SERVICE MANUAL
Level 1&2

NOKIA 2220 SLIDE

RM-590 / RM-591

Transceiver characteristics

Band:
EGSM 900/1800 (RM-590)
GSM 850/1900 (RM-591)

Display:
1.8" 128x160 TFT 65k color display
128x160 pixel resolution

Camera:
VGA camera with still imaging and video recording

Operating System:
ISA S40 SPR7.2

Connections:
3.5mm stereo headphone plug

Transceiver with BL-4C battery pack

Talk time	Standby
GSM: Up to 3.47 hours	**GSM:** Up to 400 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	2.11.2009	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.

2. COPYRIGHT

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.

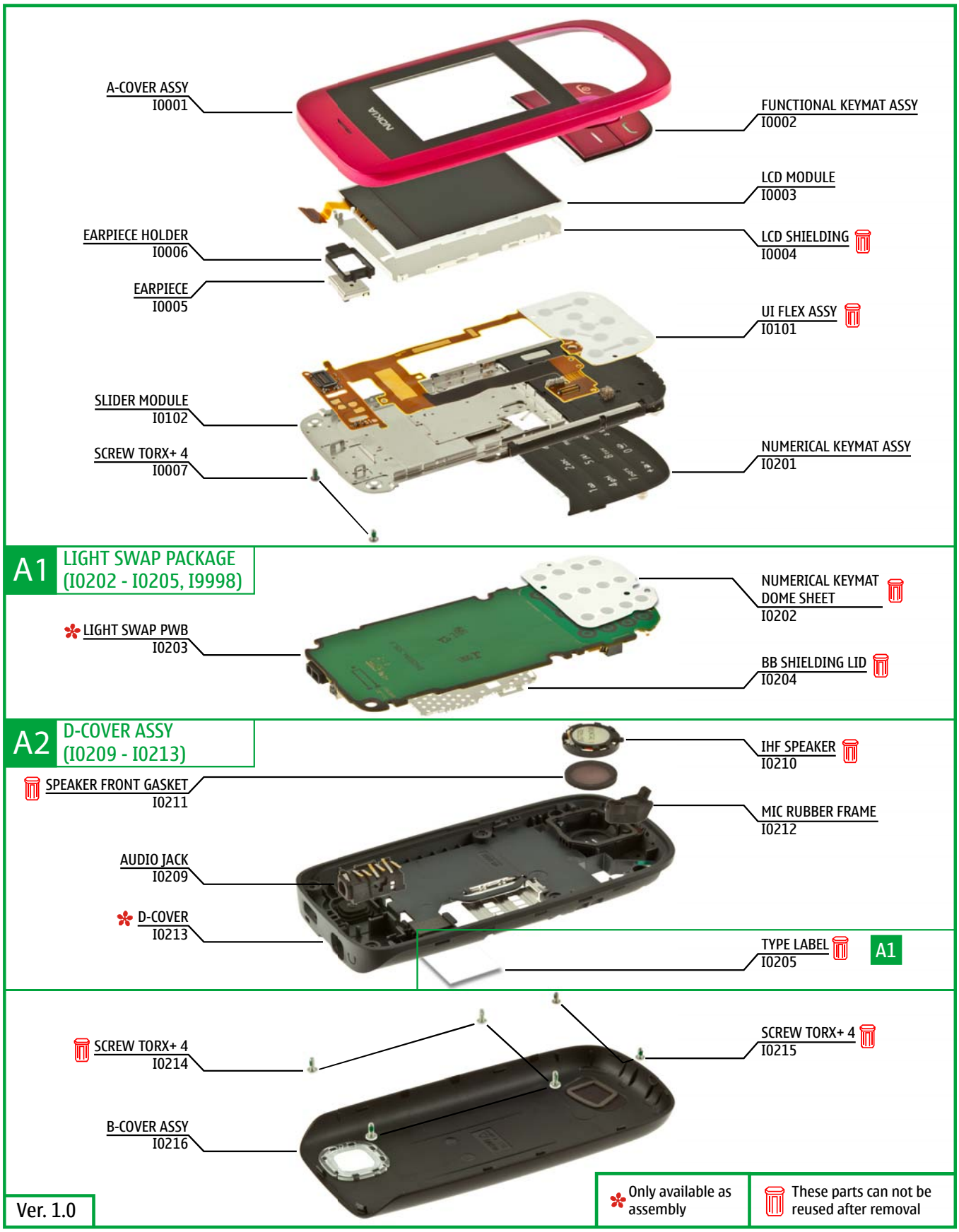
Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F).

