

SERVICE MANUAL
Level 1&2

NOKIA
X2-00

RM-618



Transceiver characteristics

Band:

GSM 850/900/1800/1900 + EDGE

Display:

QVGA (320 x 240 pixels) 2.2" screen up to 262k colors

Camera:

5 Mpix camera with zoom up to 4 x (digital)

Operating System:

Series40 SPR 9.2

Connections:

Bluetooth 2.0 + EDR
High Speed Micro USB
3.5mm AV connector
2.0mm DC charger plug
Micro SD card up to 16 GB

Transceiver with BL-4C battery pack

Talk time	Standby
GSM: Up to 13.5 hours	GSM: Up to 540 hours

Note:

Talk times are dependant on network parameters and phone settings

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Change history

Status	Version No.	Date	Comments
Approved	1.0	10.5.2010	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
<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.

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.

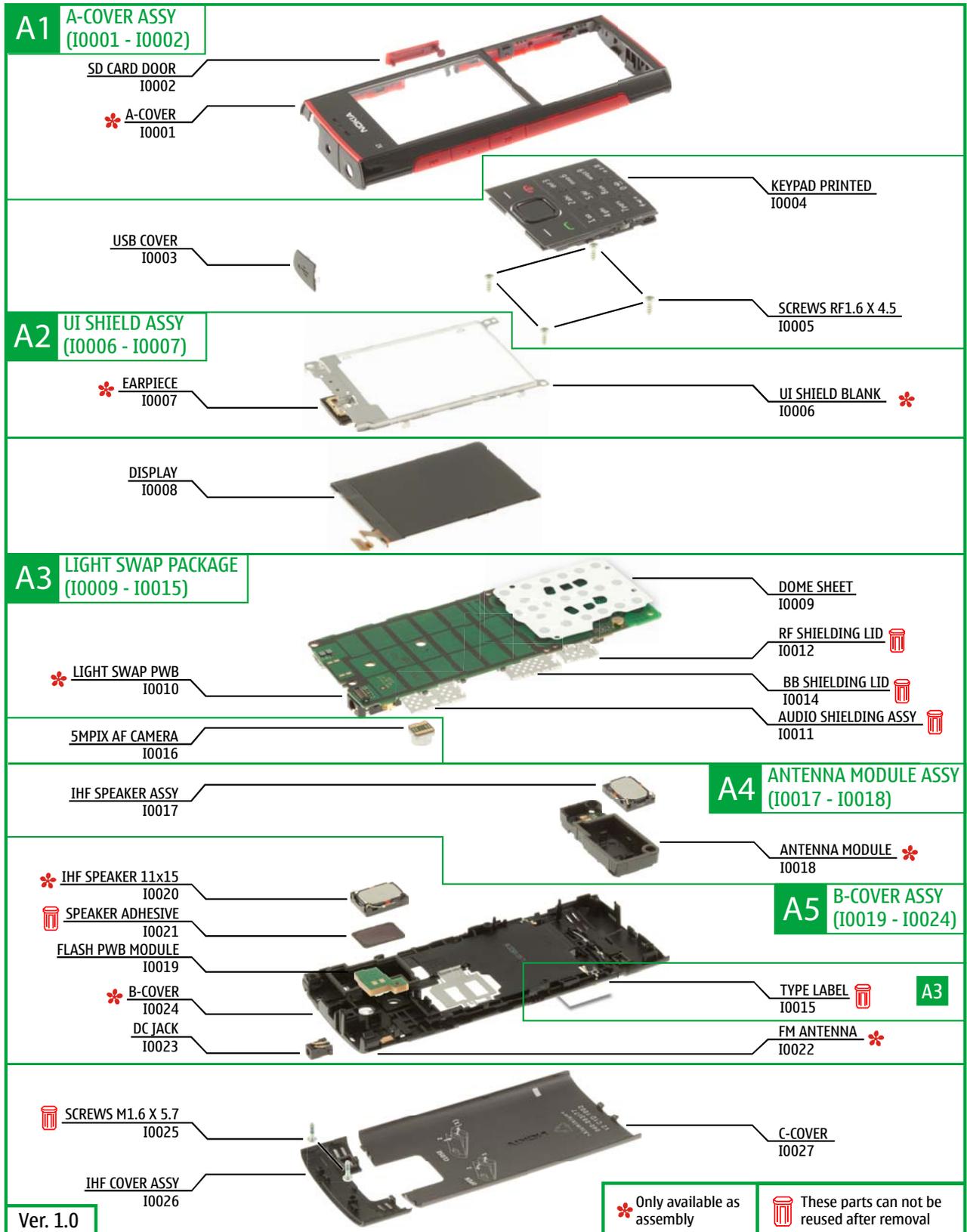
Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F).

