

# SERVICE MANUAL

## Level 1&2

# NOKIA

## 6500

### SLIDE

RM-240



### Transceiver characteristics:

#### Band:

EGSM: Quad-band 850/900/1800/1900MHz

WCDMA: 850/2100MHz

#### Display:

LCD: 5.588cm QVGA (2.2") (320x240 pixel); 16M colors

#### Camera:

Camera: 3.2 Megapixel, 8x digital zoom, autofocus, flash

#### Operating System:

Series 40

#### Connections:

Wireless: Bluetooth

Connector: Micro USB Connector; AV Connector

#### Memory:

MicroSD™ (max 4GB)

Transceiver with BP-5M Li-Ion battery pack

Talk time	Standby	Note
up to 6h	up to 13days	Depends on network parameters

**TABLE OF CONTENTS**

Page

1.	CHANGE HISTORY	3
2.	COPYRIGHT	3
3.	WARNINGS AND CAUTIONS	4
4.	ESD PROTECTION	4
5.	CARE AND MAINTENANCE	5
6.	BATTERY INFORMATION	5
7.	EXPLODED VIEW	6
8.	LEVEL 2 SOLDER COMPONENTS	7
9.	SERVICE TOOLS	8
10.	SW-UPDATE	9
11.	DISASSEMBLY	10
12.	ASSEMBLY	18

## 1. CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	07.Sep.2007	Initial draft
Approved	1.0	19.Sep.2007	First arroved release

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.Manual@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

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**IMPORTANT**

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

### 3. WARNINGS AND CAUTIONS

#### 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:

#### 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.

#### 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.

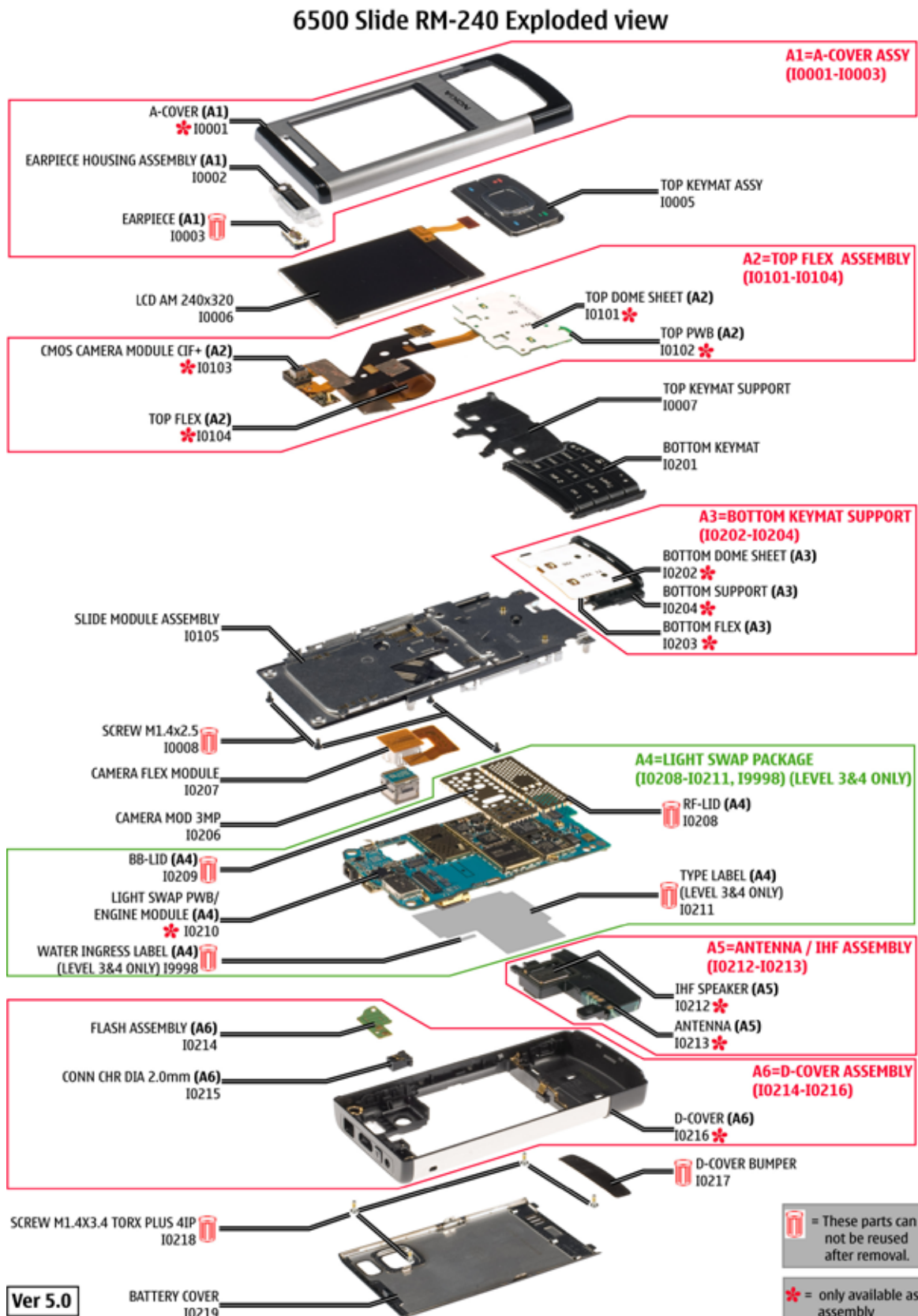
Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes direct connection of the + and - terminals of the battery (metal strips on the battery) for example when you carry a spare battery in your pocket or purse. Short-circuiting the terminals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

See corresponding ITEM/CIRCUIT REF in the Spare Parts Service Bulletins on NOL.

