

SERVICE MANUAL
Level 1&2
NOKIA
E75

RM-412/RM-413



Transceiver characteristics

Band:

GSM/EDGE 850/900/1800/1900

RM-412: WCDMA 2100 (band I)/1900 (band II)/900 (Band VIII)

RM-413: WCDMA 2100 (band I)/1900 (band II)/850 (Band V)

Display:

2,4" QVGA (320x240), 16M colours, Active area 36.72 x 48.96 mm

Keypad:

Full QWERTY keyboard

Camera:

Main camera: 3,2 Mpix, Flash, Auto-focus

Secondary camera; VGA

Operating System:

Symbian OS 9.3/S60 3.2 release 3

Connections:

2 mm charger, 3,5 mm AV connector, Bluetooth 2.0 EDR, USB 2.0 (Micro USB), A-GPS, WLAN 802.11g

Transceiver with BL-4U battery pack

Talk time	Standby	Note
GSM: Up to 5 hours	GSM: Up to 12 days	Talk times are dependant on network parameters and phone settings
WCDMA: Up to 4 hours	WCDMA: Up to 11days	

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1. CHANGE HISTORY

Status	Version No.	Date	Comments
Approved	1.0	3.2.2009	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:

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.

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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.

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

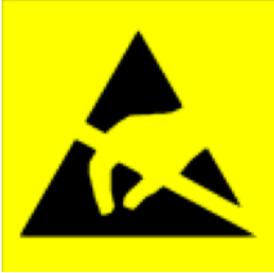
1. CARE MUST BE TAKEN ON INSTALLATION IN VEHICLES FITTED WITH ELECTRONIC ENGINE MANAGEMENT SYSTEMS AND ANTI-SKID BRAKING SYSTEMS. UNDER CERTAIN FAULT CONDITIONS, EMITTED RF ENERGY CAN AFFECT THEIR OPERATION. IF NECESSARY, CONSULT THE VEHICLE DEALER/MANUFACTURER TO DETERMINE THE IMMUNITY OF VEHICLE ELECTRONIC 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.

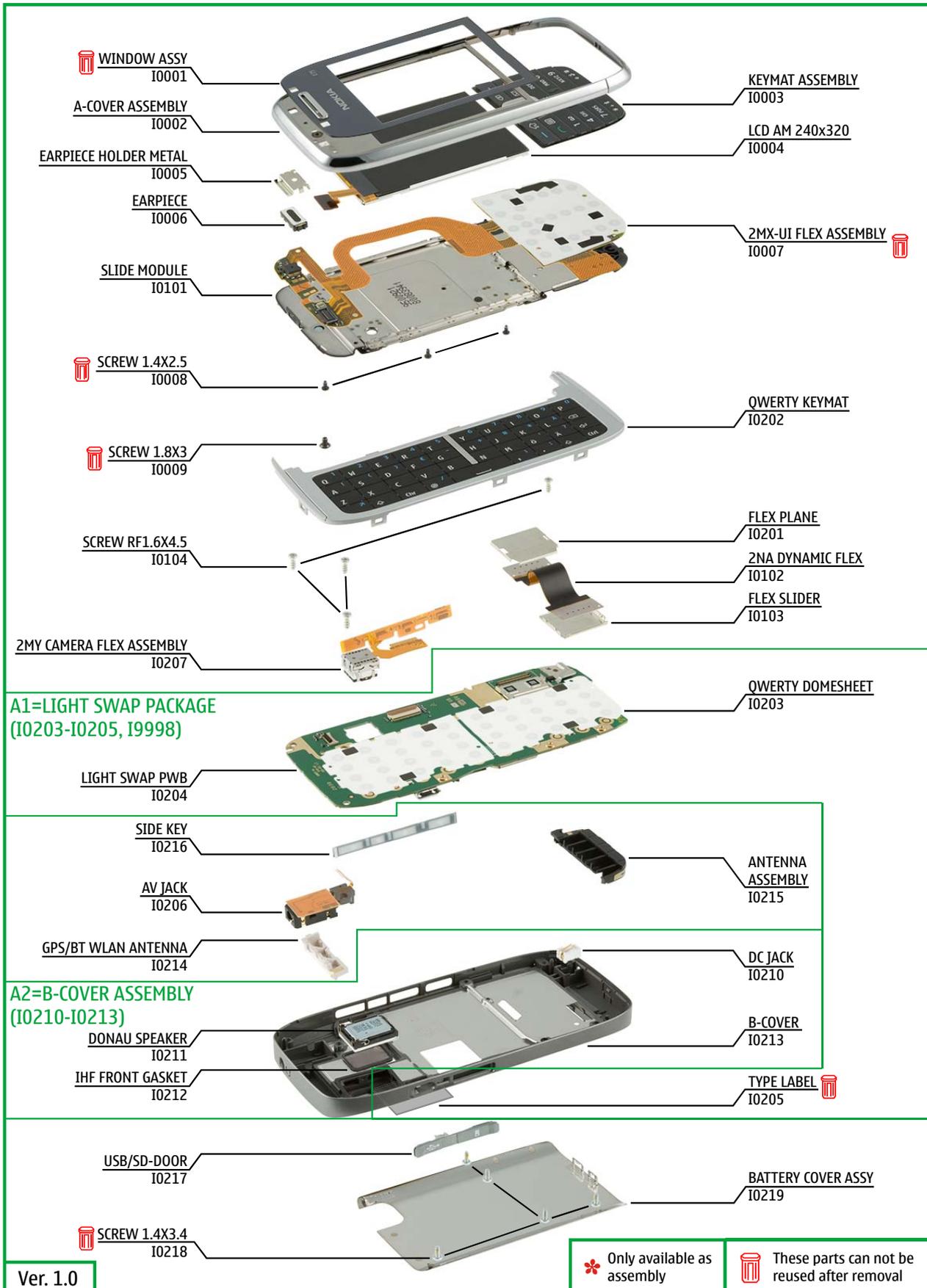
Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F).