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.

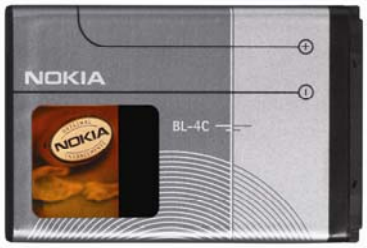
Do not dispose batteries in a fire! Dispose of batteries according to local regulations (e.g. recycling).

Do not dispose as household waste.

7. EXPLODED VIEW



8. SERVICE DEVICES

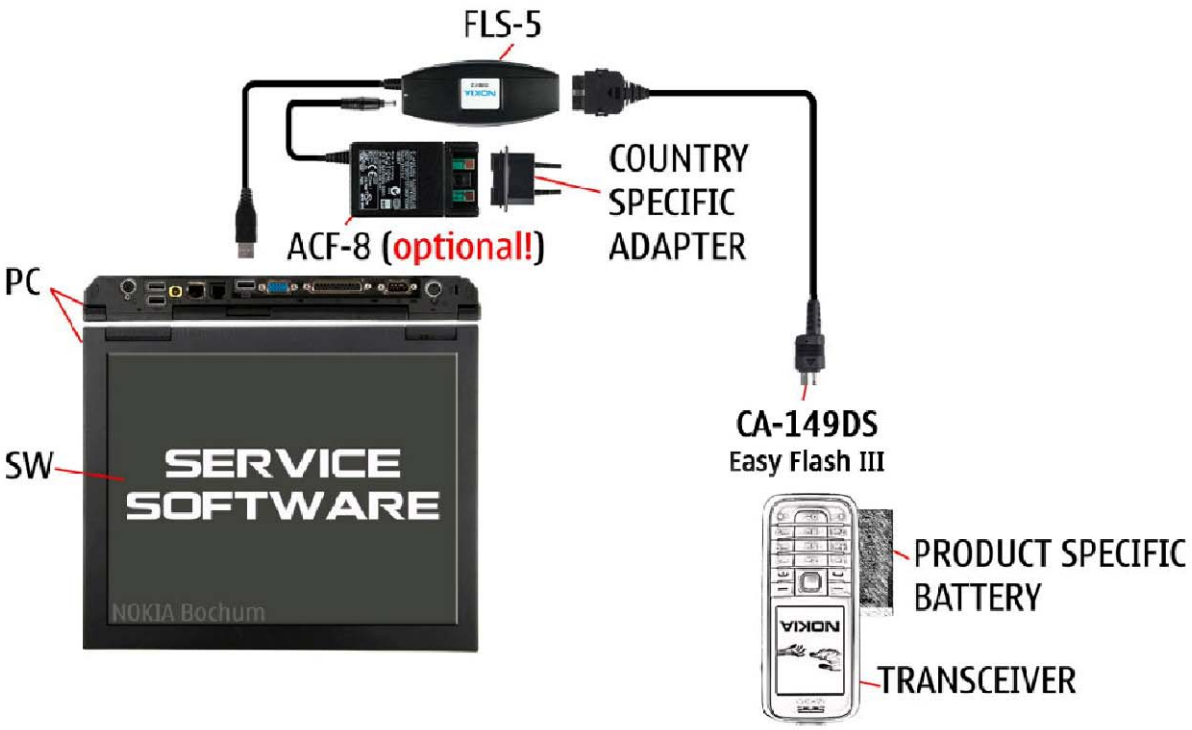
 FLS-5 Flash Device	 CA-149DS Service Cable	 BL-4C Battery
 AC-3 Travel Charger		 **NMP standard toolkit (v2)** For more information, refer to the Service Bulletin (SB-011) on Nokia Online. Supplier or manufacturer contacts for tool re-order can be found in "Recommended service equipment" document on Nokia Online.

9. SOFTWARE UPDATE

Flash concept – Point of Sale (POS)

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 available on Nokia Online (NOL).