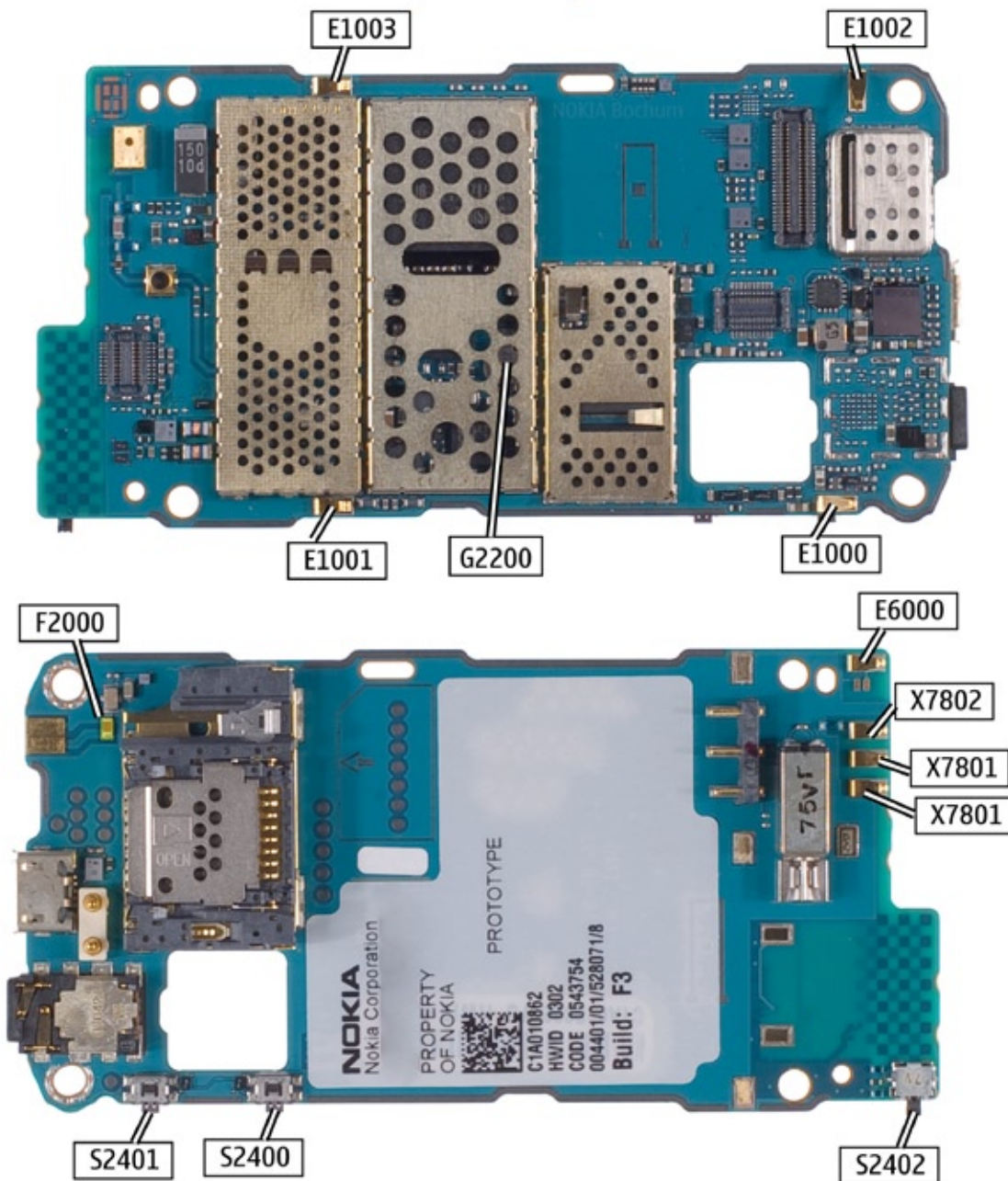




8. LEVEL 2 SOLDER COMPONENTS

6500 RM-240 Components overview

Solder components only for LEVEL 2



Ver. 1.0

**9. SERVICE TOOLS**

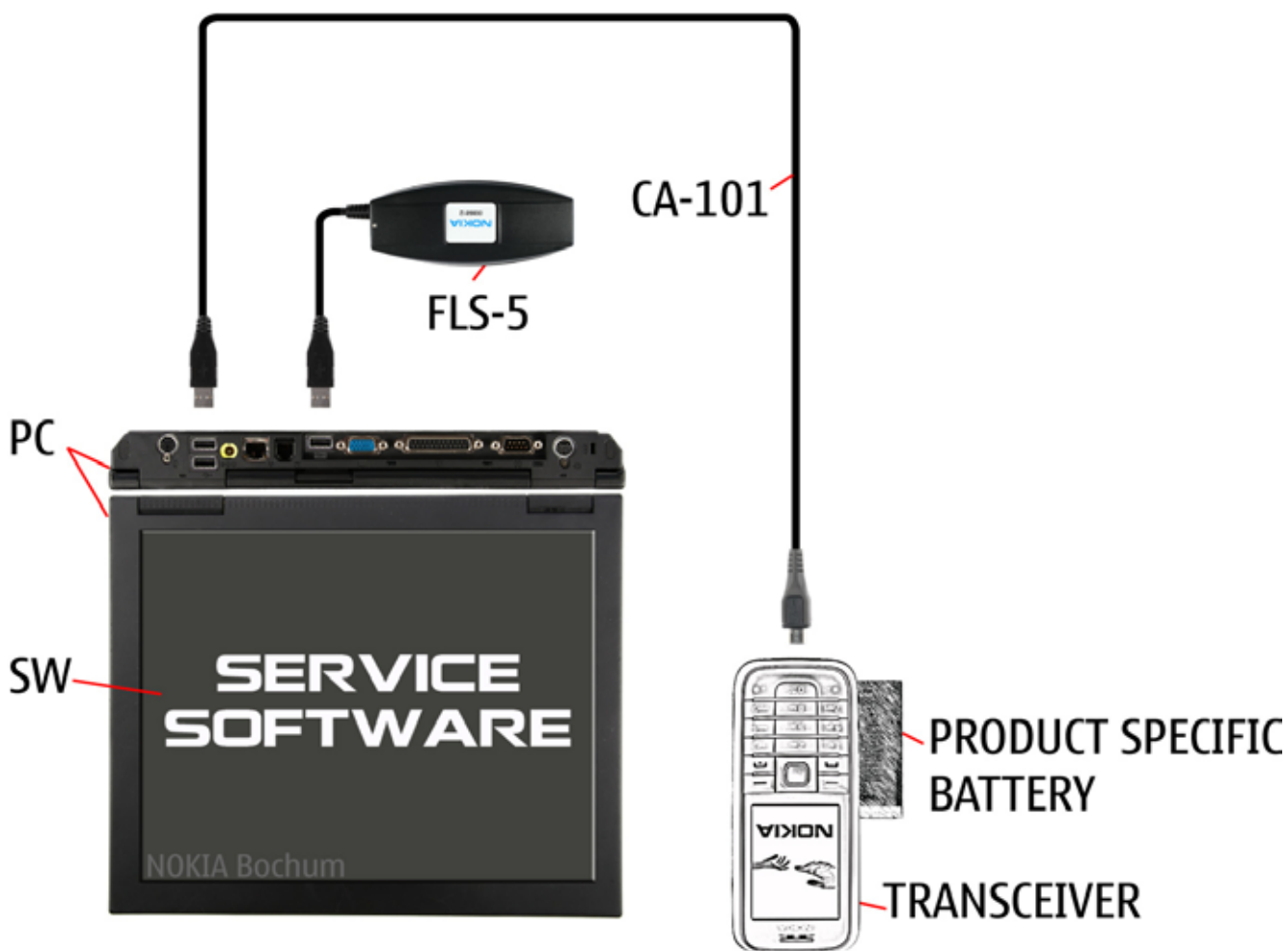
 <p><b>FLS-5</b></p> <p>FLS-5 incl. ACF-8, Driver and User Guide Dongle and flash device incorporated into one package, developed specifically for POS use.</p>	 <p><b>ACF-8</b> Universal Power Supply is used to power FLS-5.</p>	 <p><b>Travel Charger AC-4</b> Small and lightweight charger for fast charging of your phone battery.</p>
 <p><b>CA-101</b> 100cm</p> <p><b>CA-101</b> Service Cable to connect the PC with the Micro USB connector.</p>		 <p><b>RJ-180</b></p> <p><b>RJ-180</b> Soldering Jig</p>
 <p><b>BP-5M</b></p> <p><b>Internal Battery BP-5M</b> Inserted under the back cover, this Li-Ion battery provides power in a lightweight package.</p>		 <p><b>0772040</b> <b>NMP Standard Toolkit (V2)</b> For more informations 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>