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

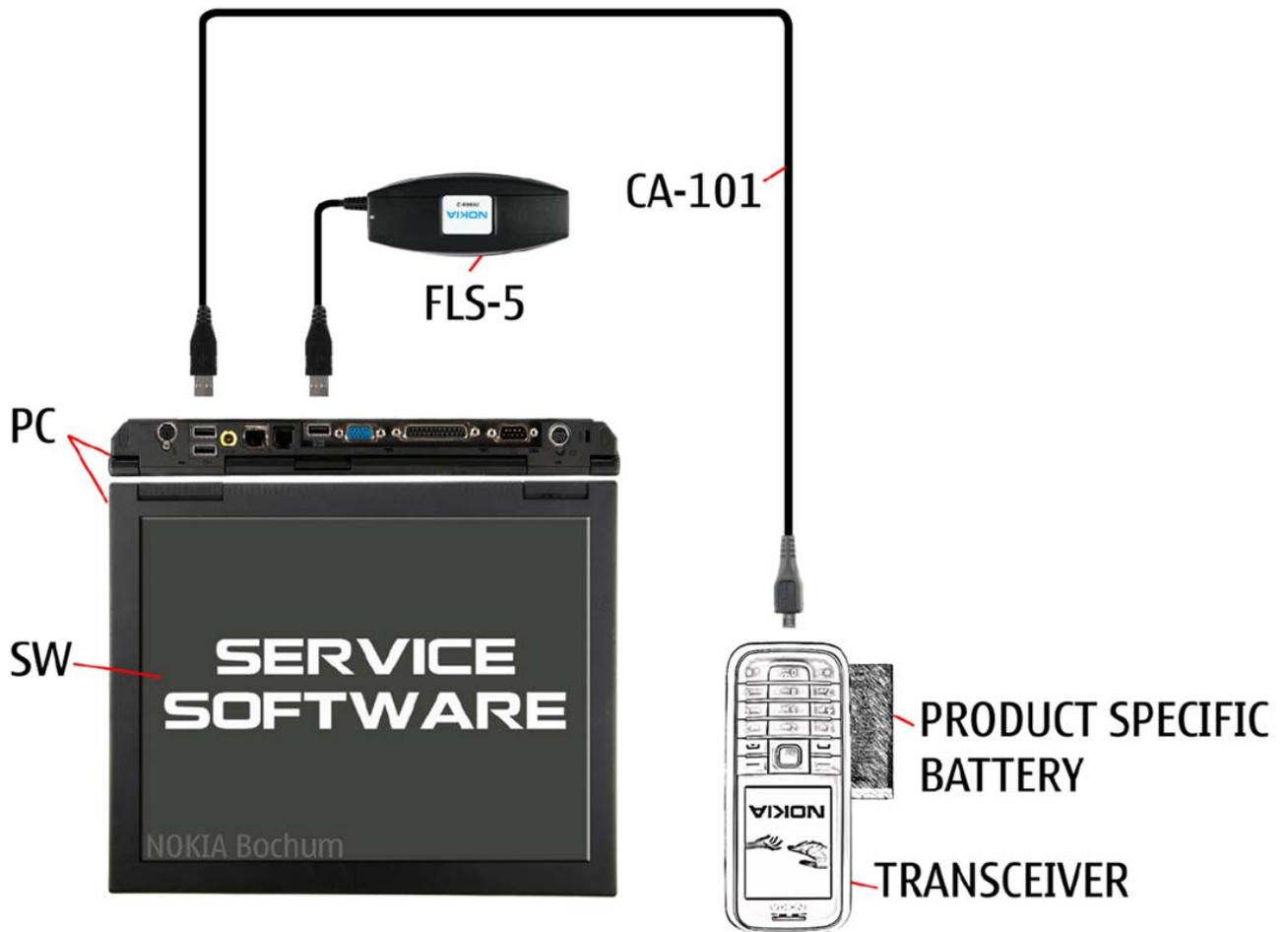
 <p>FLS-5</p> <p>FLS-5 Flash Device</p>	 <p>CA-101 100cm</p> <p>CA-101 Service Cable</p>	 <p>AC-4 Travel Charger</p>
 <p>BL-4U Battery</p>	 <p>SS-198 UI flex assembly jig</p>	 <p>NMP standard toolkit (v2) For more information, refer to the Service Bulletin (SB-011) on NOKIA Online. Supplier or manufacturer contacts for tool re-order can be found in “Recommended service equipment” document on NOKIA Online.</p>

