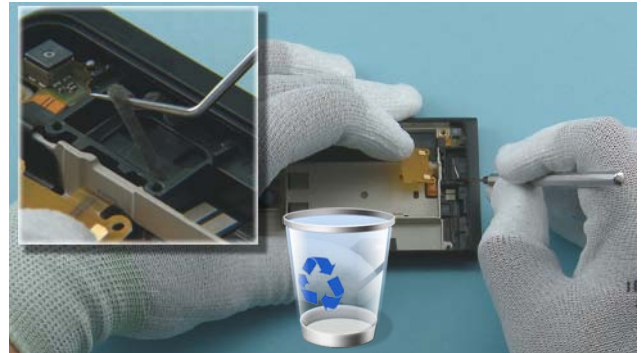
35) Pull out and flip open the IHF SPEAKER FLEX with the tweezers.



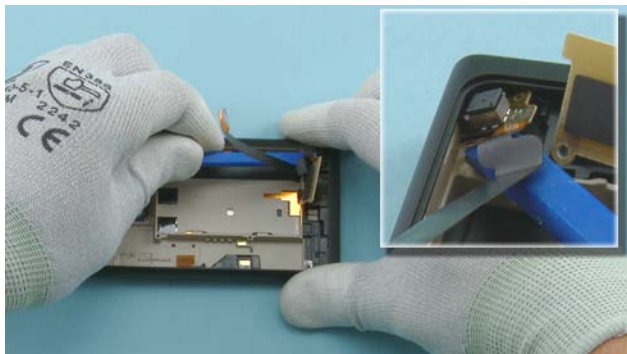
36) Lever out the IHF SPEAKER with the dental tool. Be careful not to damage yourself or any nearby components with the sharp end of the dental tool.



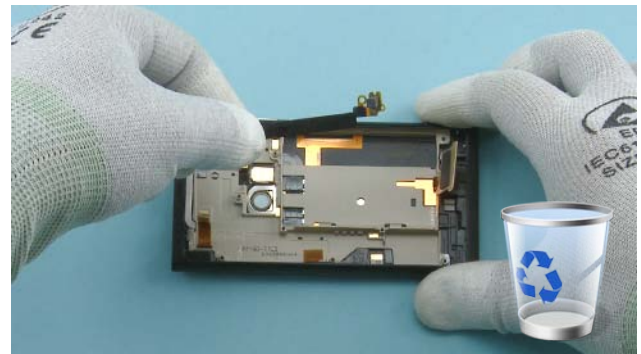
37) Remove the IHF SPEAKER with the tweezers. Do not use it again. Discard it.



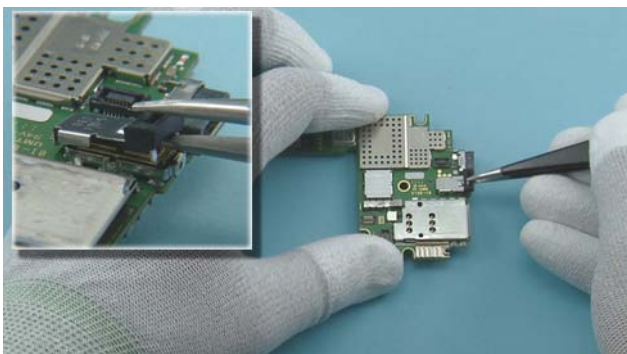
38) Remove the SPEAKER GASKET with the dental tool. Do not use it again. Discard it.



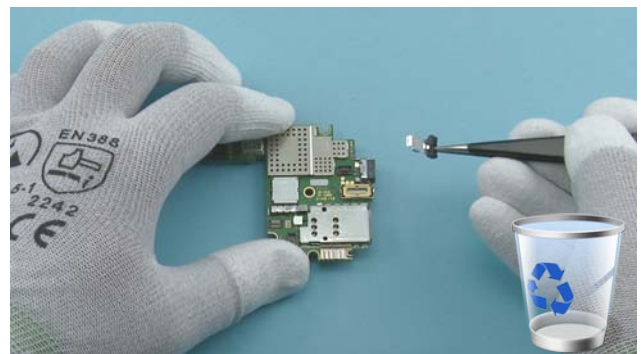
39) Use the SS-93 to release the FRONT CAMERA FLEX.