## 10. SW-UPDATE

### Flash Concept – (Point of Sales)

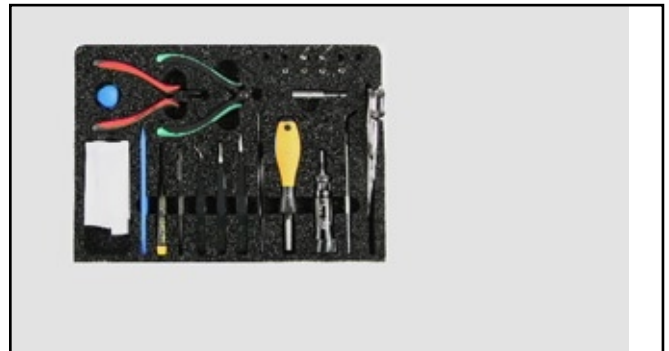
To use FLS-5 Flash Dongle you have to follow the user guide inside the sales package. Please check always for the latest version of flash software, which is available on [NOKIA Online](#).



## 11. DISASSEMBLY



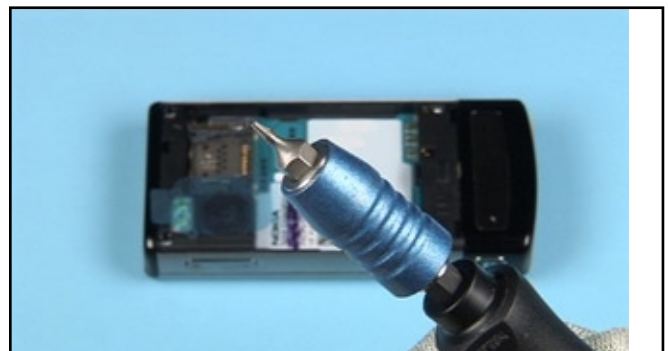
1. Nokia 6500 Slide disassembly.



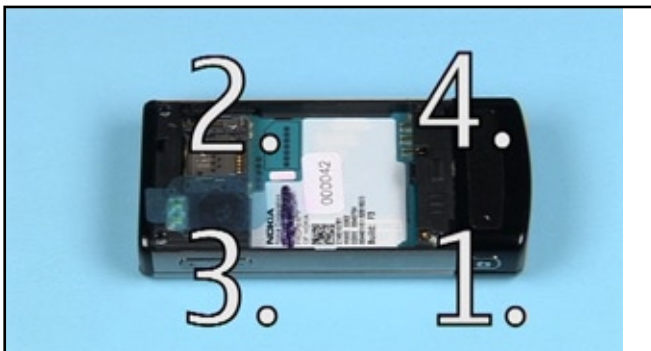
2. You will need the Nokia Standard Toolkit version 2.



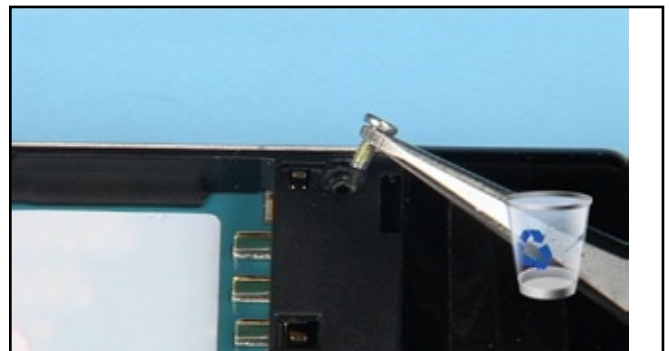
3. Unlock and remove the BATTERY COVER.



4. Equip your bitholder with the Torx Plus size 4 bit.



5. Unscrew these 4 screws in the order shown.



6. Discard these screws. Do not use them again.



7. Shift open the slider. Carefully insert the tips of the angled tweezers into the recess as shown.



8. Now swing up the tweezers in order to lever out the metal latches.



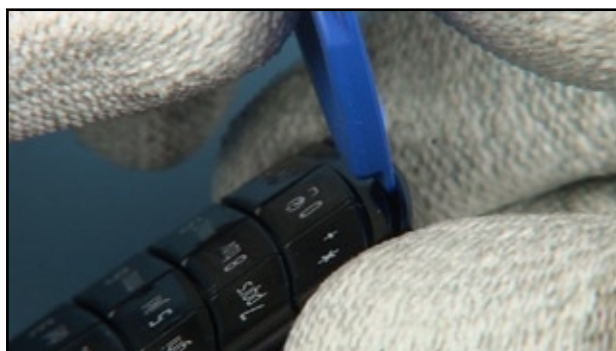
9. Repeat this procedure on the other side.