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, wich is available on Nokia Online.



10. DISASSEMBLY INSTRUCTION



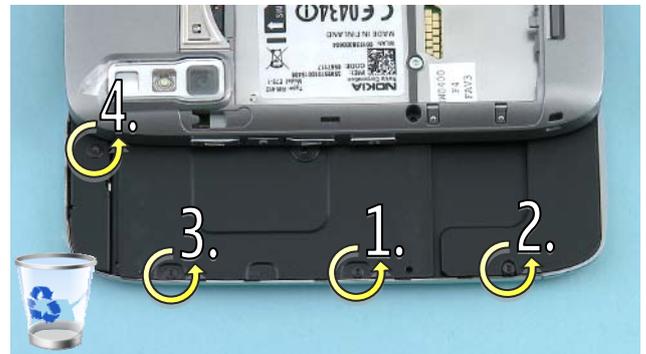
1) Nokia E75 disassembly.



2) You must use the Nokia Standard Toolkit version 2.



3) To remove the BATTERY COVER ASSY, push the button on the bottom side and then lift up the BATTERY COVER ASSY.



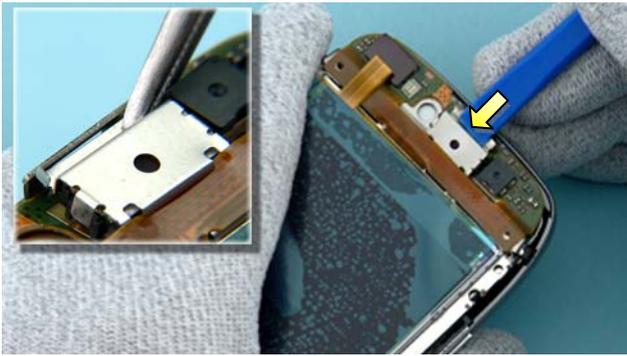
4) Slide the phone open. Then unscrew these four Torx+ 4 screws in the order shown. Discard them.



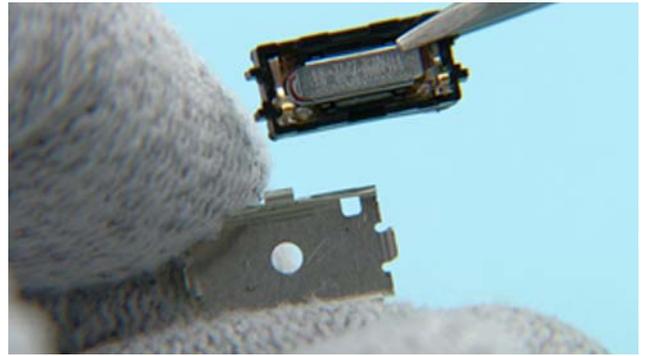
5) Release the A-COVER ASSEMBLY from the SLIDE MODULE using the SRT-6. Start from the bottom end of the phone and continue to the direction shown.



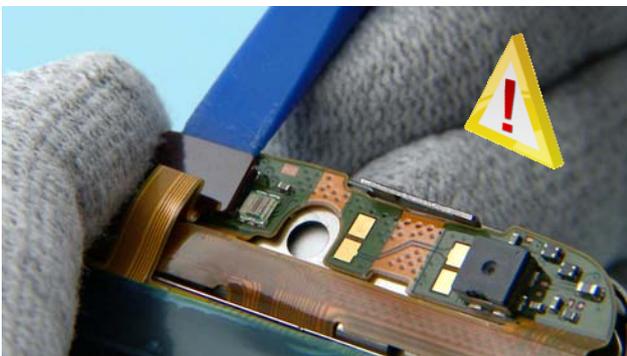
6) Lift up the A-COVER ASSEMBLY. Separate the KEYMAT ASSEMBLY from the A-COVER ASSEMBLY. Remember to protect the LCD with protective film.



