

SERVICE MANUAL

Level 1&2

NOKIA

6710

Navigator

RM-491



Transceiver characteristics

Band:

WCDMA 900/1900/2100

GSM/EDGE 850/900/1800/1900

Display:

2.6" QVGA 320x240, 16 M colours

Keypad:

Alphanumeric keypad and Function keypad

Camera:

5MP Carl Zeiss, Dual LED flash, secondary camera CIF for video calling

Operating System:

S60 3rd Edition, Feature Pack 2

Connections:

Micro USB connector with charging capability, 3.5 mm Nokia AV connector, 2 mm DC jack connector, Bluetooth 2.0, A-GPS, WLAN 802.11b/g

Transceiver with BL-5F battery pack

Talk time	Standby
GSM: Up to 430 min	GSM: Up to 380 hours
WCDMA: Up to 260 min	WCDMA: Up to 380 hours
GPS Navigation	
Car navigation: Up to 350 min	Pedestrian navigation: Up to 370 min

Note: Talk times are dependant on network parameters and phone settings.

Table of contents

1.	Change history	3
2.	Copyright.....	4
3.	Warnings and cautions.....	5
3.1	Warnings	5
3.2	Cautions	5
4.	ESD protection.....	6
5.	Care and maintenance	7
6.	Battery information	8
7.	Exploded view	9
8.	Service devices.....	10
9.	SW-update.....	11
10.	Disassembly instructions.....	12
11.	Assembly hints	18
12.	Solder components.....	19

1. CHANGE HISTORY

Status	Version No.	Date	Comments
Approved	1.0	10.06.2009	

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:

CMO Operation & Logistics
Training and Vendor Development
Multimedia Creation & Support
<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

Copyright © 2009 Nokia. All rights reserved.

Reproduction, transfer, distribution or storage of part or all of the contents in this document in any form without the prior written permission of Nokia is prohibited.

Nokia, Nokia Connecting People, and Nokia X and Y are trademarks or registered trademarks of Nokia Corporation. Other product and company names mentioned herein may be trademarks or tradenames of their respective owners.

Nokia operates a policy of continuous development. Nokia reserves the right to make changes and improvements to any of the products described in this document without prior notice.

Under no circumstances shall Nokia be responsible for any loss of data or income or any special, incidental, consequential or indirect damages howsoever caused.

The contents of this document are provided "as is". Except as required by applicable law, no warranties of any kind, either express or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose, are made in relation to the accuracy, reliability or contents of this document. Nokia reserves the right to revise this document or withdraw it at any time without prior notice.

The availability of particular products may vary by region.

IMPORTANT

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

3. WARNINGS AND CAUTIONS

Please refer to the phone's user guide for instructions relating to operation, care and maintenance including important safety information. Note also the following:

3.1 Warnings

1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI-SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.
2. THE HANDPORTABLE TELEPHONE MUST NOT BE OPERATED IN AREAS LIKELY TO CONTAIN POTENTIALLY EXPLOSIVE ATMOSPHERES, EG PETROL STATIONS (SERVICE STATIONS), BLASTING AREAS ETC.
3. OPERATION OF ANY RADIO TRANSMITTING EQUIPMENT, INCLUDING CELLULAR TELEPHONES, MAY INTERFERE WITH THE FUNCTIONALITY OF INADEQUATELY PROTECTED MEDICAL DEVICES. CONSULT A PHYSICIAN OR THE MANUFACTURER OF THE MEDICAL DEVICE IF YOU HAVE ANY QUESTIONS. OTHER ELECTRONIC EQUIPMENT MAY ALSO BE SUBJECT TO INTERFERENCE.

3.2 Cautions

1. Servicing and alignment must be undertaken by qualified personnel only.
2. Ensure all work is carried out at an anti-static workstation and that an anti-static wrist strap is worn.
3. Use only approved components as specified in the parts list.
4. Ensure all components, modules screws and insulators are correctly re-fitted after servicing and alignment.
5. Ensure all cables and wires are repositioned correctly

4. ESD PROTECTION

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



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

To replace the covers ESD protection must be applied.