POS flash concept with FLS-5



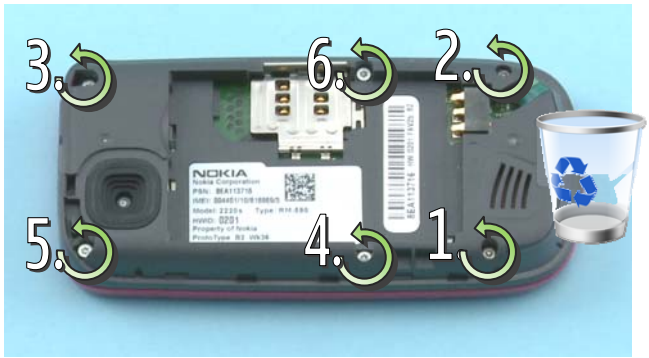
10. DISASSEMBLY INSTRUCTIONS

1) Nokia 2220 Slide disassembly.

2) For disassembling, you need the Nokia Standard Tool kit version 2. You will also need an AV plug.

3) Use the opening notch to release the BATTERY COVER.

4) Remove the BATTERY COVER. If there is a battery inserted, remove it also.

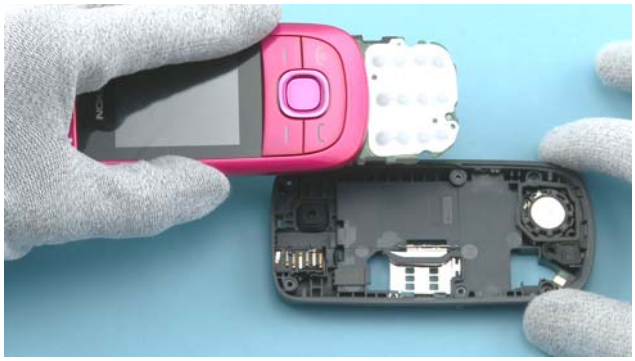


5) Unscrew the six TORX+ size 4 screws in the order shown. Do not use them again. Discard them.

6) Insert the SRT-6 between the NUMERICAL KEYMAT ASSY and the D-COVER. Slide the SRT-6 in the direction shown.

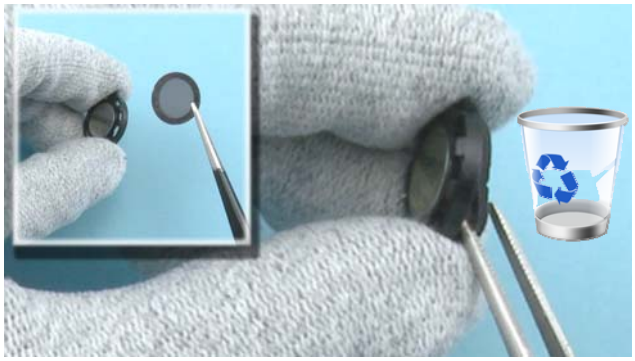
7) Remove the NUMERICAL KEYMAT ASSY.

8) Using the SS-93, detach the two clips holding the SLIDER MODULE.

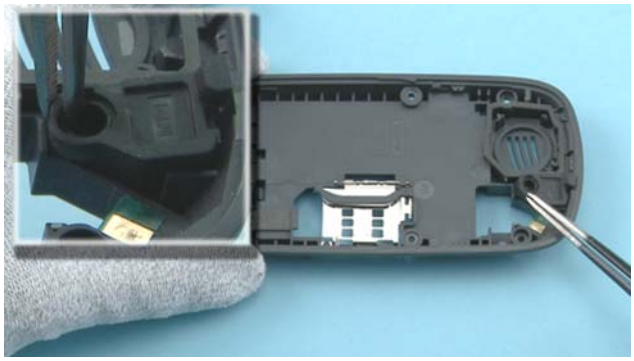


9) The SLIDER MODULE can be separated from the D-COVER.

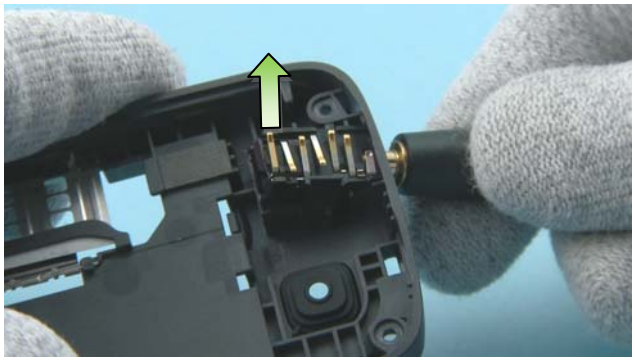
10) Lift up the IHF SPEAKER with the sharp end of the SS-93. Remove the IHF SPEAKER.