7) Release the EARPIECE HOLDER with the SS-93 and remove it with the tweezers.



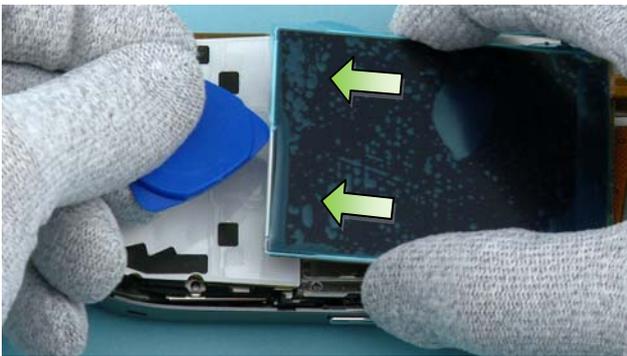
8) Separate the EARPIECE from the EARPIECE HOLDER with the tweezers.



9) Open the LCD connector from the 2 MX UI FLEX ASSEMBLY with the SS-93. Be careful not to damage the connector.



10) Release the LCD with the SRT-6.



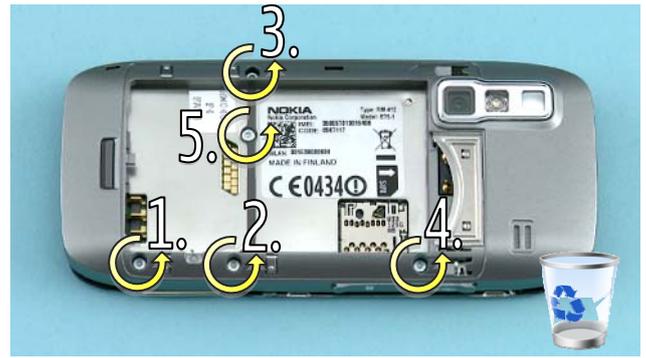
11) Carefully lift up the LCD and push it into direction shown.



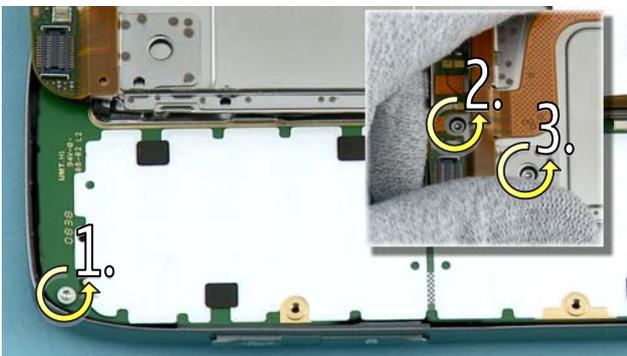
12) Slide the phone open and release the five clips holding the QWERTY KEYMAT using the SRT-6. Release the clip near the space bar first.



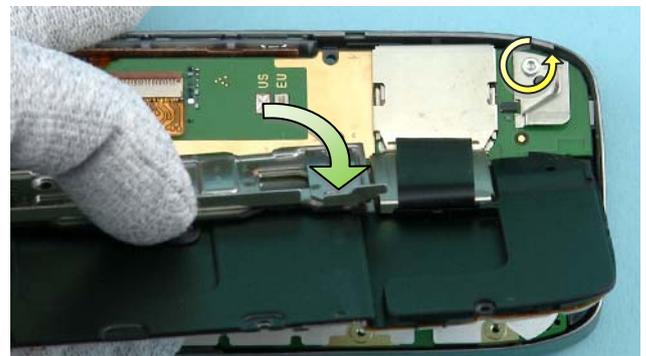
13) After releasing the clips pull the QWERTY KEYMAT in the direction shown.



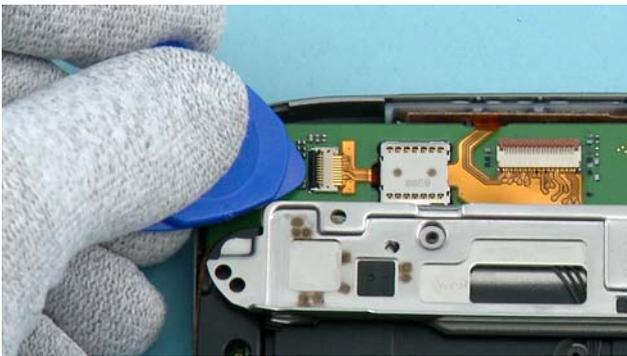
14) Unscrew these five TORX+ size 4 screws in the order shown. Discard them.