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



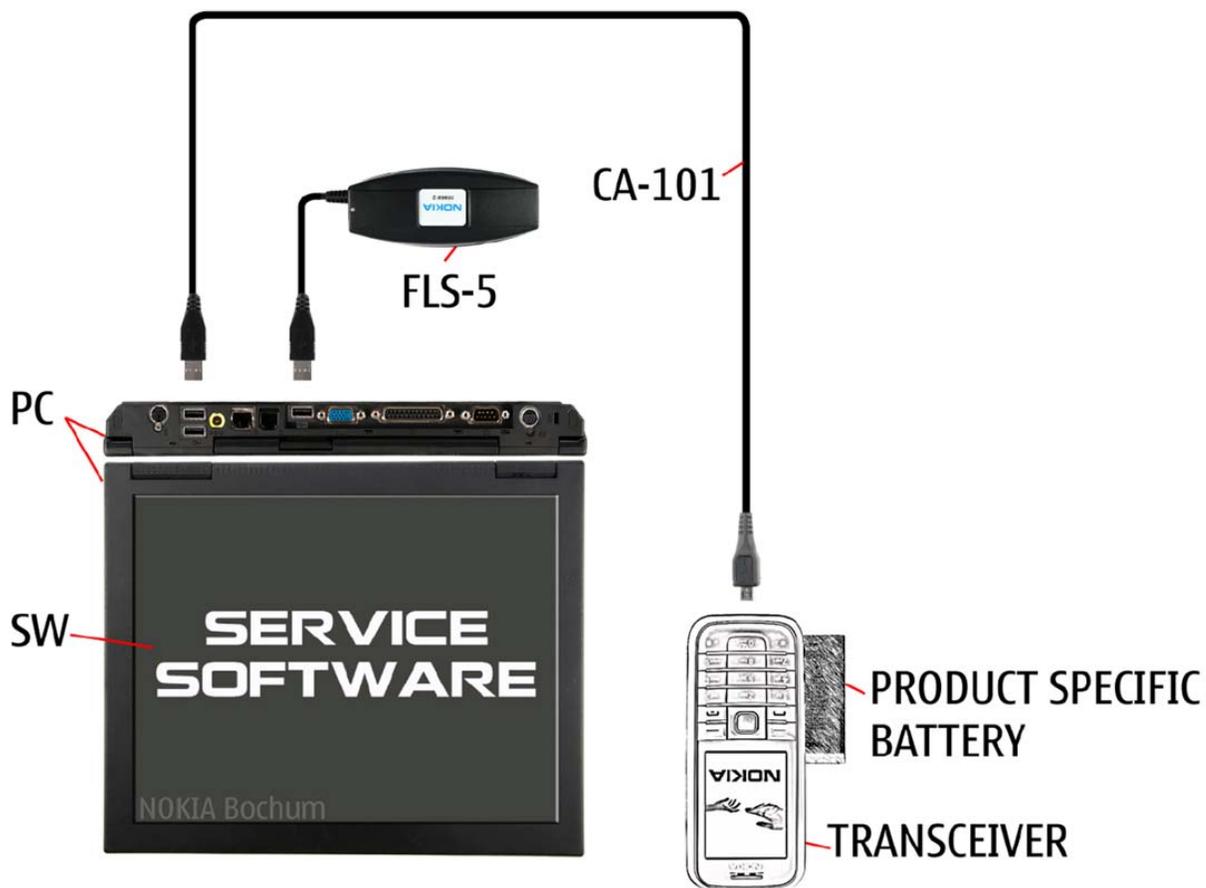
7. SERVICE DEVICES

 <p>FLS-5</p> <p>FLS-5 Flash Device</p>	 <p>CA-101 100cm</p> <p>CA-101 Service Cable</p>	 <p>AC-3 Travel Charger</p>
 <p>BL-4C Battery</p>	 <p>SS-88 Camera Removal tool</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>

8. 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.