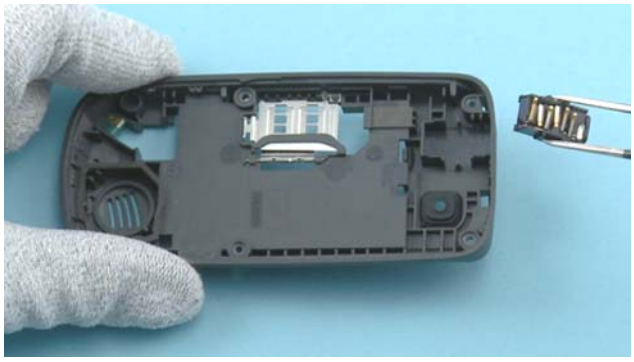
11) Use the tweezers to separate the IHF SPEAKER and the SPEAKER FRONT GASKET. Discard them. Do not use them again.



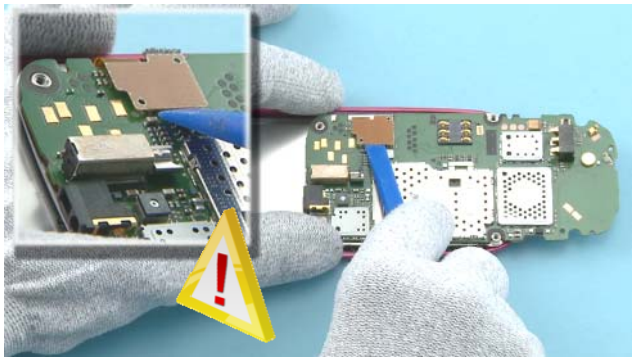
12) Use the tweezers to remove the MIC RUBBER FRAME from the D-COVER.



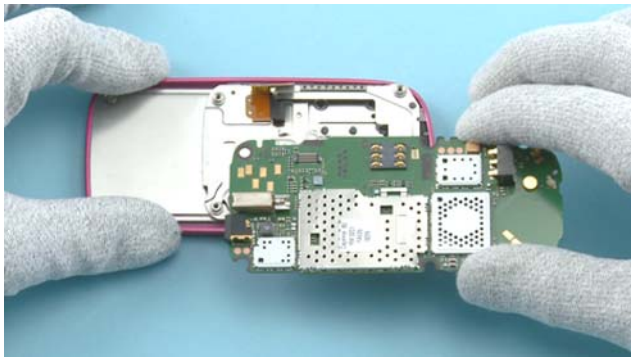
13) Lift up the AUDIO JACK from the D-COVER with an AV plug.



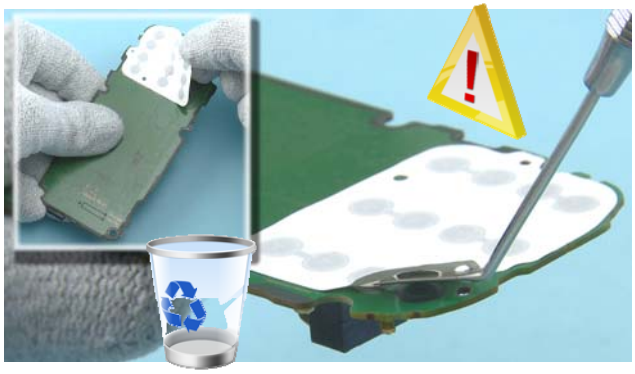
14) Remove the AUDIO JACK with the tweezers.



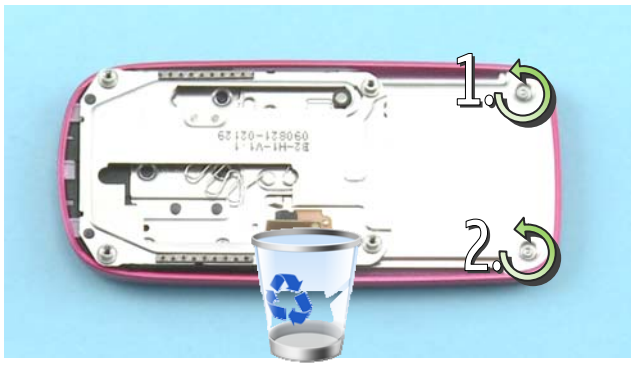
15) Use the SS-93 to open the UI FLEX CONNECTOR. While opening the connector, be careful not to damage the connector or components nearby!