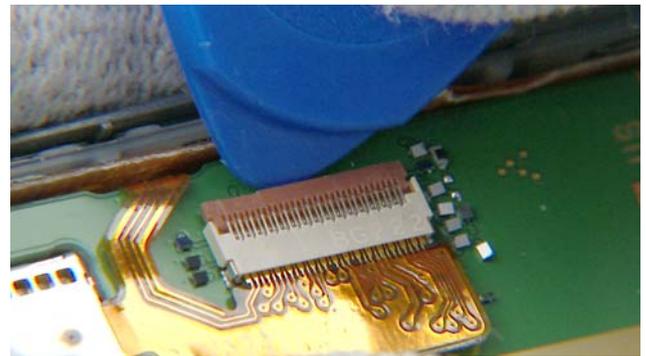
15) Unscrew these three Torx+ size 4 screws. After unscrewing the first screw, close the slide a bit until the two remaining screws become visible.



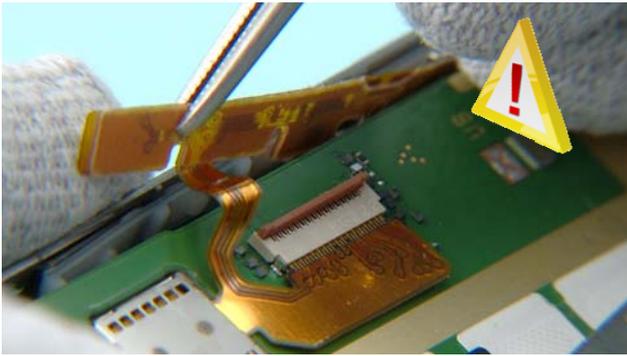
16) Rotate the SLIDE ASSY and unscrew the Torx+ size 4 screw.



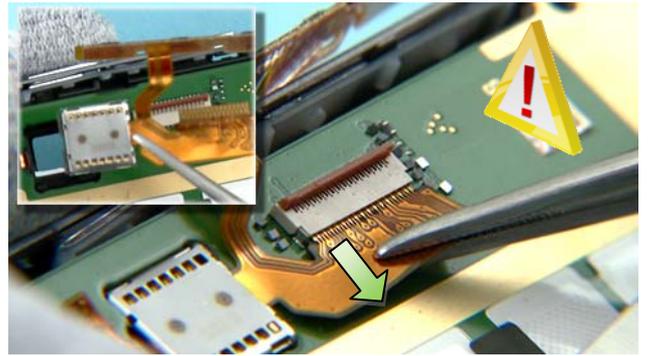
17) Open the AV connector with the SRT-6.



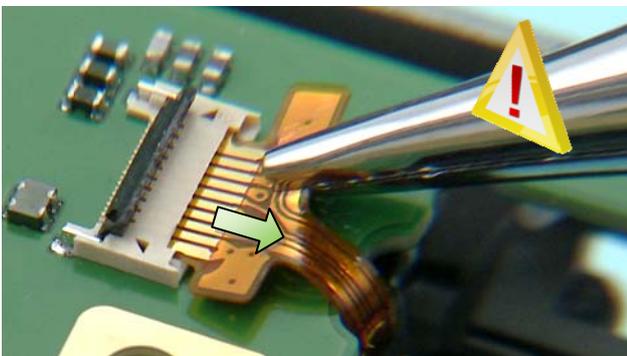
18) Open the Camera connector with the SRT-6.



19) Lift up the Camera Flex with the tweezers. Be careful not to damage the flex.



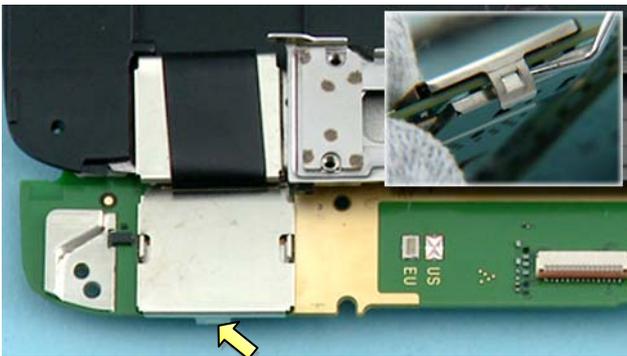
20) Use the tweezers to open the Camera connector. Be careful not to damage the connector. Then remove the Camera Assembly with the tweezers.