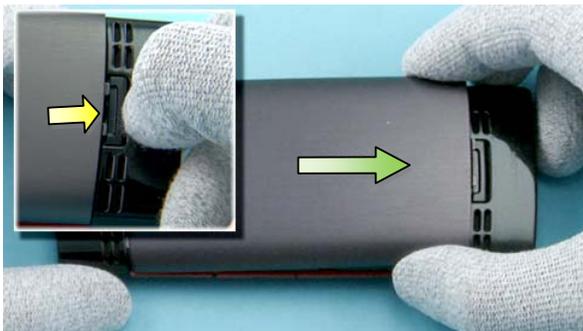
9. DISASSEMBLY INSTRUCTIONS



1) Nokia X2-00 disassembly.



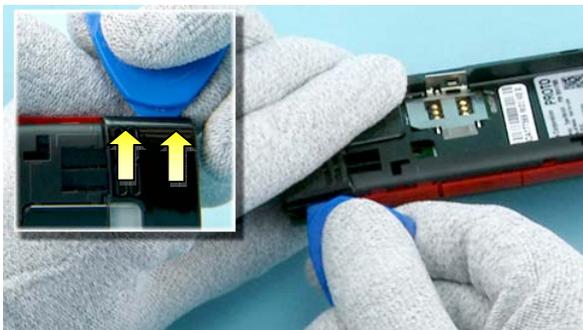
2) You must use the Nokia Standard Toolkit version 2. You will also need the camera removal tool SS-88 and the DC plug.



3) Use the opening notch to release the battery cover and remove it.



4) If there is a battery inserted, remove it also.



5) Start detaching the IHF COVER ASSY with the SRT-6 to release the first two clips.



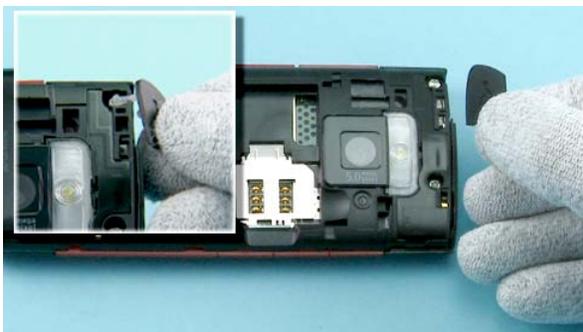
6) Release the two clips on the top side of the device by sliding the SRT-6 to the direction shown.



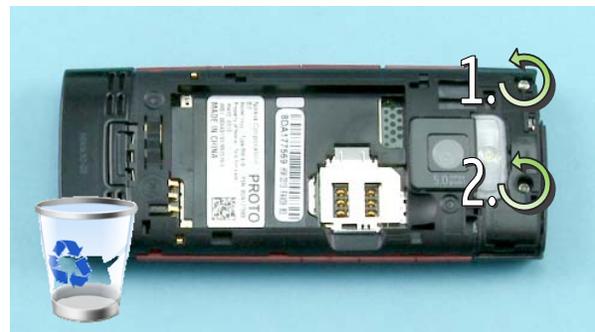
7) Release also the clips on the other side of the device.



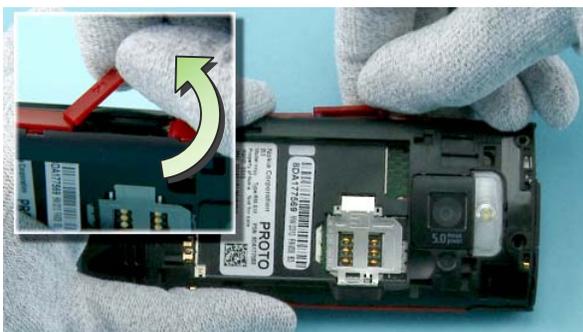
8) Remove the IHF COVER ASSY.



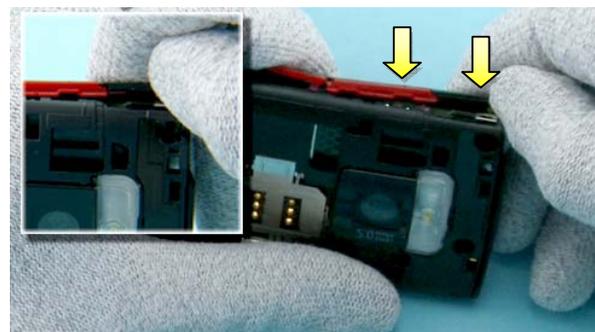
9) Open the USB door and lift to remove it.