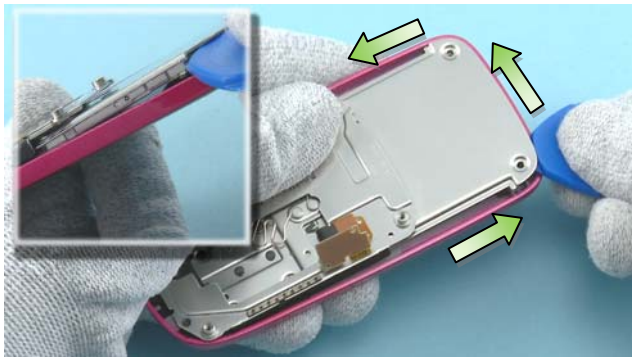
16) Remove the PWB from the SLIDER MODULE.



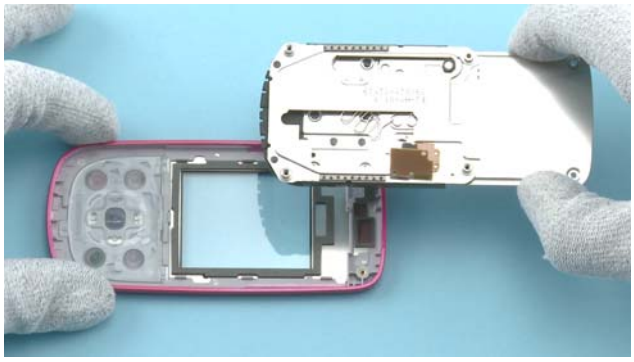
17) Use the dental tool to lift up one corner of the DOMESHEET. Peel off and remove the DOMESHEET ASSY with fingers. Do not use it again. Discard it. Be aware of the sharp point of the dental tool – be careful not to injure yourself!



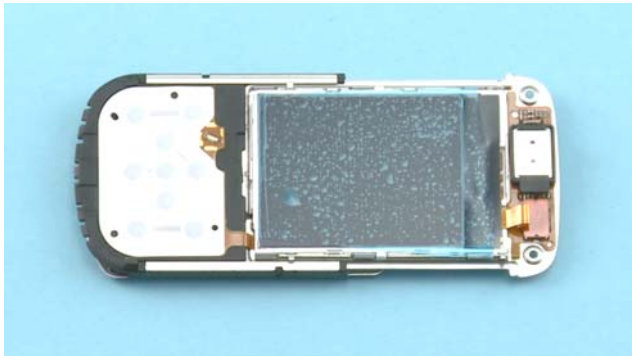
18) Unscrew the two TORX+ size 4 screws in the order shown. Do not use them again. Discard them.



19) Slide the SRT-6 between the SLIDER MODULE and the A-COVER in the direction shown.



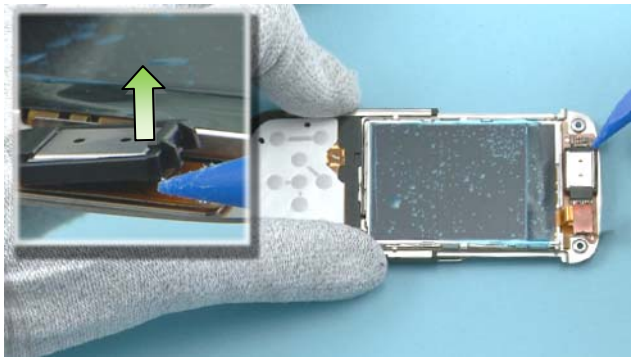
20) Remove the A-COVER.



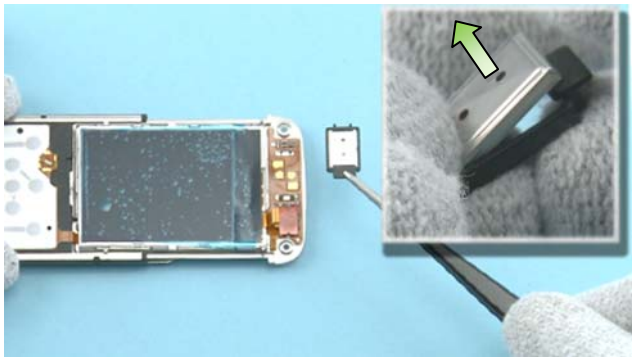
21) Protect the LCD with a protective film.

22) Detach the FUNCTIONAL KEYMAT ASSY from the A-COVER by pressing it down.