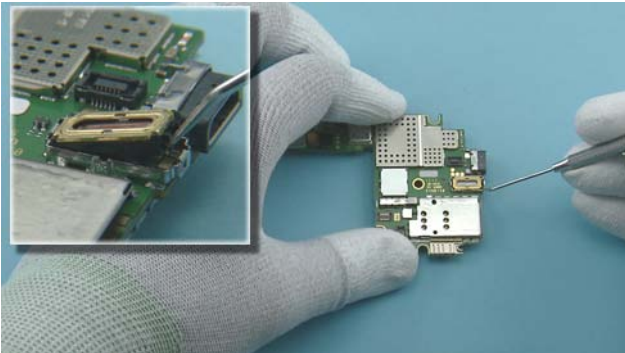
40) Remove the FRONT CAMERA FLEX. Do not use it again. Discard it.



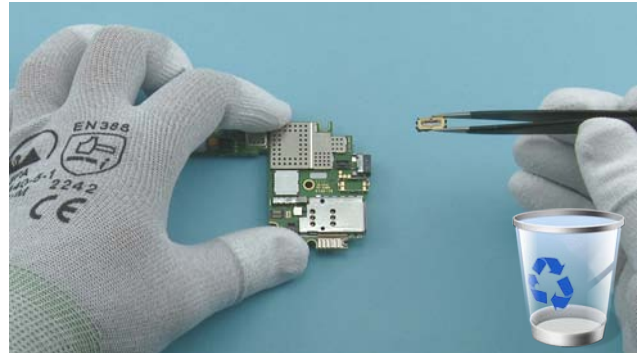
41) Insert the tweezers to the EARPIECE BOOT as shown.



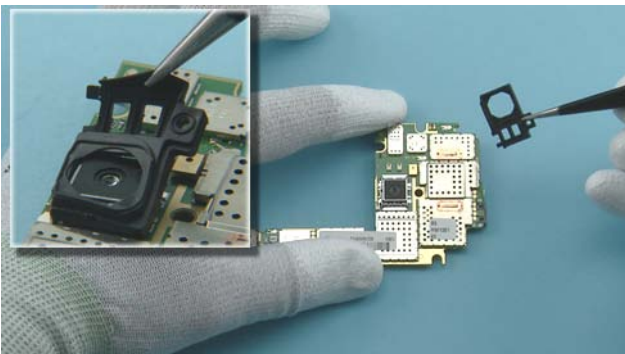
42) Remove the EARPIECE BOOT. Do not use it again. Discard it.



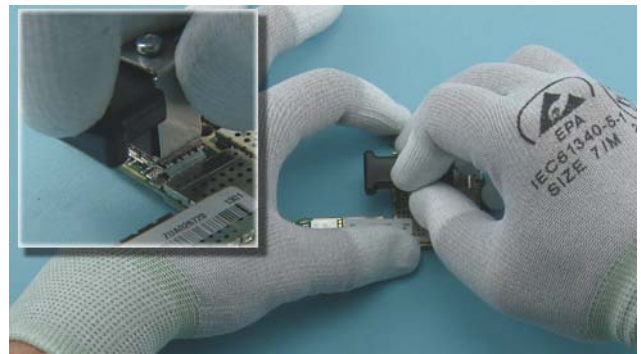
43) Lever out the EARPIECE with the dental tool.



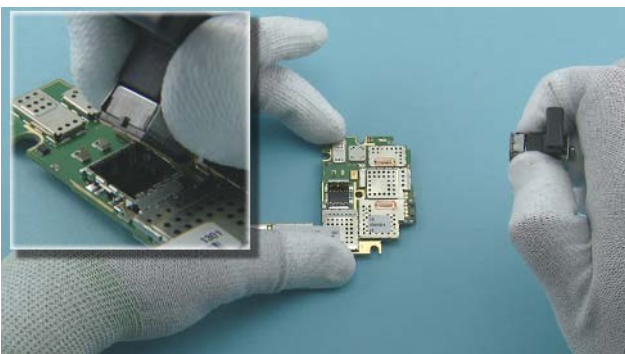
44) Remove the EARPIECE with the tweezers. Do not use it again. Discard it.



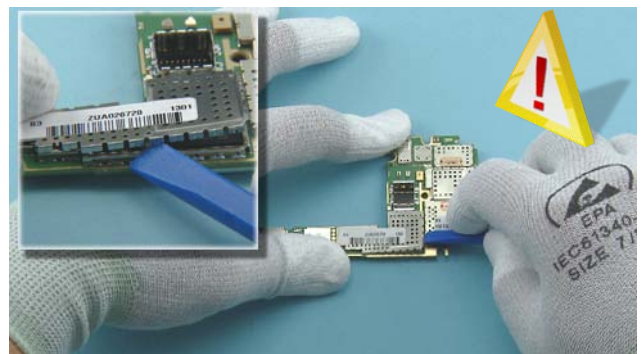
45) Remove the CAMERA BOOT with the tweezers.