10. Gently press both edges together until a gap appears at the end of the KEYMAT.



11. Avoid press this key while pressing the edges.



12. Unlock the clips at the bottom side.



13. Insert the SS-93 at the shown position.



14. Carefully unlock this flex foil connector.



15. Lift up the BOTTOM KEYMAT SUPPORT.



16. Disconnect this flex foil connector.





17. Now these assemblies can be separated.



18. Insert the angled tweezers into the recess as shown.



19. Carefully shift the tip of the tweezers outside.



20. Repeat this procedure at the other side of the BOTTOM KEYMAT.



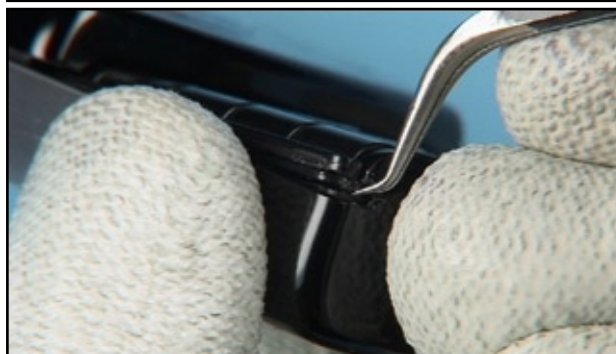
21. If both clips are released properly, the BOTTOM KEYMAT can be lifted up.



22. The removal of the KEYMAT is also possible without removing the bottom screws.



23. Carefully press at both edges, - like shown before. Lift out the BOTTOM KEYMAT SUPPORT.



24. Locate the small recesses. shift the clip of the BOTTOM KEYMAT outside.



25. Repeat this procedure on opposite side.



26. Now the BOTTOM KEYMAT can be removed.



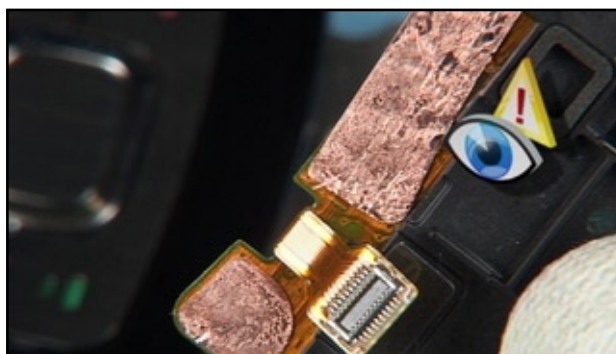
27. Carefully lever up the edges of the BOTTOM FLEX...



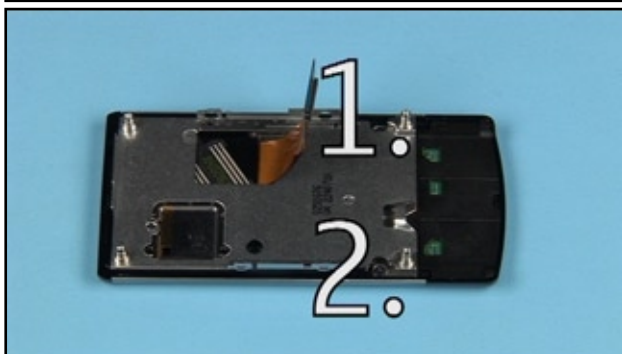
28. ...on both sides.



29. Remove the BOTTOM FLEX.



30. Keep this adhesive clean if this part should be reused.  
Remove all adhesive residues from the SLIDE MODULE ASSY.

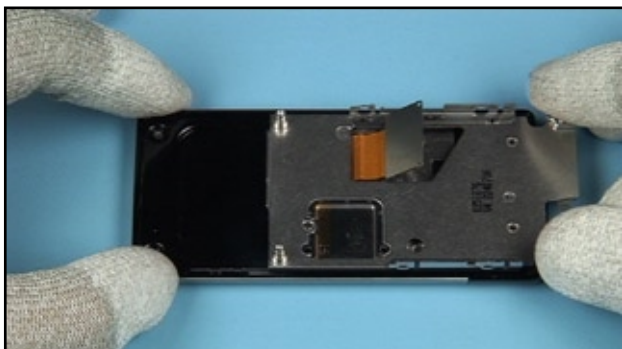


31. Unscrew these screws in the shown order.

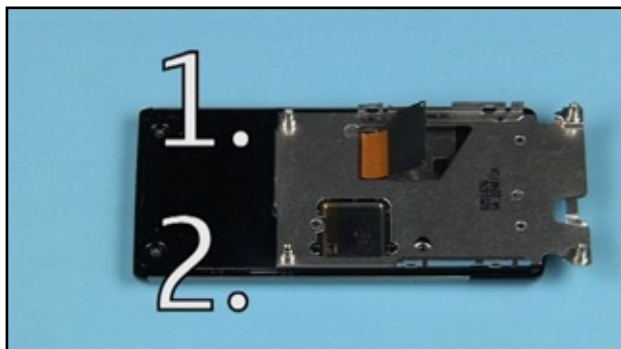


32. Discard these screws. Do not use them again.





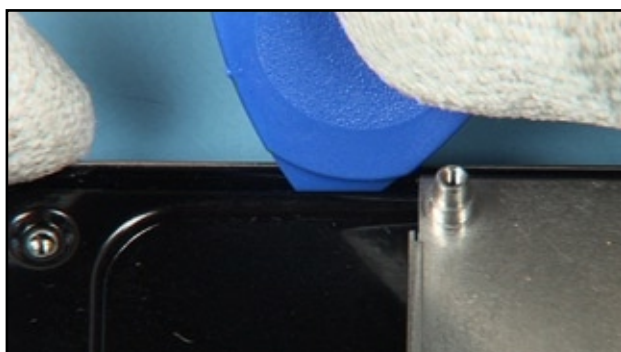
33. Shift open the slider in order to reach the next screws.



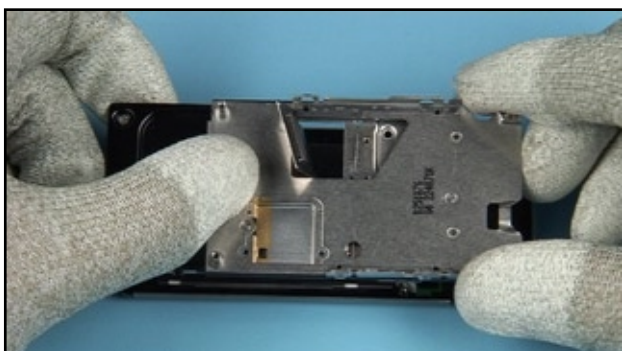
34. Unscrew these screws in the shown order.