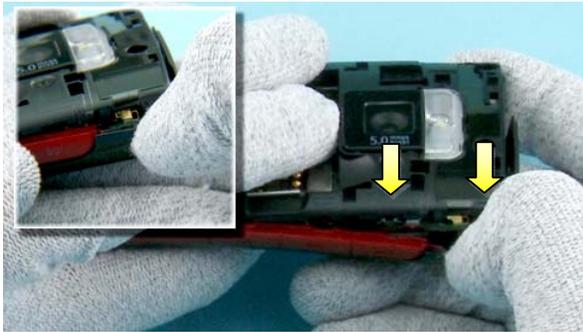
10) Unscrew the two TORX+ size 6 screws in the order shown. Do not use them again. Discard them.



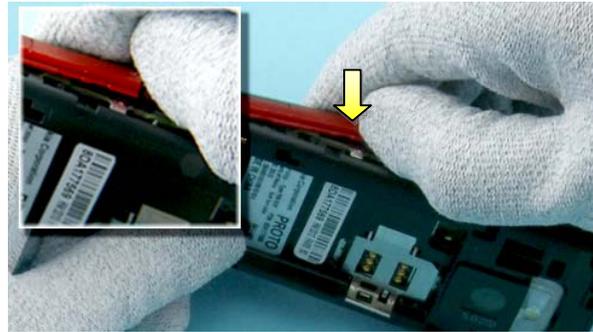
11) To remove the A-COVER ASSY, first open the SD card door.



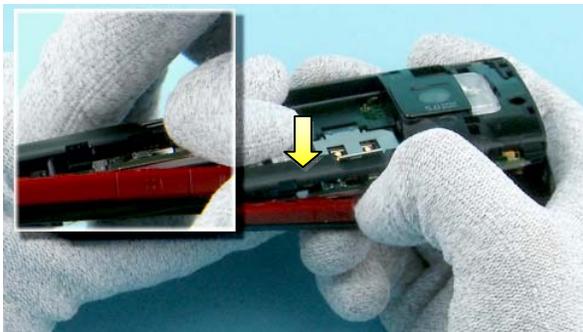
12) Release the two clips on the right side of the device...



13) ... and the similar clips on the left side.



14) Next release the middle clip on the right side...



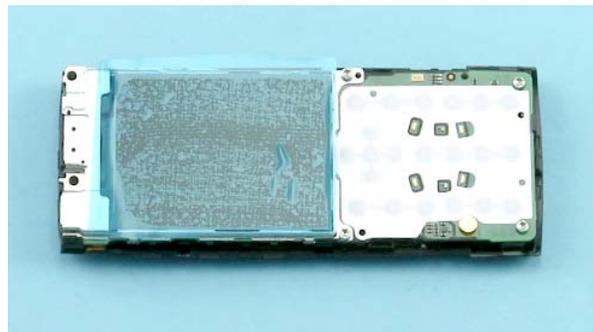
15) ... and the left side of the device.



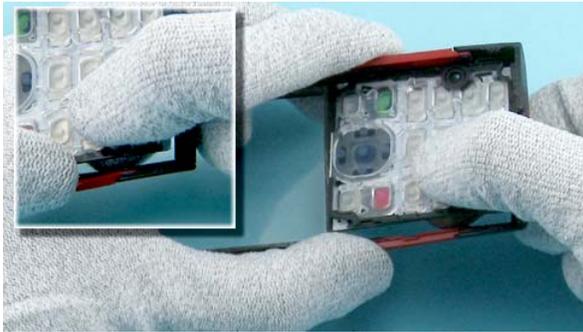
16) Open the remaining two clips on the bottom side of the phone.



17) The A-COVER ASSY can now be removed.



18) Protect the LCD with protective film.