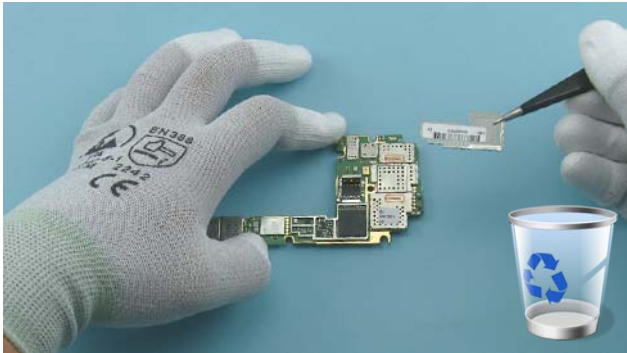
46) Place the SS-210 camera removal tool on top of the CAMERA MODULE. Press down the metal sheets until the camera retaining clips are released.



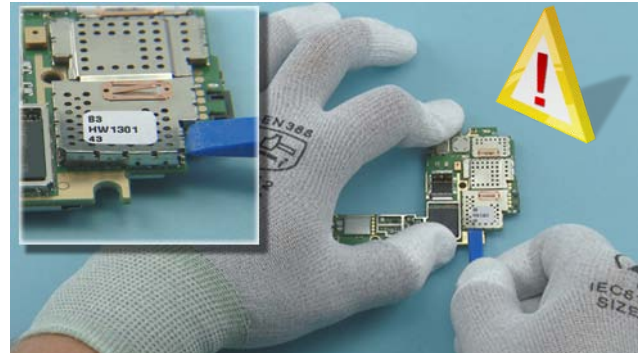
47) Lift up and remove the CAMERA MODULE.



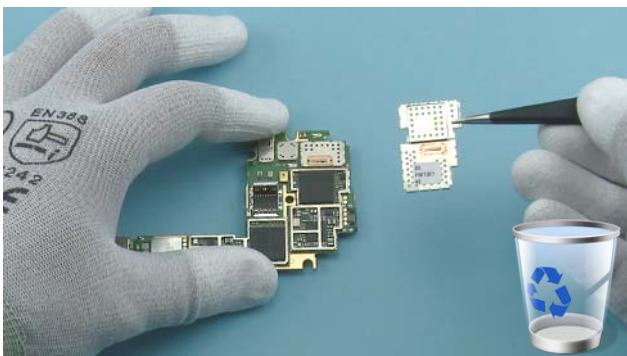
48) Lever out the RAPU SHIELDING LID with the SS-93. Be careful not to damage any nearby components.



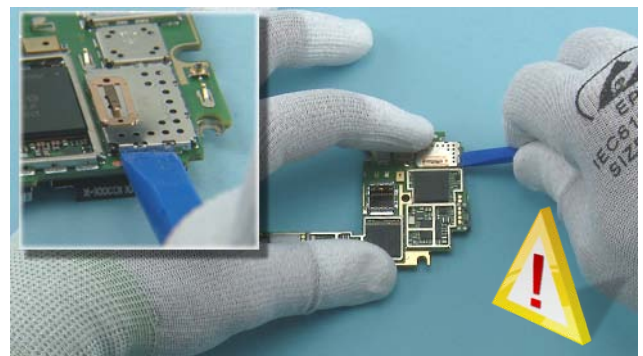
49) Remove the RAPU SHIELDING LID with the tweezers. Do not use it again. Discard it.



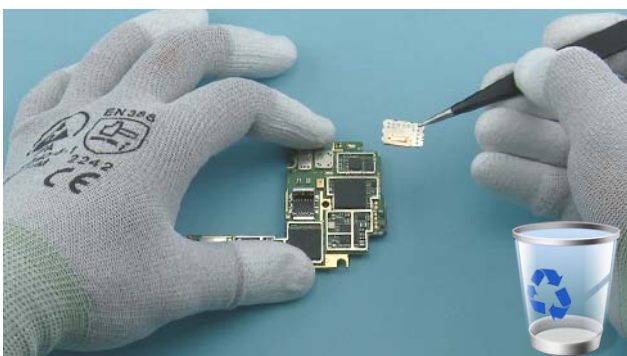
50) Lever out the OMAP SHIELDING LID with the SS-93. Be careful not to damage any nearby components.