35. Discard these screws. Do not use them again.



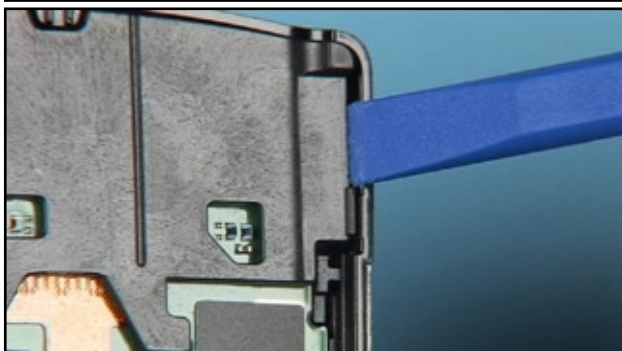
36. Slightly open the clips of the SLIDE MODULE ASSY.



37. Lift up the SLIDE MODULE ASSY.



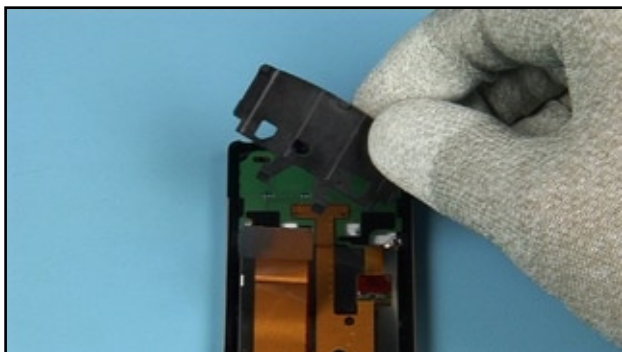
38. Shift the slider into position shown to reach the maximum recess. Slot the connector through the slider.



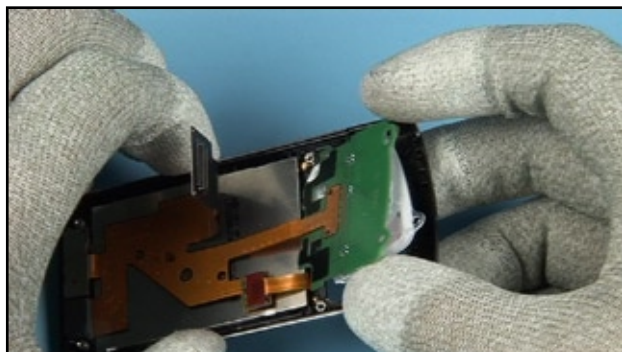
39. Open the clips of the TOP KEYMAT SUPPORT...



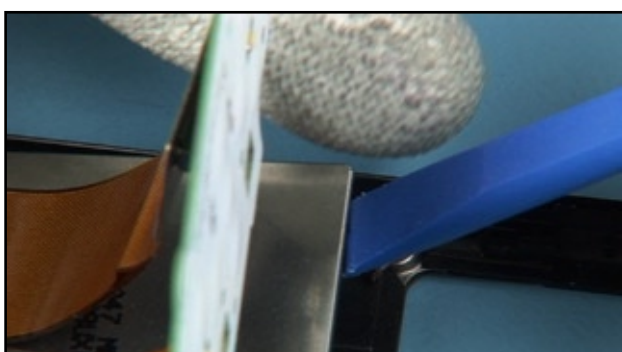
40....on both sides.



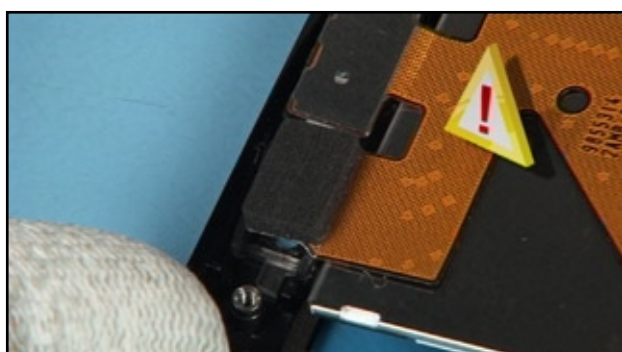
41. Lift up the TOP KEYMAT SUPPORT.



42. The TOP KEYMAT ASSY can be removed now.



43. Carefully lift up the LCD AM 240x320 with the SS-93. Lift up the whole assembly.



44. Be double carefull while lifting out the CMOS CAMERA MODULE.



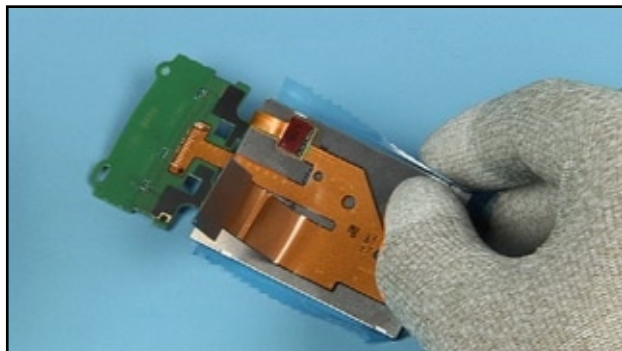
45. Ease out the EARPIECE from the shown side.



46. Discard this EARPIECE. Do not use it again.



47. Bend the top part of the cover. Twist out the glued in EARPIECE HOUSING ASSEMBLY.

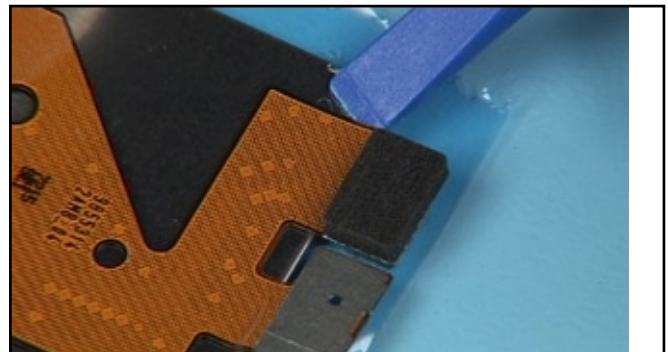


48. These parts can be separated if necessary.





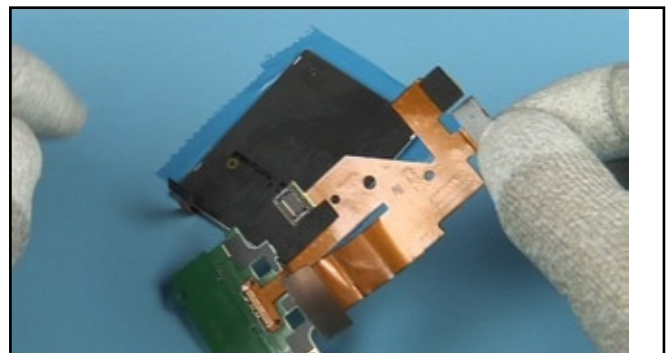
49. Gently open the flex connector. Avoid putting pressure to the components.