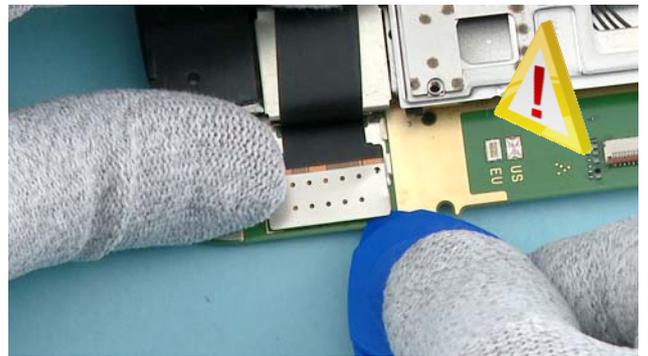
21) Use the pliers to open the AV connector. Be careful not to damage the connector.



22) Separate the SLIDE MODULE and the engine board from the B-COVER.



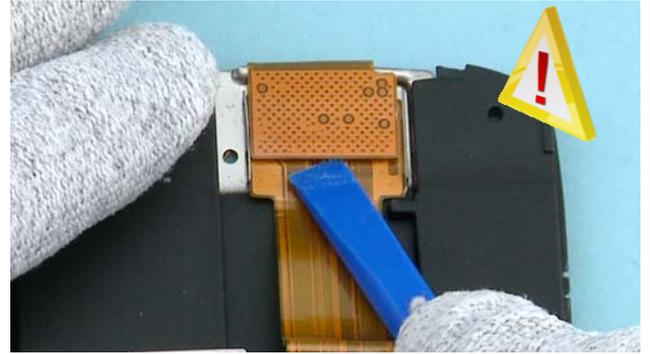
23) Remove the FLEX PLANE from the engine board by opening a small clip with the dental tool.



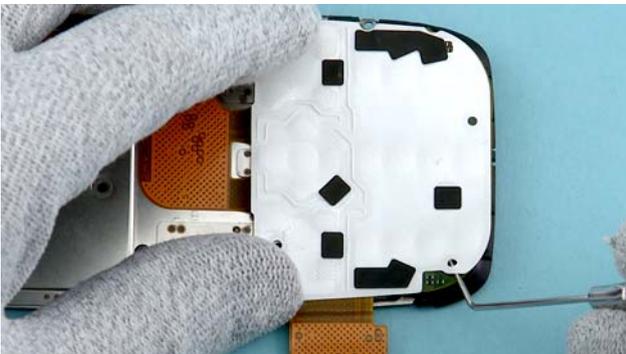
24) Open the DYNAMIC FLEX connector with the SRT-6 and separate the engine board and the SLIDE MODULE. Be careful not to damage the connector.



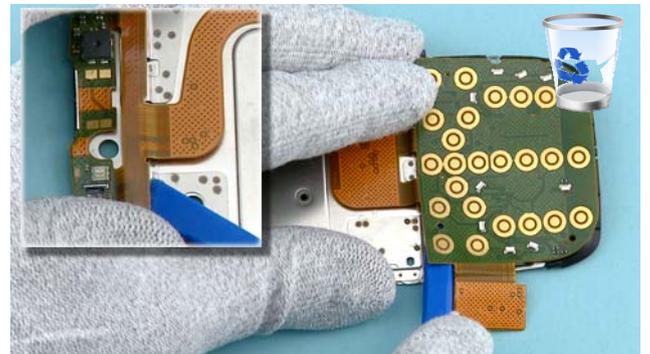
25) Remove the FLEX SLIDER using the SS-93.



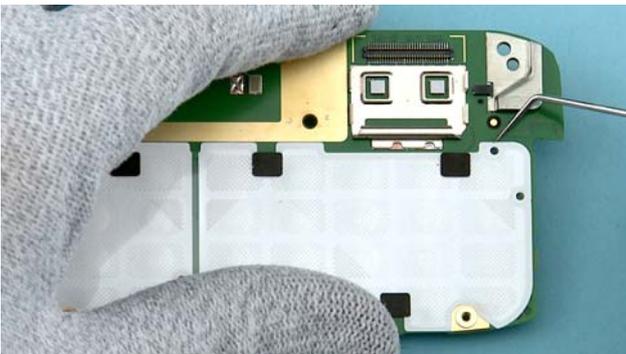
26) Open the connector of the DYNAMIC FLEX and separate it from the SLIDE MODULE. Be careful to not damage the connector.



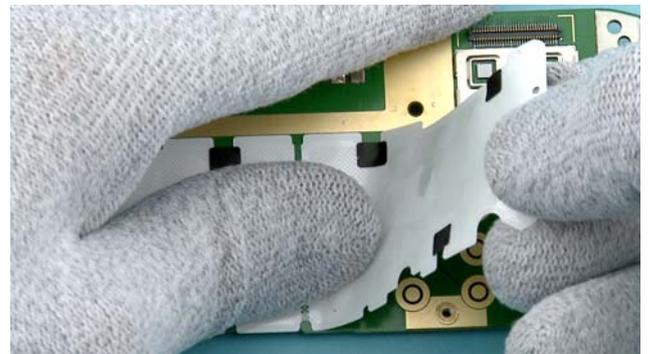
27) Peel off the DOME SHEET using the dental tool.