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

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

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

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

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

5. CARE AND MAINTENANCE

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

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

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

6. BATTERY INFORMATION

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

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

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

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

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

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

Never use any charger or battery which is damaged.

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

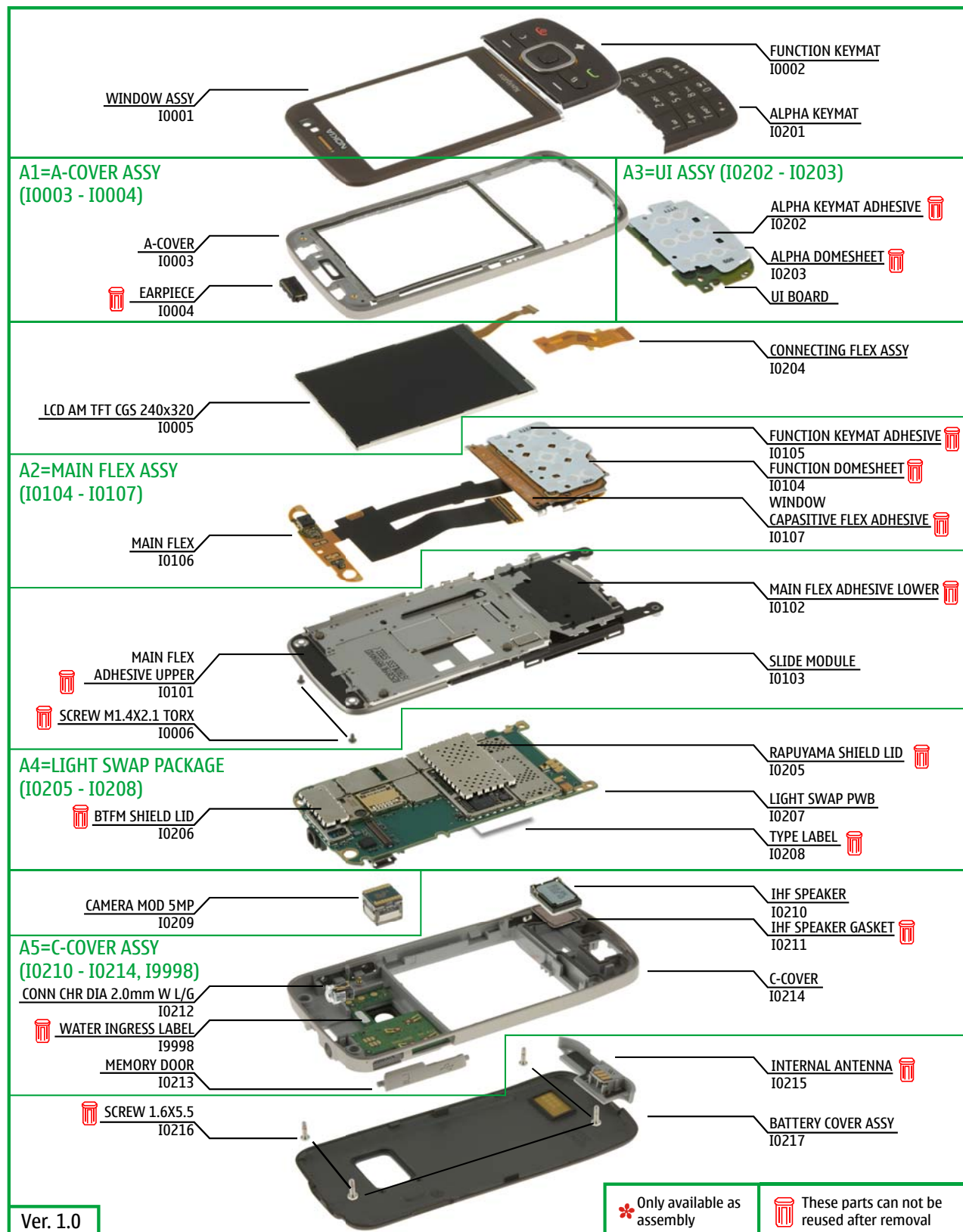
Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F).