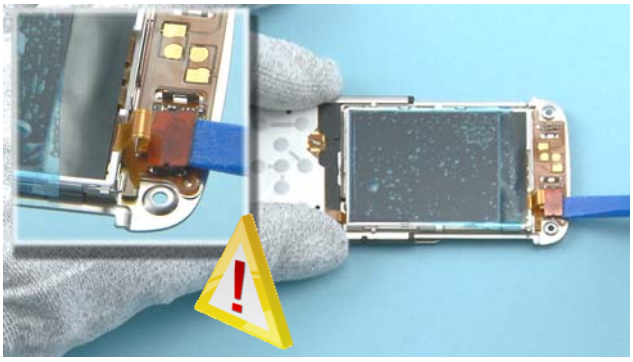
23) Remove the FUNCTIONAL KEYMAT ASSY.



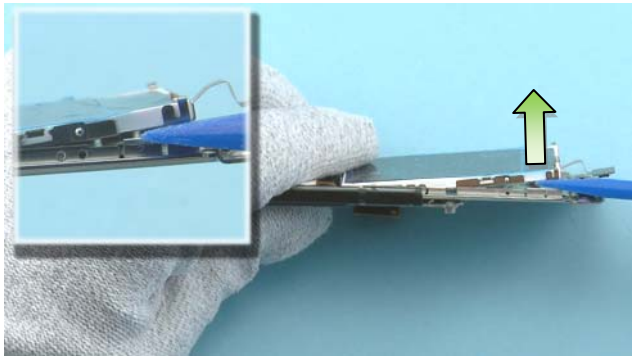
24) Using the sharp end of the SS-93, lift up the EARPIECE HOLDER.



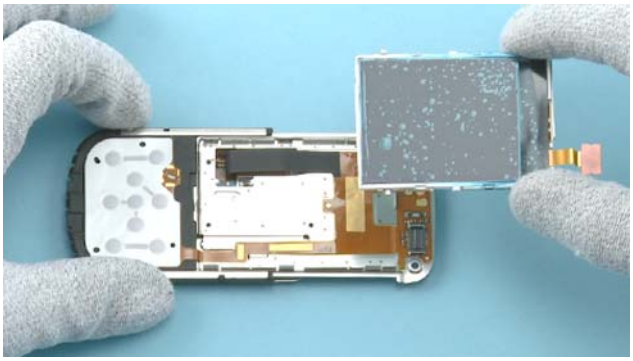
25) Remove the EARPIECE HOLDER. Separate the EARPIECE from the EARPIECE HOLDER by pushing it out.



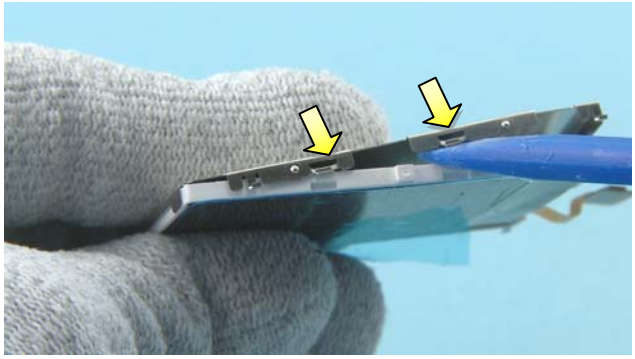
26) Use the SS-93 to open the LCD CONNECTOR. Be careful not to damage the connector!



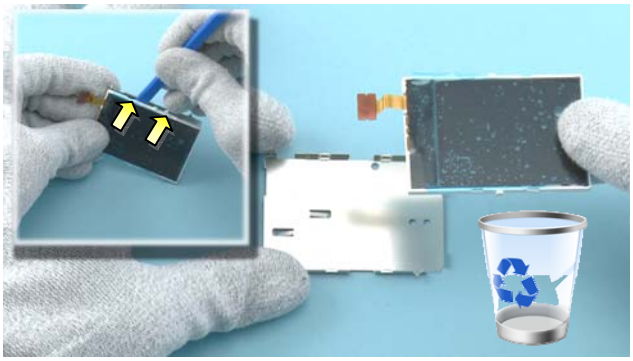
27) Using the SS-93, lift up the LCD MODULE from the SLIDER MODULE.