51) Remove the OMAP SHIELDING LID with the tweezers. Do not use it again. Discard it.



52) Lever out the NFC SHIELDING LID with the SS-93. Be careful not to damage any nearby components.



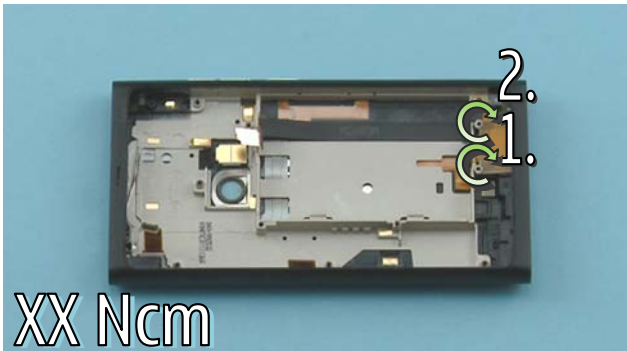
53) Remove the NFC SHIELDING LID with the tweezers. Do not use it again. Discard it.



54) The Nokia N9 disassembly is now complete.

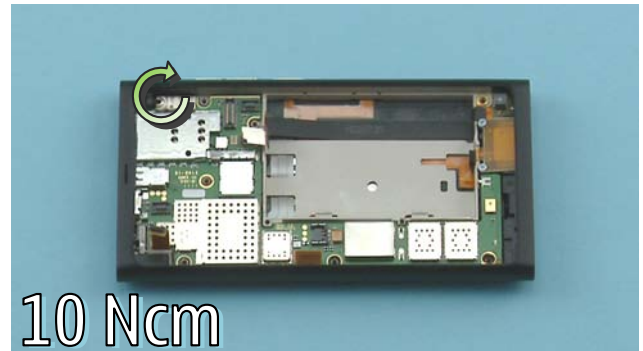
-END OF DISASSEMBLY-

10. ASSEMBLY HINTS



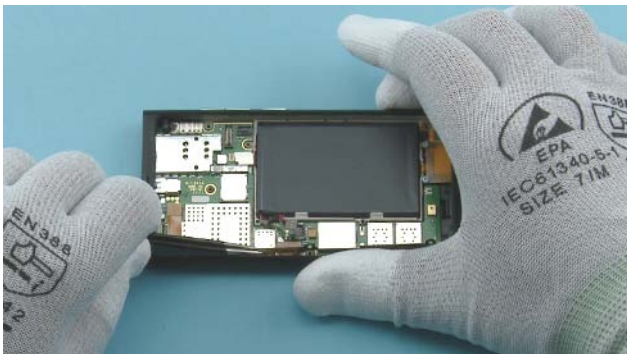
XX Ncm

1) Tighten the two Phillips size 00 screws to the torque of XX Ncm. Torque information not available. Will be updated later.

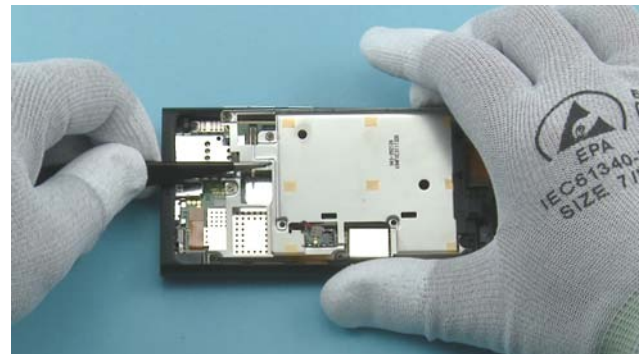


10 Ncm

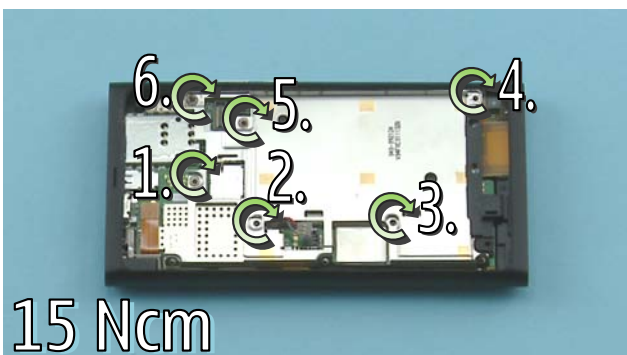
2) Tighten the TORX+ size 5 screw to the torque of 10 Ncm.