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

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

Do not dispose as household waste.

7. EXPLODED VIEW

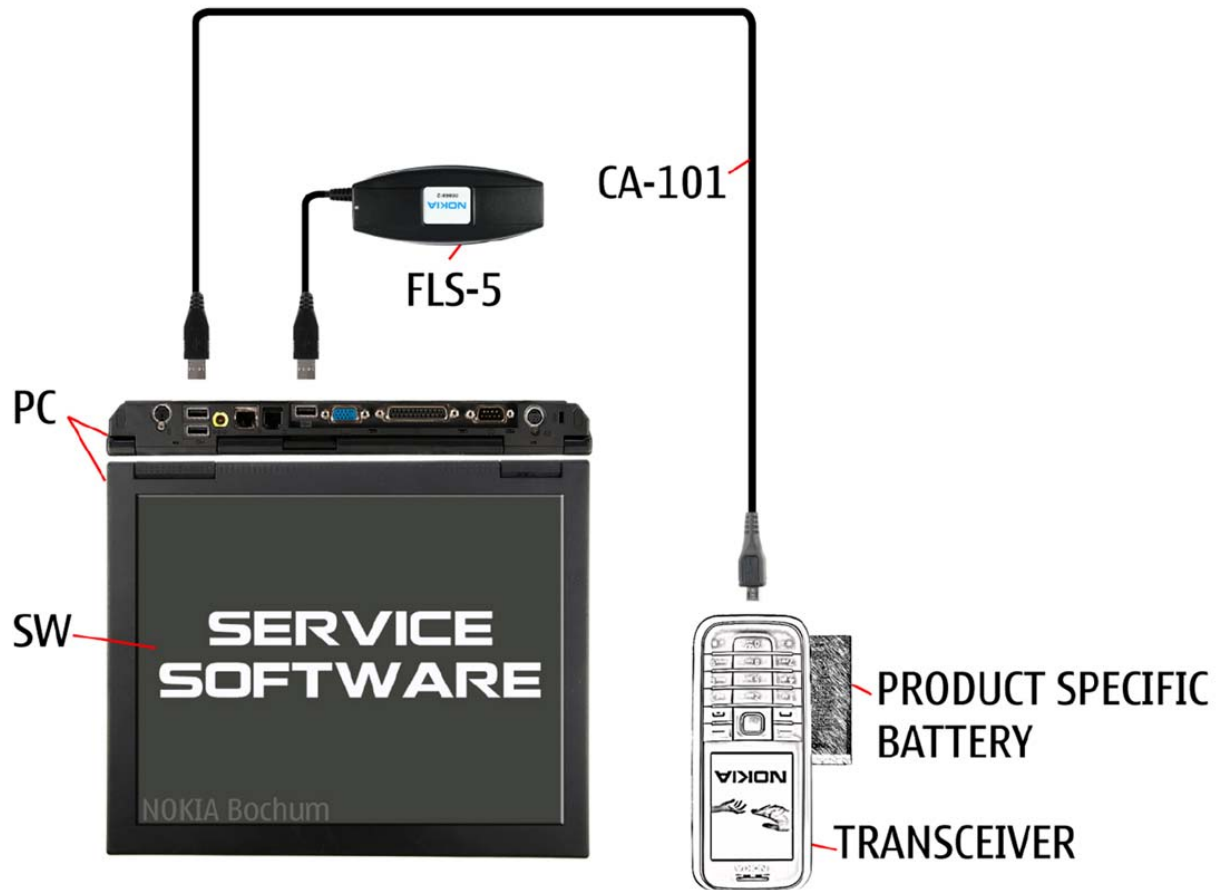


8. SERVICE DEVICES

 FLS-5 FLS-5 Flash Device	 CA-101 100cm CA-101 Service Cable	 AC-8 Travel Charger
 BL-5F Battery	 SS-100 Camera removal tool	 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. SW-UPDATE**Flash concept- (Point of Sales)**

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



10. DISASSEMBLY INSTRUCTIONS



1) Nokia 6710 Navigator disassembly.