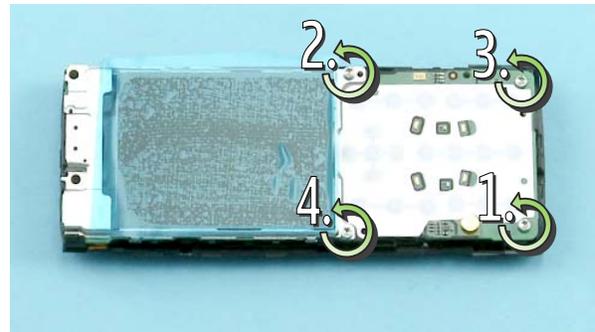
19) Press out the KEYPAD from the A-COVER ASSY as shown.



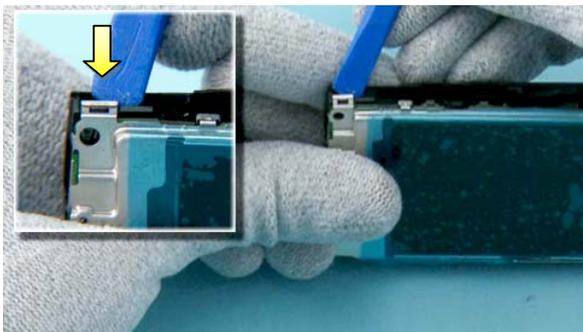
20) Remove the KEYPAD.



21) Remove the SD CARD DOOR.



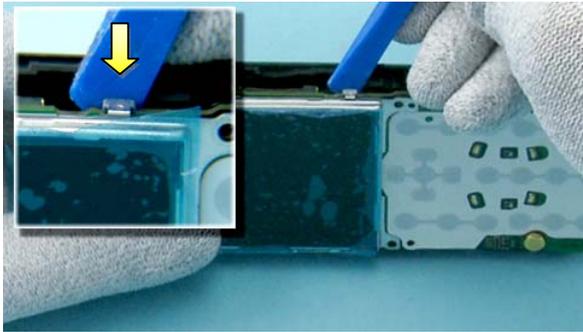
22) Unscrew the four TORX+ size 6 screws in the order shown.



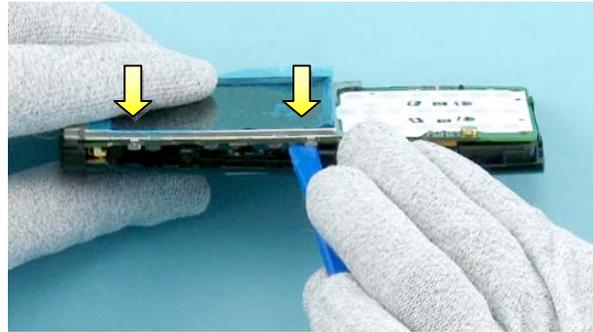
23) Release the first clip of the UI SHIELD with the SS-93.



24) Release the second clip of the UI SHIELD with the SS-93.



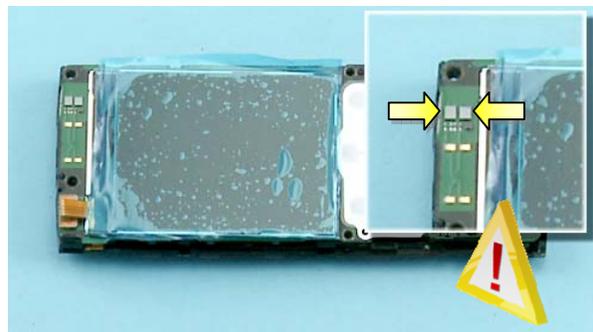
25) Release the third clip of the UI SHIELD with the SS-93.



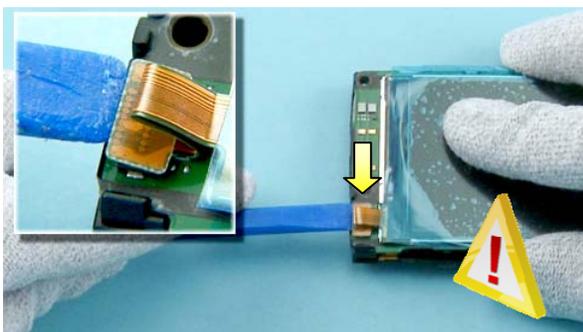
26) Release also the two clips on the other side with the SS-93.



27) Lift up the UI SHIELD and remove it.