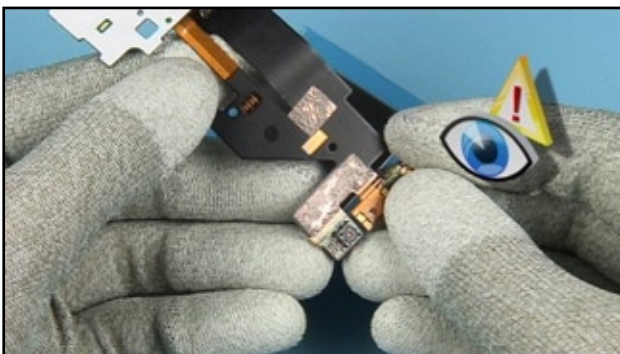
50. Lift up the glued in TOP FLEX , beginning at the shown side...



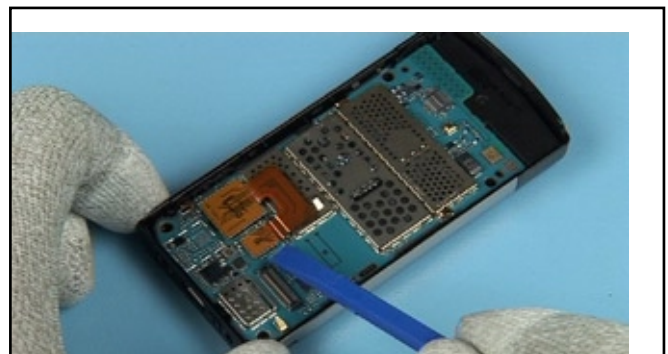
51....continue at the large connector.



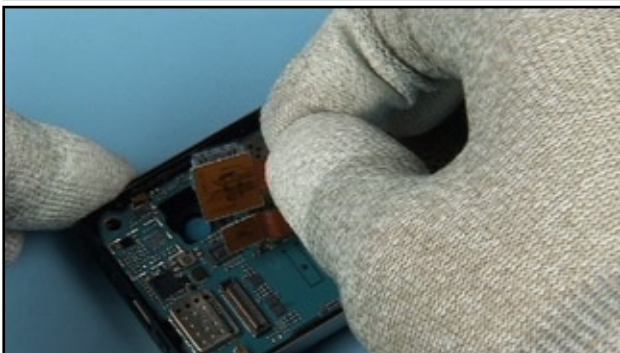
52. If all adhesive parts are released, the Top FLEX ASSY can be removed easily.



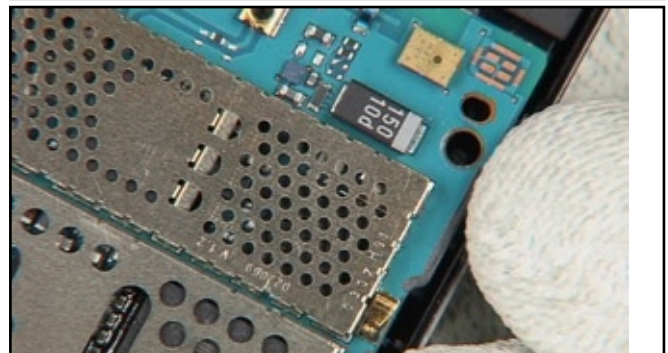
53. Keep this adhesive clean if this part should be reused. Remove any adhesive residues on the opposing part.



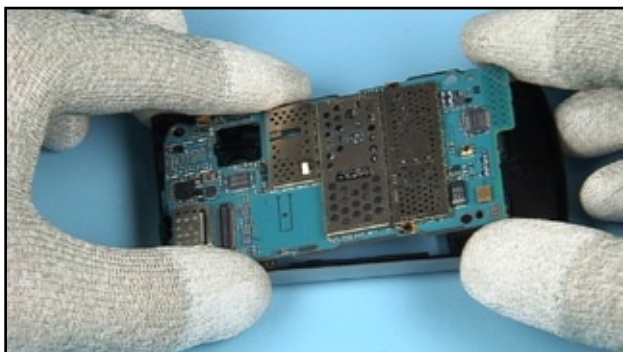
54. Open the flex connector of the CAMERA FLEX MODULE.



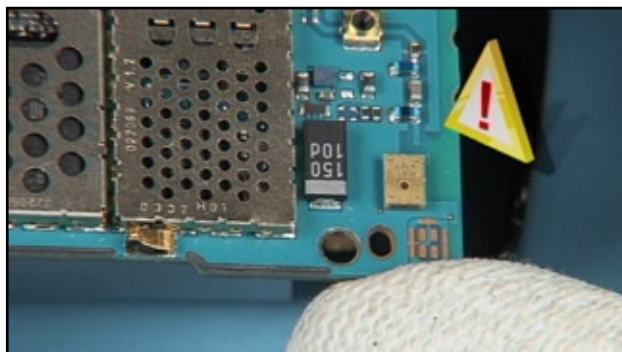
55. Now the CAMERA FLEX MODULE can be removed together with the CAMERA MODULE.



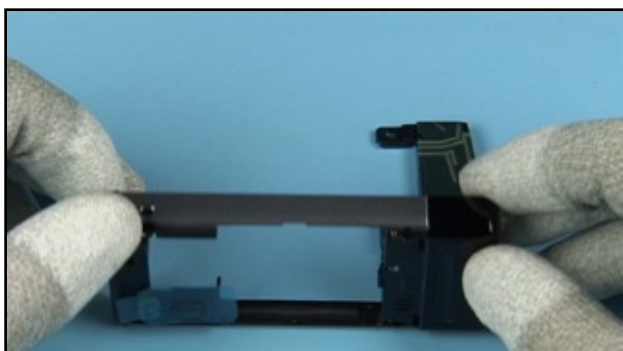
56. Slightly bend the D-COVER in order to release the clip. Do not touch the components or the spring contact.



57. Now lift up the ENGINE MODULE.



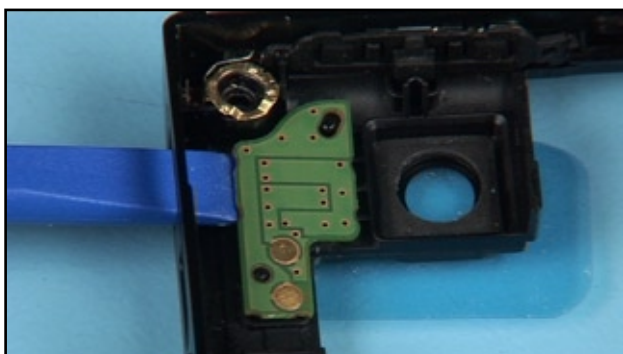
58. Never touch the microphone with a tool or with fingers.