3) Insert the CHASSIS SIDE HOOK to its place with the tweezers but leave it open.

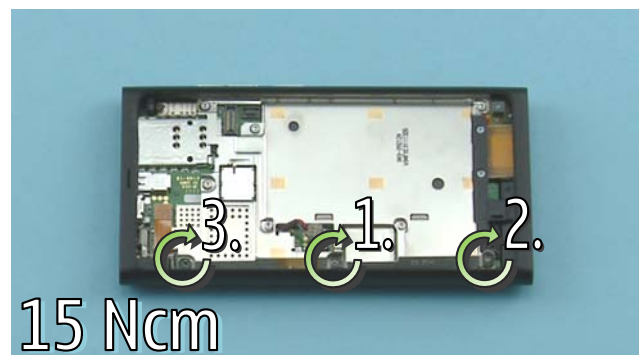


4) Insert the CHASSIS to its place under the CHASSIS SIDE HOOK with the tweezers.



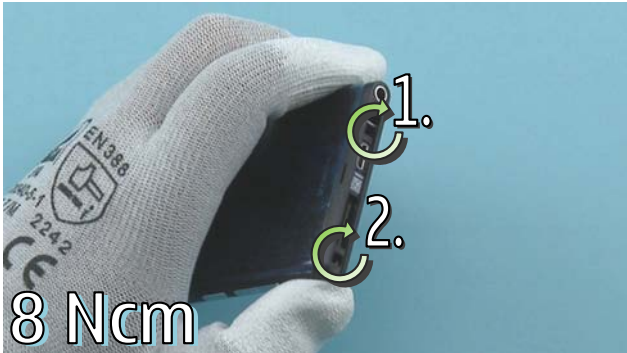
15 Ncm

5) Tighten the six TORX+ size 4 screws to the torque of 15 Ncm.



15 Ncm

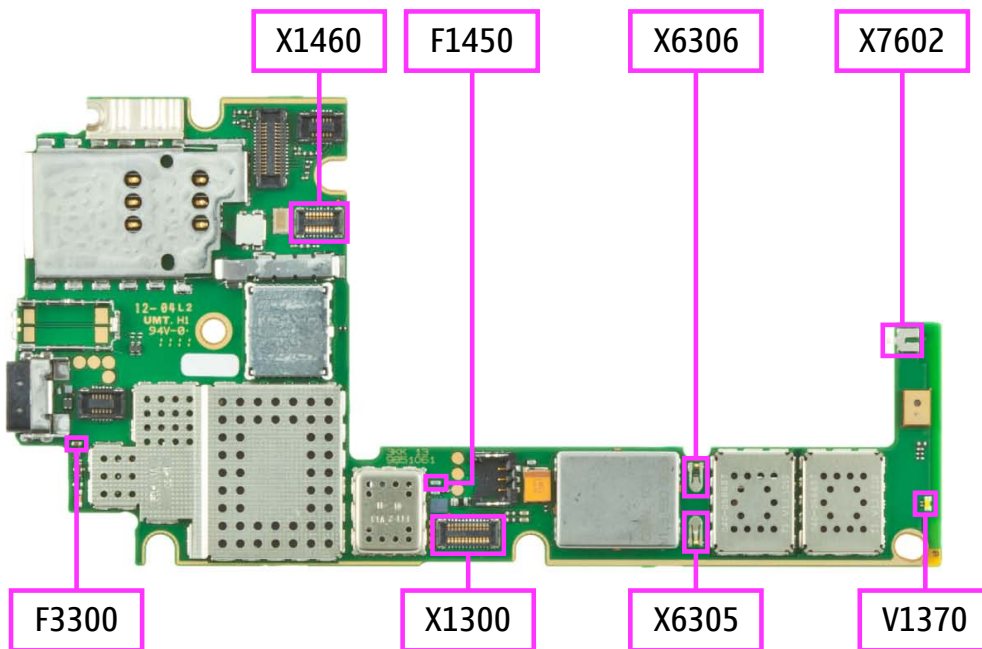
6) Tighten the three TORX+ size 4 screws to the torque of 15 Ncm.



7) Tighten the two TORX+ size 4 screws to the torque of 8 Ncm.

11. SOLDER COMPONENTS

TOP



BOTTOM