2) You must use the Nokia Standard Toolkit version 2 and the 2 mm charger plug. You will also need the SS-100 camera removal tool.



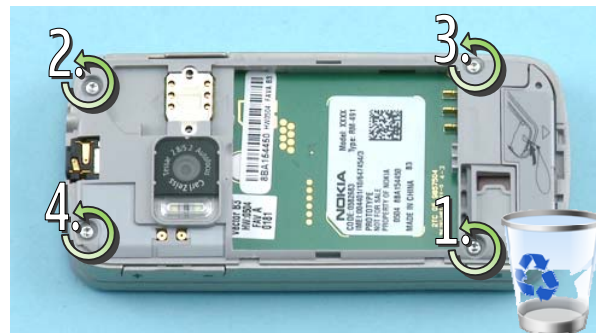
3) To remove the BATTERY COVER first use the finger groove to release the cover.



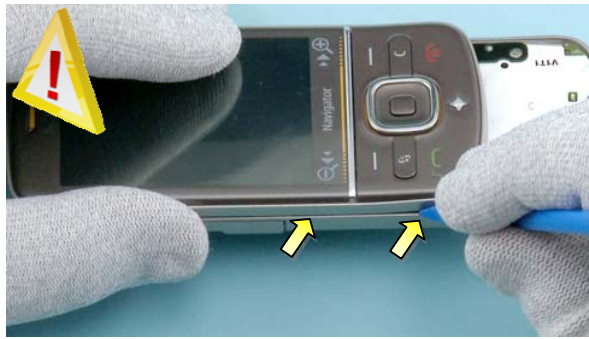
4) Release the two clips in the middle of the cover by pressing the cover lightly from both sides. Then remove the BATTERY COVER. If there is a battery inserted, remove it also.



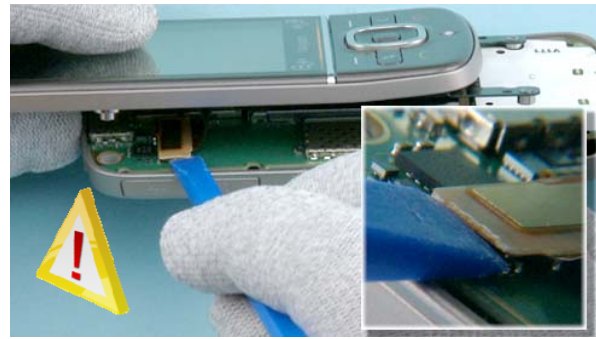
4) Use the SRT-6 to release the ALPHA KEYMAT. Make sure the keymat is completely detached and remove it in the direction shown.



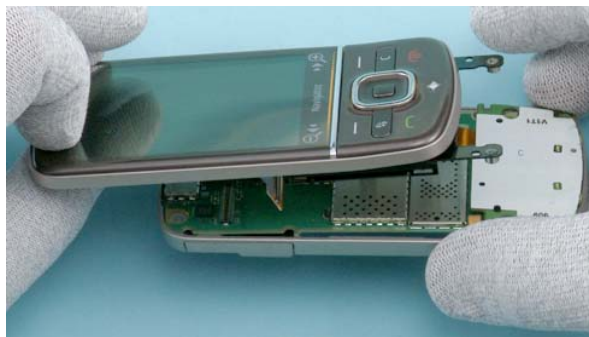
6) Unscrew the four TORX+ size 6 screws in the order shown. Do not use them again.