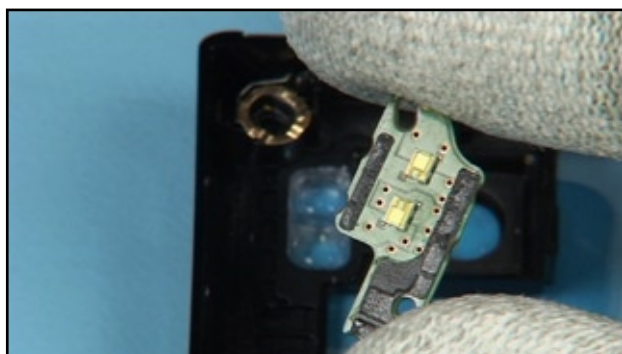
59. Turn the D-COVER ASSEMBLY. Let drop out the ANTENNA/IHF ASSEMBLY.



60. Lift up the DC PLUG.



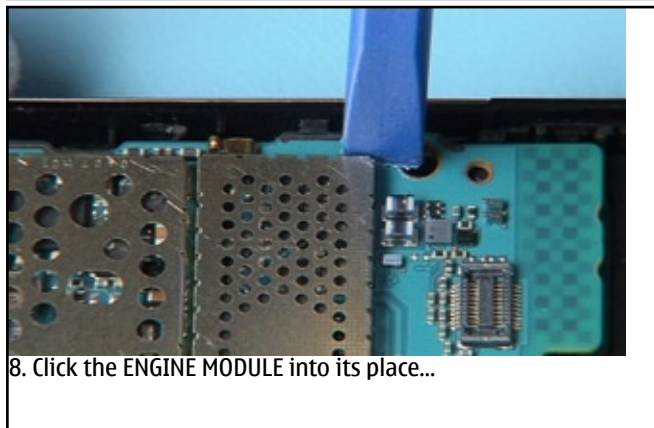
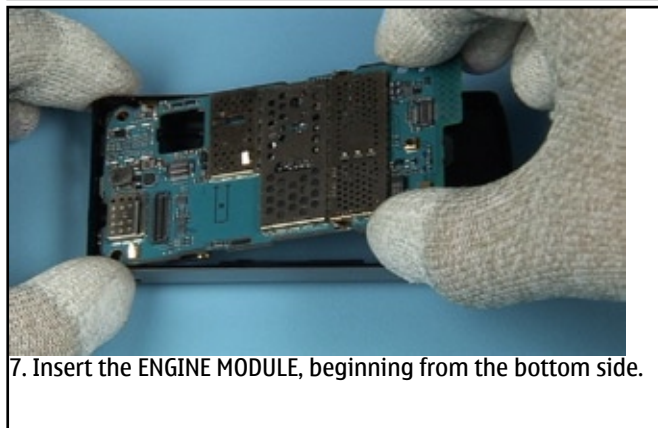
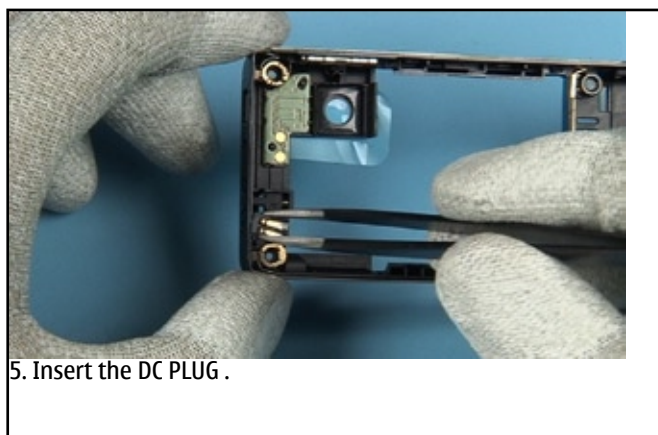
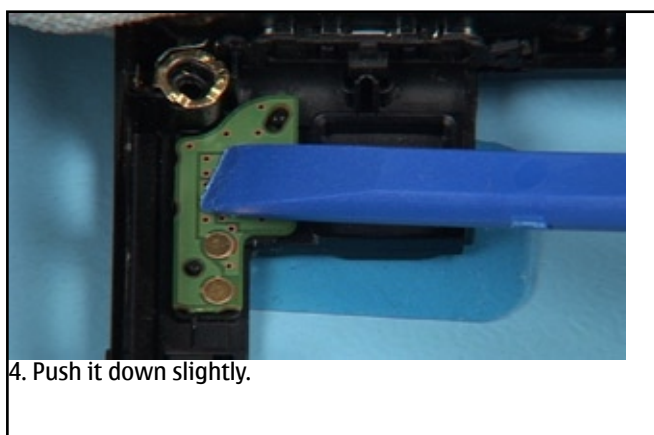
61. Lift out the FLASH ASSEMBLY.



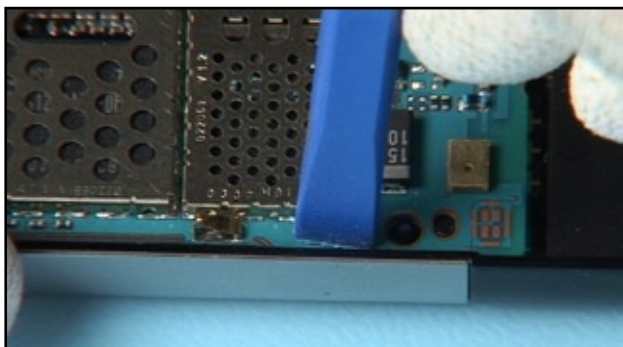
62. Keep this adhesive clean if this part should be reused. The disassembly procedure is now complete.