28) Detach the 2 MX UI FLEX ASSEMBLY from the SLIDE MODULE with the SS-93. Discard the 2MX UI FLEX ASSEMBLY, do not use it again.



29) Start releasing the QWERTY DOME SHEET with the dental tool.



30) Carefully remove the QWERTY DOME SHEET. Make sure that the whole QWERTY DOME SHEET is removed.



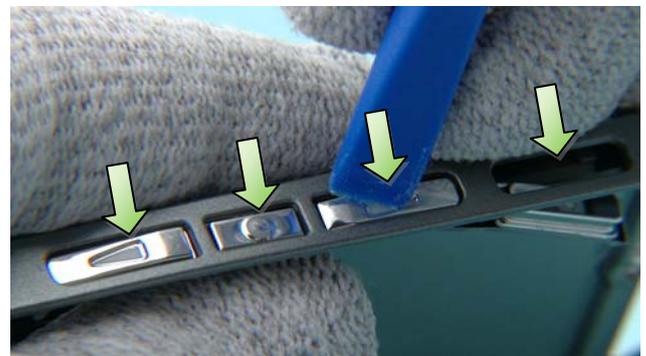
25) Remove the DC JACK, ANTENNA ASSEMBLY, and GPS/BT WLAN ANTENNA with the tweezers.



26) To release the AV JACK, slide the SS-93 under the clip and carefully lift it up as shown. Then remove the AV JACK.



27) Use the sharp end of the SS-93 to push out the USB/SD-DOOR.



28) Carefully push each button of the SIDE KEY with SS-93 to remove it.

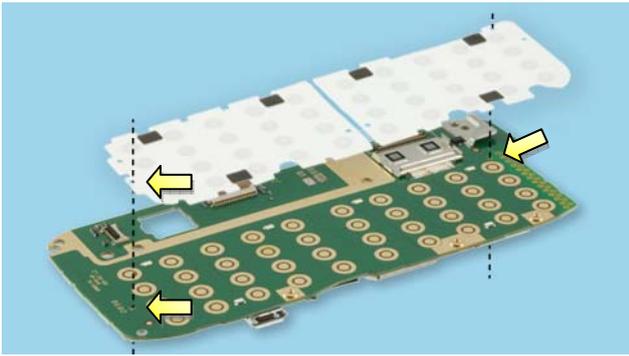


29) Finally use the dental tool to release the IHF SPEAKER and the IHF SPEAKER gasket.

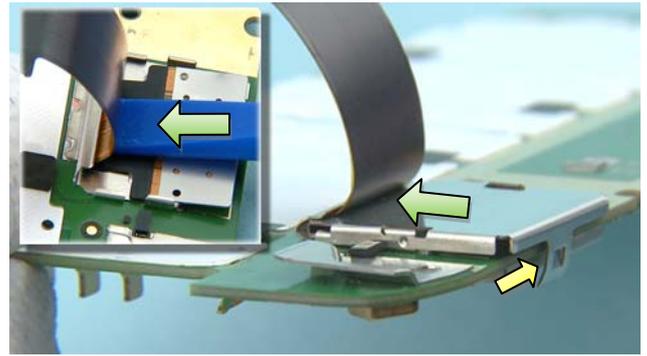


-END OF DISASSEMBLY-

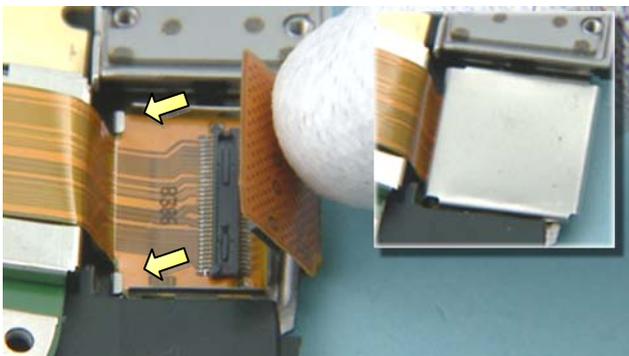
11. ASSEMBLY HINTS



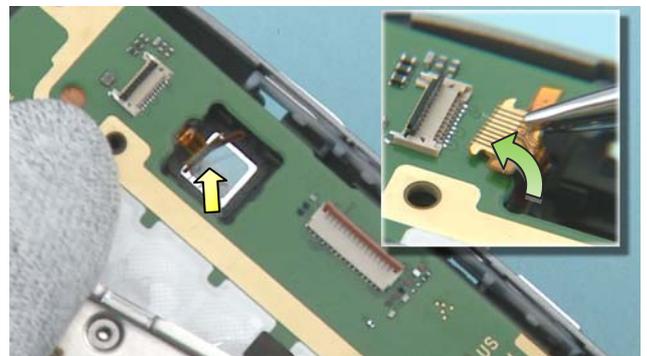
1) When placing the QWERTY DOMESHEET make sure that these holes are aligned.