7) Carefully release the two clips with the SS-93. Insert the SS-93 between the upper and lower block and lift the upper block slightly. Be careful with the components underneath.



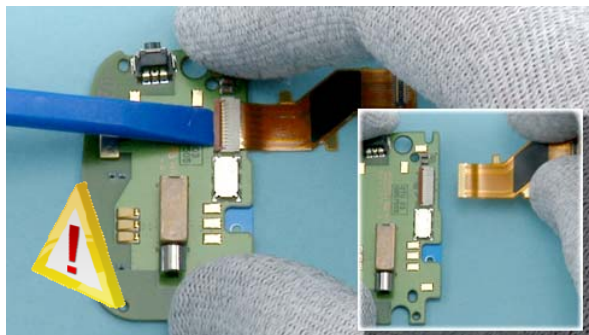
8) Use the SS-93 to disconnect the MAIN FLEX from the engine board. While opening the connector, be careful to not to damage it!



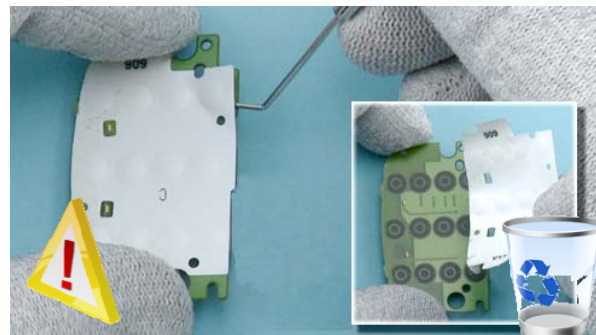
9) The upper block can now be separated.



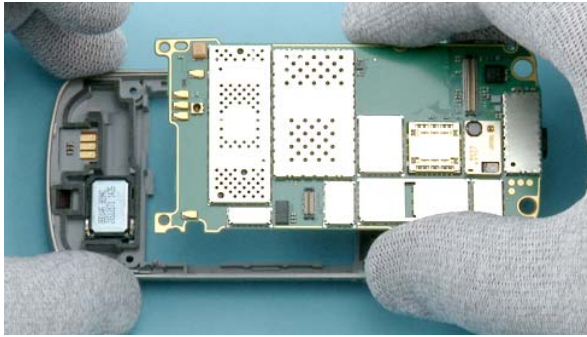
10) Use the SS-93 to disconnect the CONNECTING FLEX from the engine board. Be careful with the components around the connector! Then separate the UI BOARD ASSEMBLY.



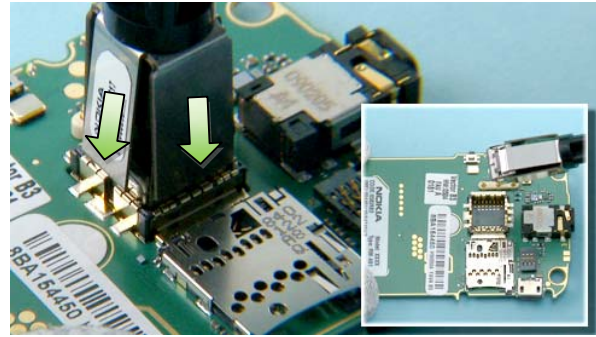
11) To disconnect the CONNECTING FLEX, first open the locking mechanism of the connector with the SS-93. Then separate the flex. Be careful not to damage the connector.



12) Detach the ALPHA DOMESHEET with the dental tool. Be aware of the sharp point of the dental tool - be careful to not to injure yourself. The ALPHA KEYMAT ADHESIVE and the ALPHA DOMESHEET cannot be reused.



13) Lift up the LIGHT SWAP PWB.



14) Push the SS-100 camera removal tool down until the camera retaining clips are released. Lift up the SS-100 and remove the CAMERA.