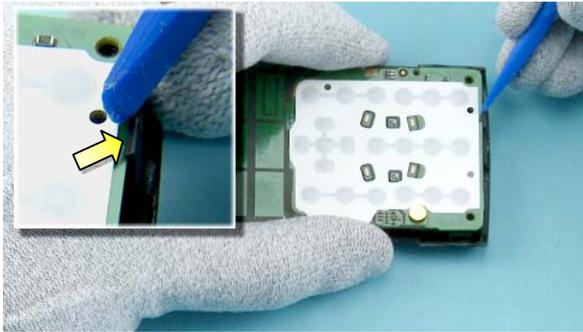
28) Be careful not to damage the two ASIP components during disassembly.



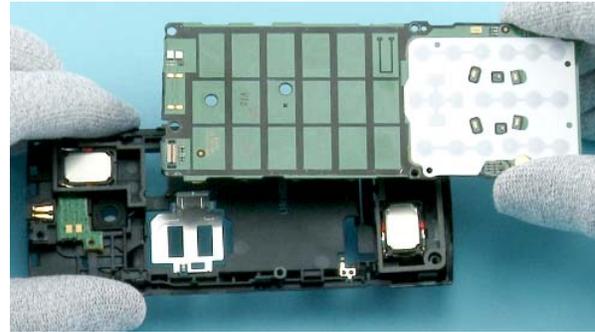
29) Open the LCD CONNECTOR carefully with the SS-93 tool. Be careful not to damage the connector, or any nearby components.



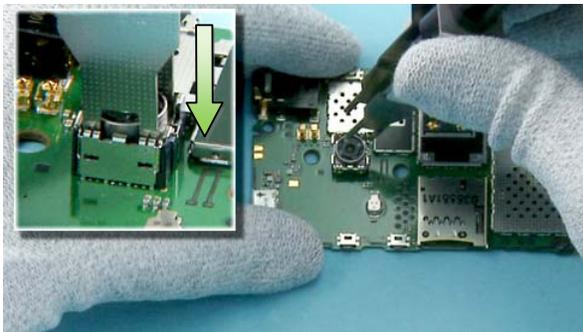
30) Remove the LCD DISPLAY carefully.



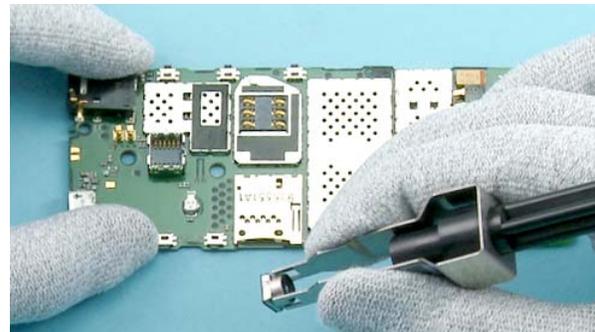
30) Release the clip holding the LIGHT SWAP PWB using the SS-93.



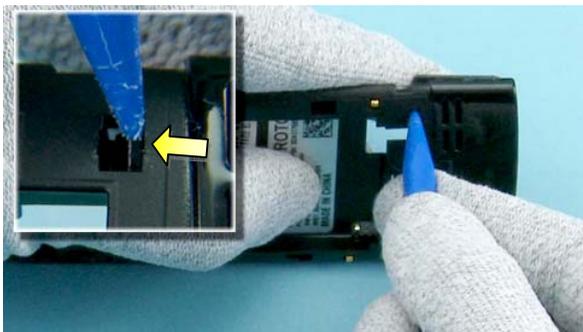
31) Lift up the LIGHT SWAP PWB and remove it.



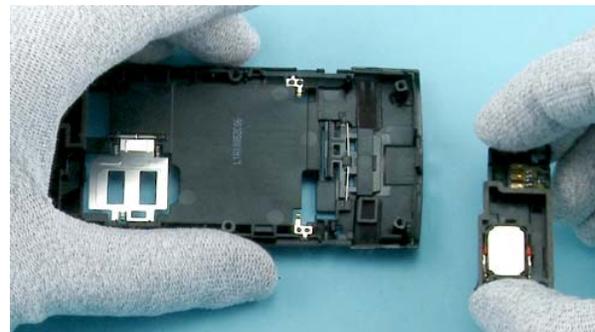
32) Push the camera removal tool SS-88 down until the camera retaining clips are released.