2) First push the DYNAMIC FLEX with the SS-93 into place against the FLEX PLANE as shown. Next, connect the connector to the PWB. Then slide the FLEX PLANE into gap shown and fasten the small clip.



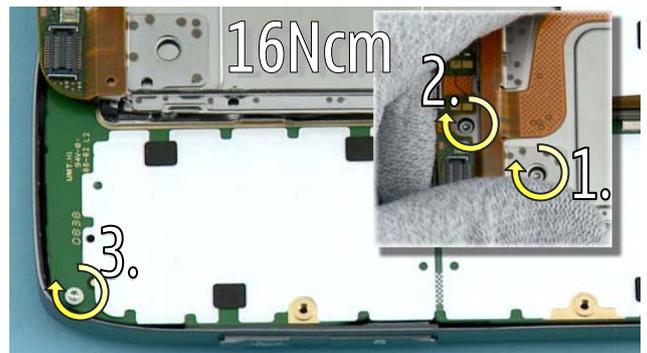
3) When assembling the other end of the DYNAMIC FLEX make sure that the connector goes under the two clips shown. Connect the connector and then press the FLEX SLIDER into correct place so that the small gap is facing the DYNAMIC FLEX.



4) When placing the PWB, make sure that the AV-JACK FLEX is properly routed through the camera. Carefully connect the connector with the pliers.



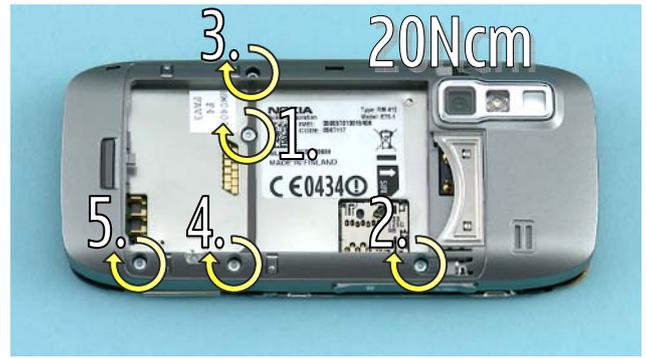
5) Tighten the screw to the torque of 16 Ncm.



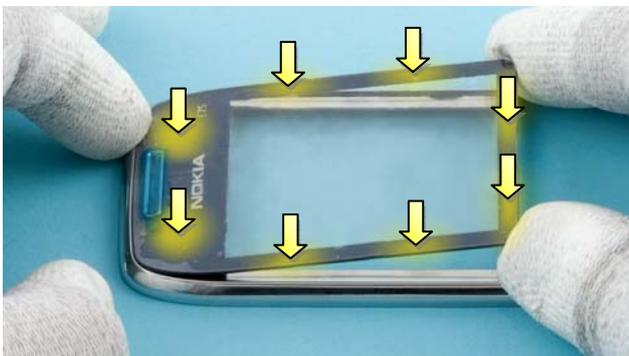
6) Tighten the screws to the torque of 16 Ncm in the order shown.



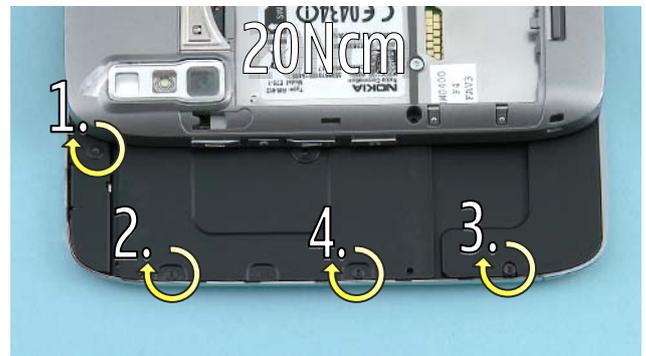
7) When assembling the QWERTY KEYMAT, slide the clips into their gaps. Also make sure that clips in both ends of the QWERTY KEYMAT are correctly aligned.



8) Tighten the screws to the torque of 20 Ncm in the order shown.



9) Start placing the WINDOW ASSY as shown. Press marked areas to activate the adhesive on the WINDOW ASSY. Maintain the pressure for 5 seconds.



10) Tighten the screws to the torque of 20 Ncm in the order shown.

12. SOLDER COMPONENTS

Solder components only for Level 2