15) Use the charger plug to detach the DC jack including the light guide from C-COVER ASSY. Remove the DC jack with the tweezers.



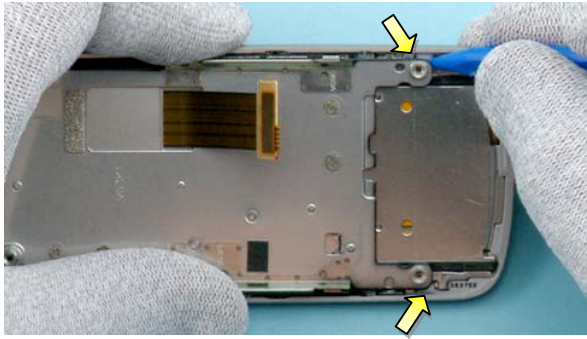
16) Detach the MEMORY DOOR.



17) Use the SS-93 to lift up the IHF SPEAKER. Remove the IHF SPEAKER GASKET with the tweezers. The speaker, the speaker adhesive and the gasket cannot be reused.



18) Carefully lift up the ANTENNA ASSY with the dental tool. The ANTENNA ASSY has always to be renewed.



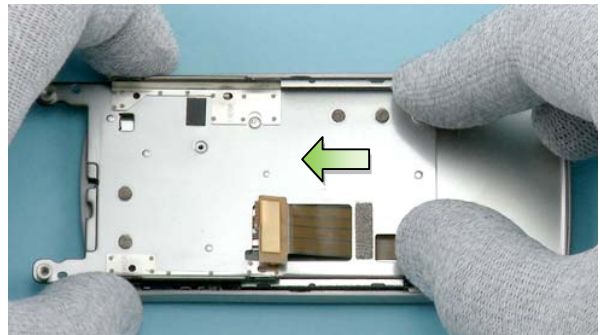
19) To detach the FUNCTION KEYMAT first release these two clips with the SS-93.



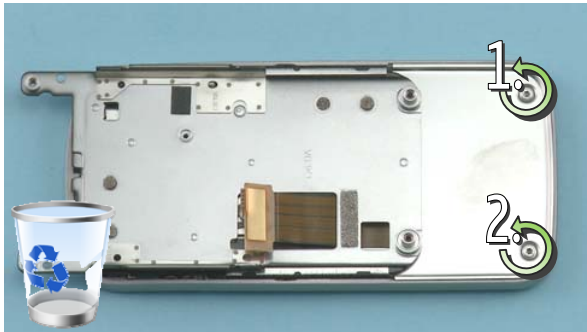
20) Use the SRT-6 to carefully lift up the FUNCTION KEYMAT. Make sure the keymat is completely detached.



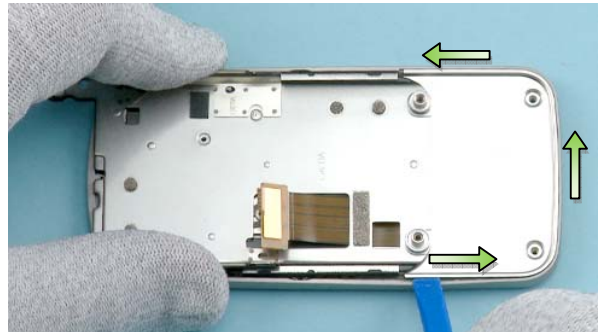
21) The FUNCTION KEYMAT can be removed.



22) Move the SLIDE to the opposite side.



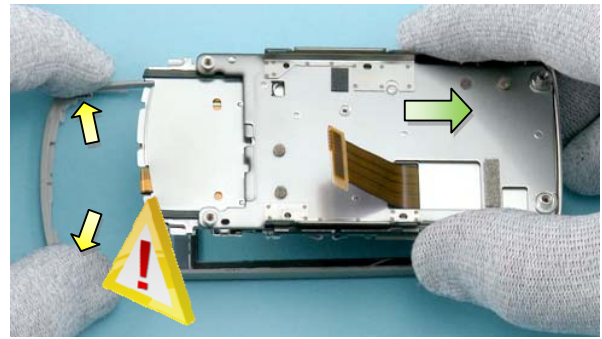
23) Unscrew the two TORX + size 4 screws in the order shown. Do not use them again.