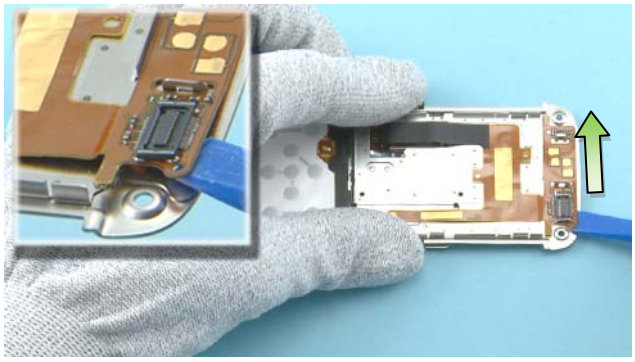
28) Remove the LCD MODULE.



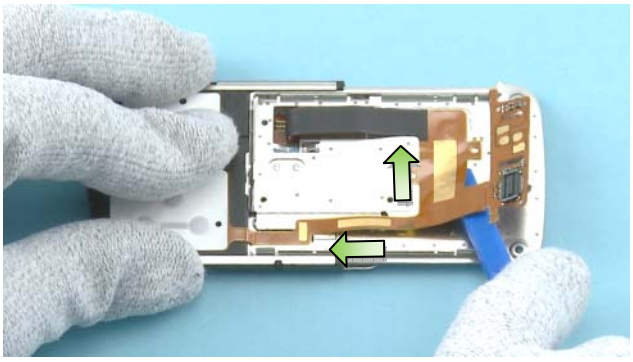
29) Use the SS-93 to release the two hooks holding the LCD SHIELDING.



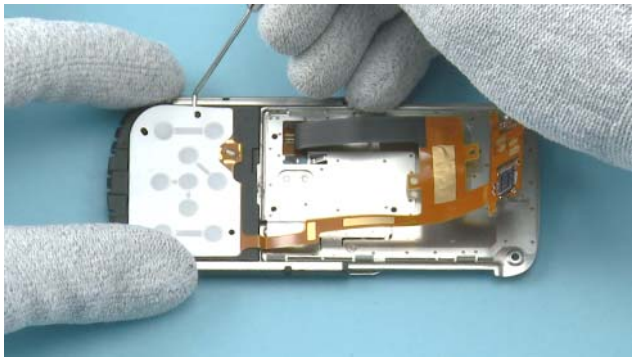
30) Also, release the two hooks on the other side. The LCD SHIELDING can be separated from the LCD MODULE. Discard the LCD SHIELDING. Do not use it again.



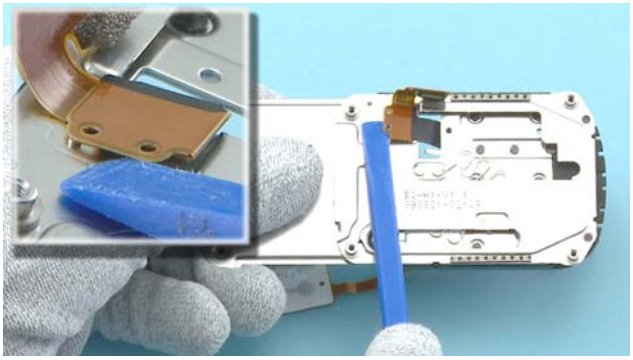
31) Release the top side of the UI FLEX ASSY from the SLIDER MODULE with the SS-93. Slide the SS-93 in the direction shown.



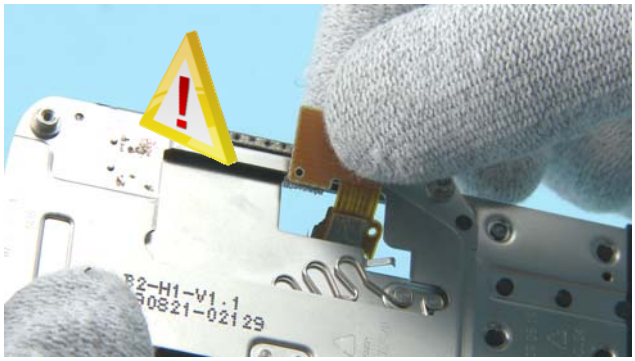
32) Continue to release the UI FLEX ASSY in the directions shown.



33) Release the bottom side of the UI FLEX ASSY using a dental tool.



34) Turn over the phone and detach the remaining part of the UI FLEX ASSY using the SS-93.