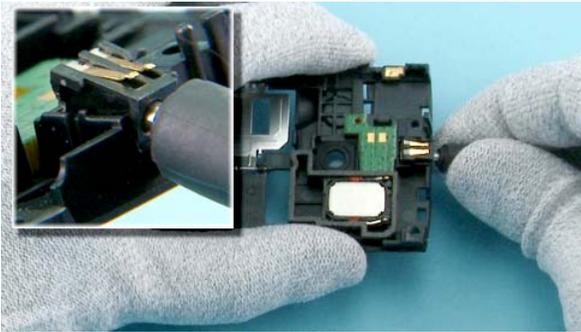
33) Lift up the SS-88 and remove the CAMERA.



34) Release the clip holding the ANTENNA MODULE ASSY with the sharp end of the SS-93.



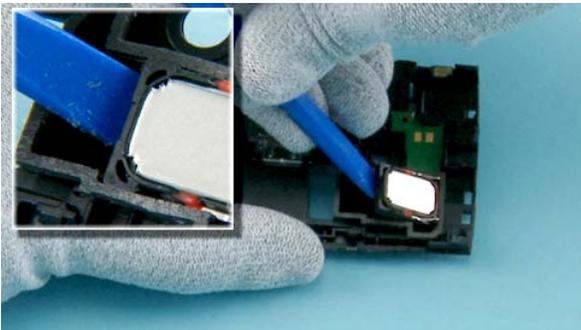
35) Remove the ANTENNA MODULE ASSY.



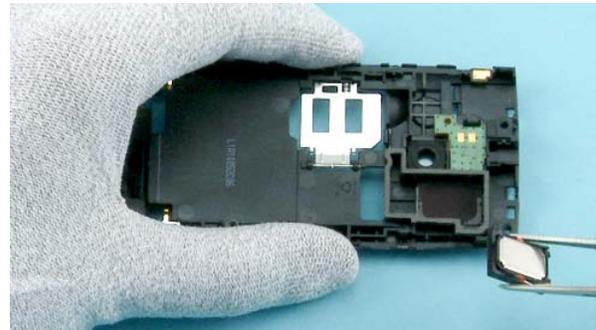
36) Release the DC JACK with the DC plug.



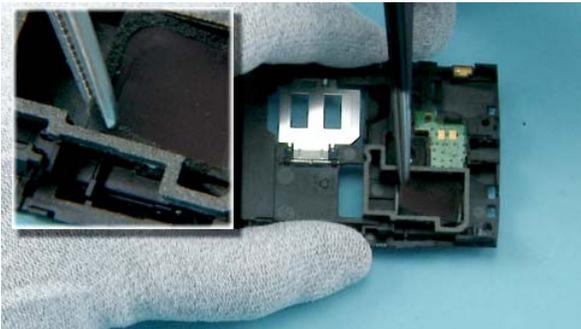
37) Remove the DC JACK.



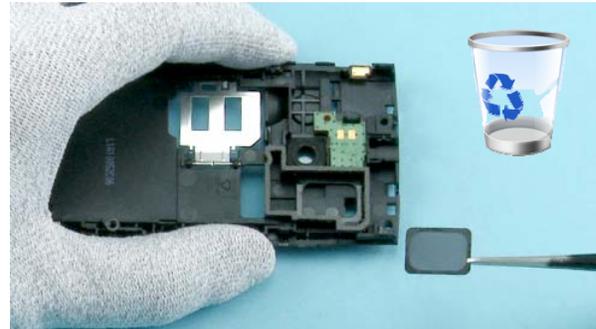
38) Use the SS-93 to release the IHF SPEAKER...



39) ... and remove it with the tweezers



40) Use the tweezers to release the IHF SPEAKER ADHESIVE.



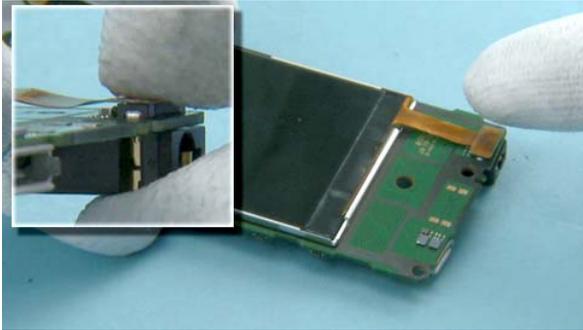
41) Remove the IHF SPEAKER ADHESIVE with the tweezers. Do not use it again.