24) Insert the SS-93 between the A-COVER ASSY and the SLIDE ASSY. Slide the SS-93 around the upper block to detach the SLIDE ASSY from A-COVER ASSY.



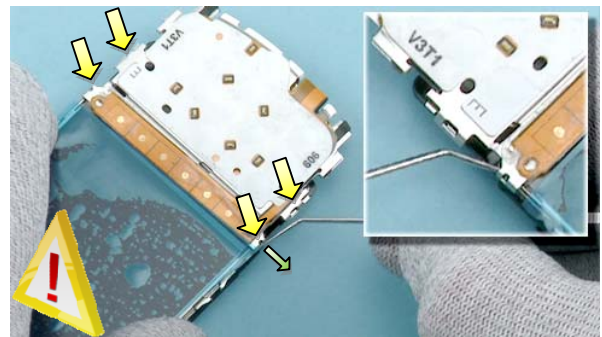
25) Before the A-COVER can be separated make sure that the CAPACITIVE FLEX is detached from the A-COVER.



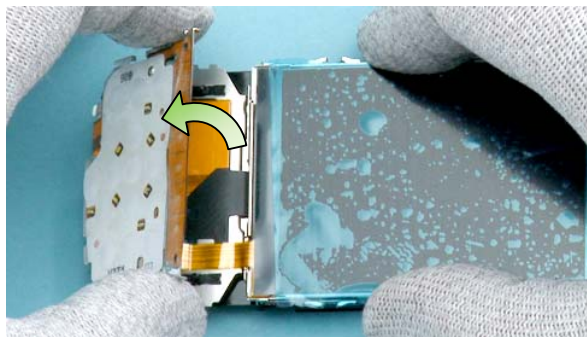
26) Remove the SLIDE ASSY in the direction shown. Be careful with the hooks on the bottom side of the A-COVER.



27) Protect the LCD with protective film.



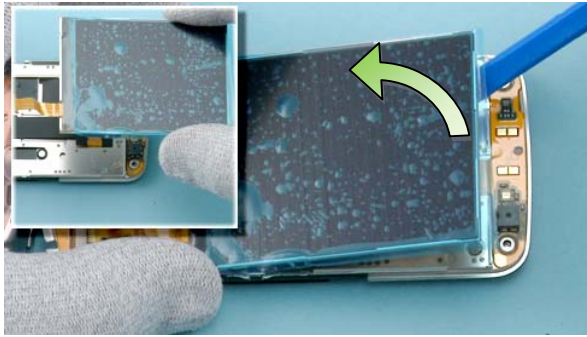
28) Use the dental tool to open the four clips holding the UI BOARD ASSEMBLY.



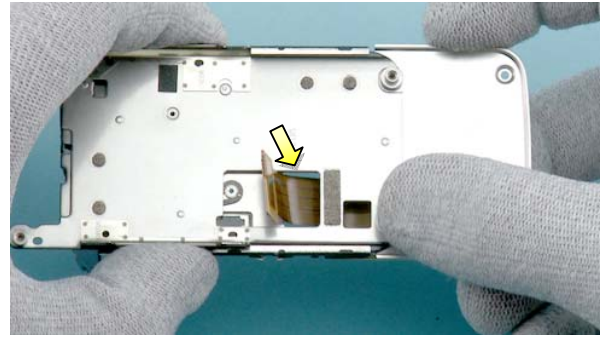
29) Turn the UI BOARD ASSEMBLY as shown to gain access to the LCD connector.