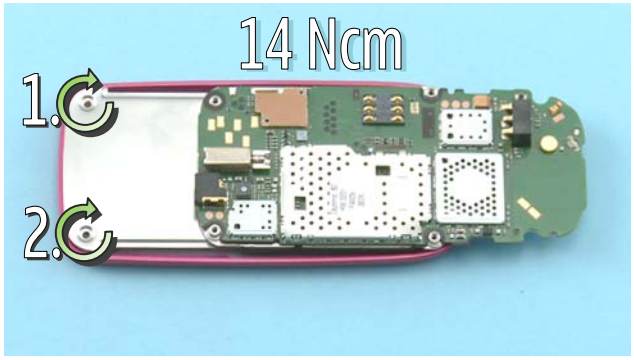
35) Carefully, push the UI FLEX ASSY through the gap of the SLIDER MODULE.

36) Remove the UI FLEX ASSY. Discard the UI FLEX ASSY. Do not use it again.

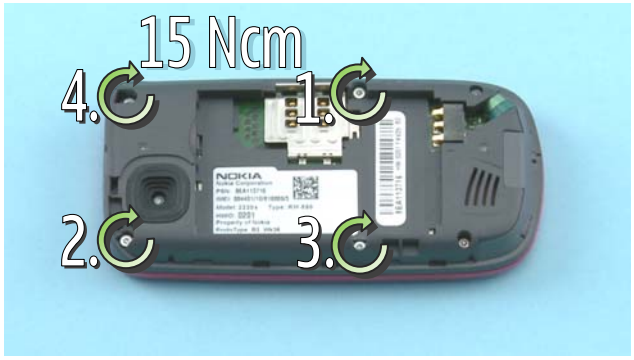
37) Nokia 2220 Slide disassembly is now complete.

- END OF DISASSEMBLY -

11. ASSEMBLY HINTS



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



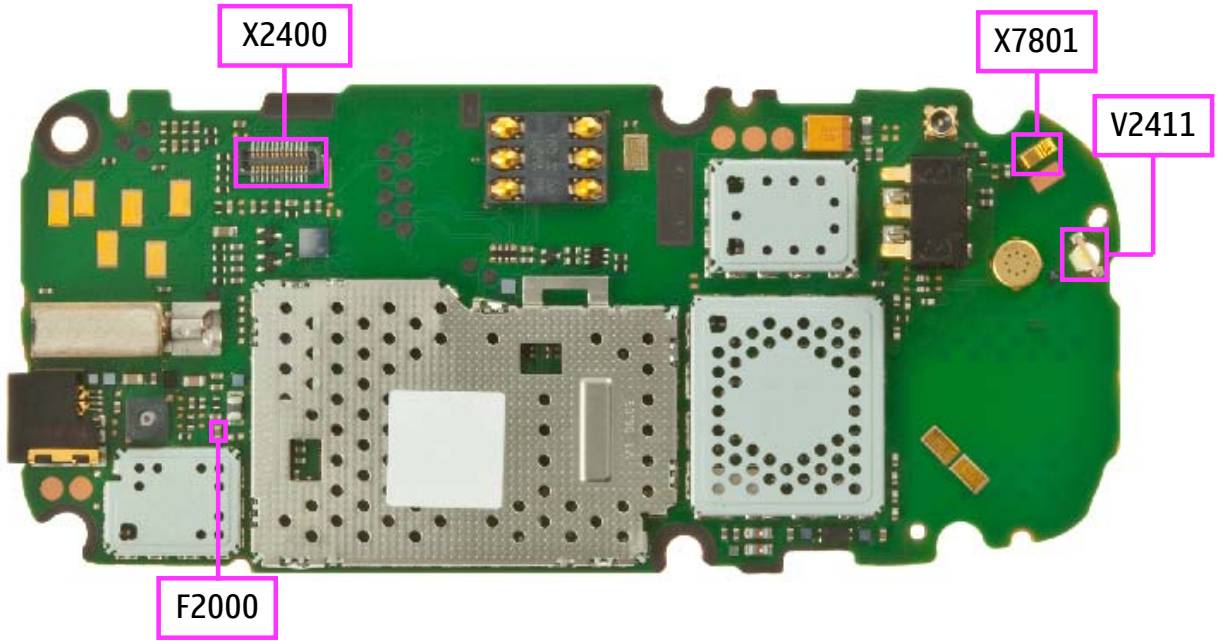
2) Tighten the four TORX+ size 4 screws to the torque of 15 Ncm in the order shown.

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

12. SOLDER COMPONENTS

TOP

BOTTOM



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