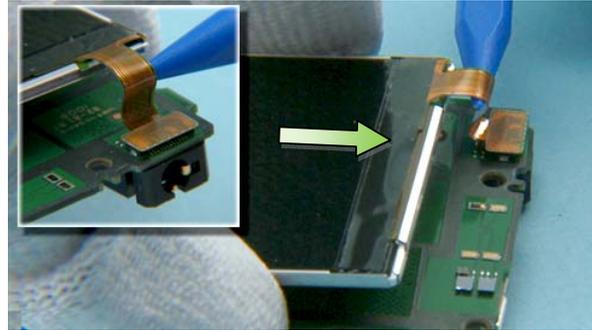
42) Nokia X2-00 disassembly is now complete.

-END OF DISASSEMBLY-

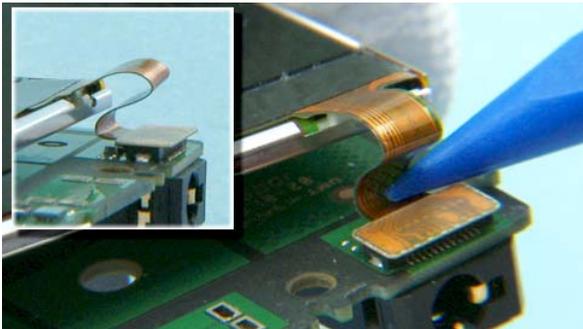
10. ASSEMBLY HINTS



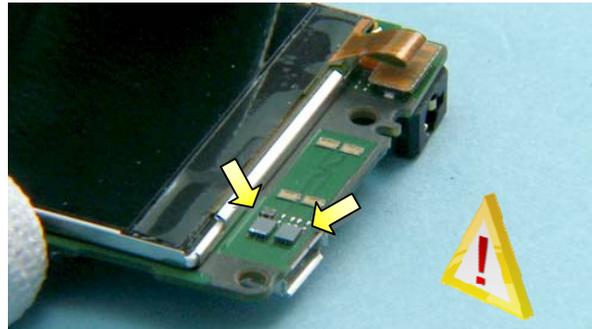
1) Connect the DISPLAY connector to the engine board.



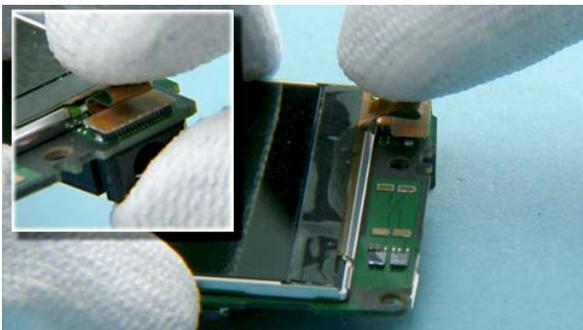
2) Use the SS-93 to carefully lift up the DISPLAY flex to make the bending easier while pushing the DISPLAY carefully forward.



3) Use the SS-93 to bend the flex. Be careful not to bend too close to the connector.



5) Be careful not to damage the sensitive ASIP components.



6) Carefully press down the DISPLAY flex as shown.



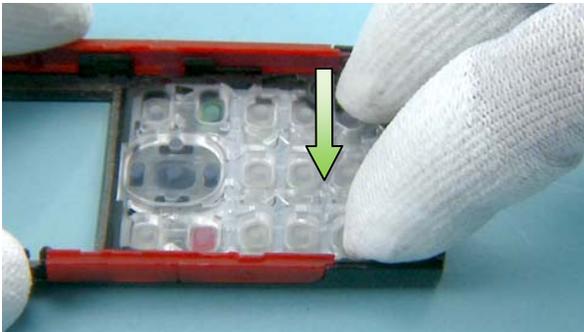
7) Tighten the four TORX + size 6 screws to the torque of 15 Ncm in the order shown.



8) Place the KEYPAD below the A-COVER as shown.



9) Make sure that the KEYPAD covers the bottom end of the A-COVER window shown by the arrows.



10) Press down the KEYPAD to attach the clips.



11) The KEYPAD is now assembled.



12) Tighten the two TORX + size 6 screws to the torque of 21 Ncm in the order shown.

11. SOLDER COMPONENTS