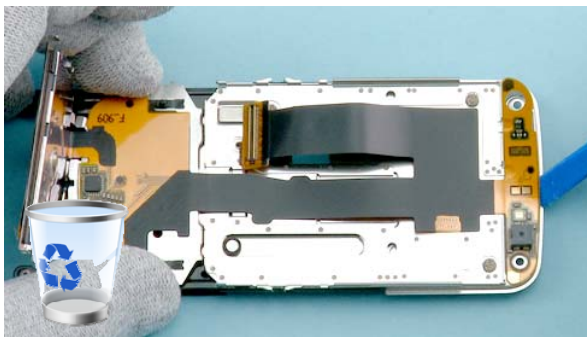
30) Use the SS-93 to unlock the locking mechanism of the LCD connector. While opening the connector, be careful to not to damage the connector!



31) Carefully disconnect the LCD connector and then lift up the LCD with the SS-93.



32) Pull the flex connector carefully through the gap.



33) Use the SS-93 to carefully detach the MAIN FLEX ASSY from the SLIDE MODULE. The MAIN FLEX ASSY cannot be used again. MAIN FLEX ADHESIVE UPPER /- LOWER have always to be renewed.



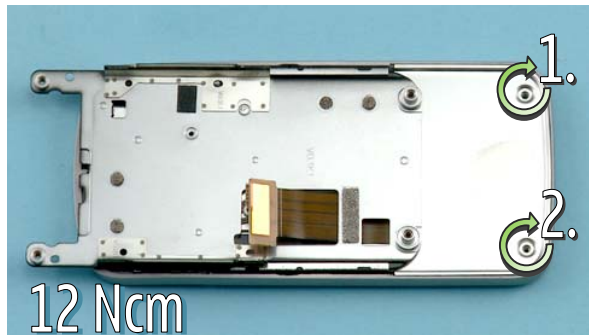
34) Use the dental tool to lever out the EARPIECE. Do not use the EARPIECE again.



35) Nokia 6710 Navigator disassembly is now complete.

-END OF DISASSEMBLY-

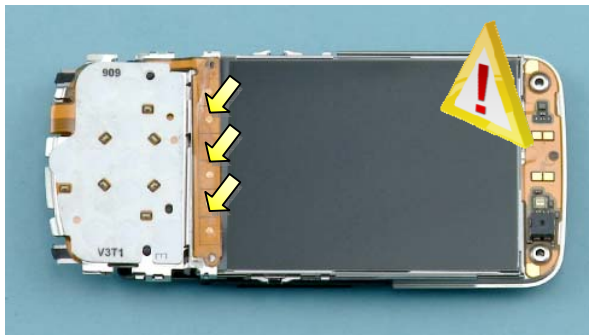
11. ASSEMBLY HINTS



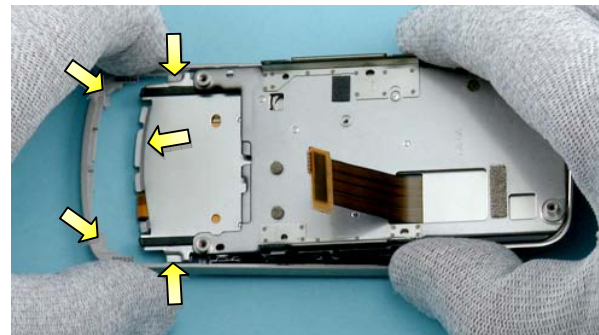
1) Tighten the two TORX+ size 4 screws to the torque of 12Ncm in the order shown.



2) Tighten the four TORX+ size 6 screws to the torque of 17Ncm in the order shown.



3) When assembling the device and if the MAIN FLEX ASSY has not been disassembled, remove WINDOW CAPSITIVE FLEX ADHESIVE and replace it always with a new one. Be careful not to damage the capacitive flex area!



4) When placing the SLIDE ASSY make sure these hooks are correctly attached.

12. SOLDER COMPONENTS