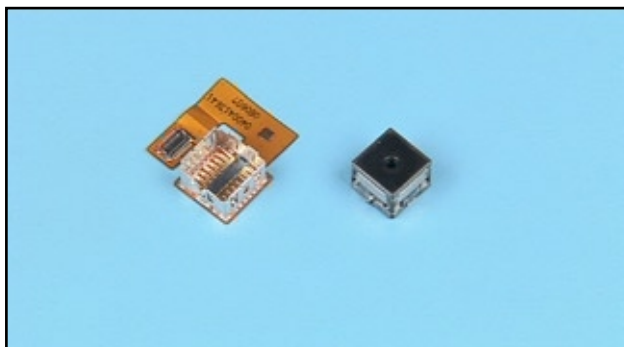
## 12.ASSEMBLY



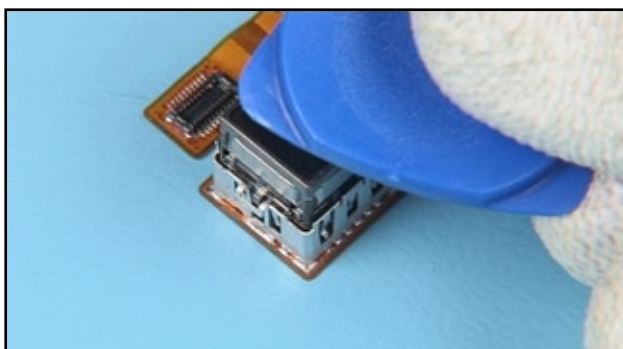




9...on both sides. Do not touch the components. Check that the Keys operate before continuing.



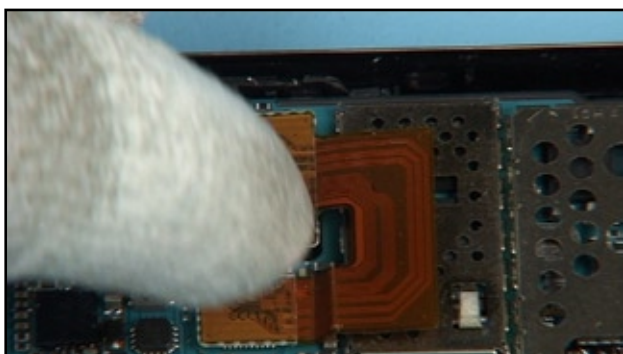
10. The CAMERA MODULE and the FLEX MODULE can be ordered as separate parts..



11. Insert the CAMERA MODULE into its housing. Push it into its place slightly. Do not touch the lens.



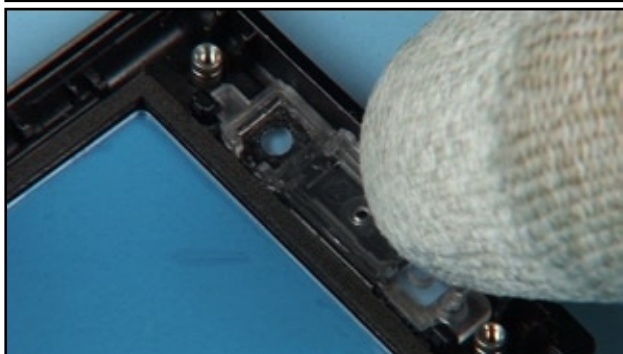
12. Check the camera window for cleanliness. Insert the CAMERA FLEX MODULE into its compartment.



13. Close the flex connector of the camera.



14. Insert the EARPIECE HOUSING ASSEMBLY into the A-COVER.



15. Click it into its place correctly.



16. Remove the protective film from the EARPIECE.



17. Insert the EARPIECE into its compartment.



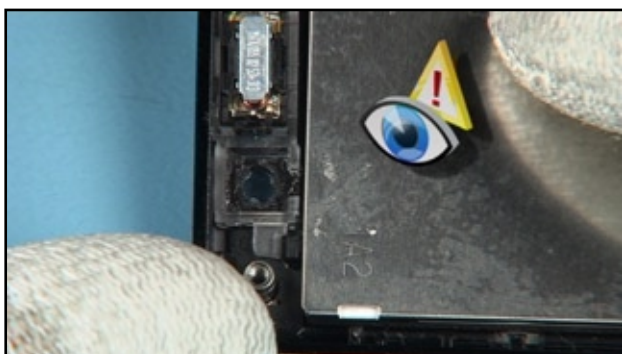
18. Push it down carefully. Never push down the metal part, otherwise the EARPIECE could be destroyed.



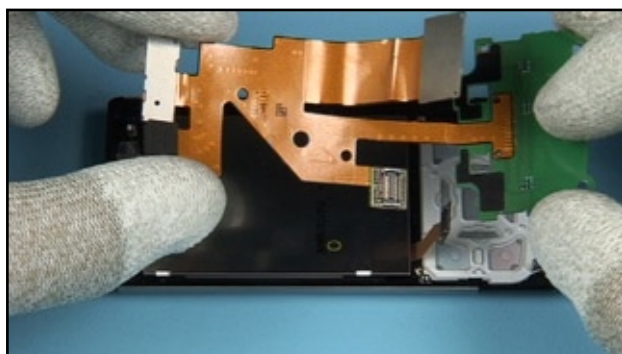
19. Insert the TOP KEYMAT ASSY.



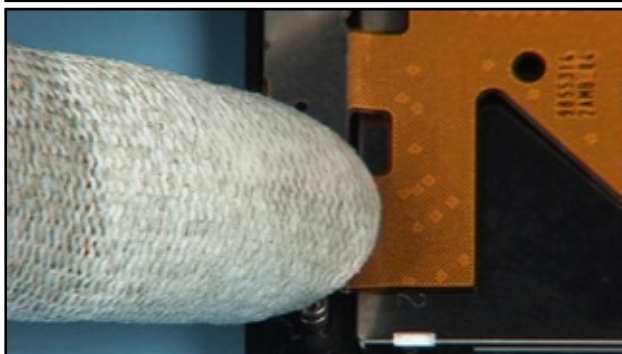
20. Place the LCD as shown.



21. Align it to the front guiding.



22. Place the TOP FLEX ASSEMBLY. Remove the protective film before if this part is new.



23. Slightly push the CMOS CAMERA into its compartment.

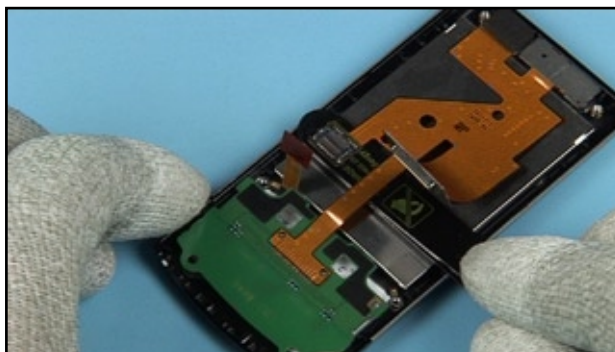


24. Mind the guiding pin of the TOP FLEX ASSEMBLY.

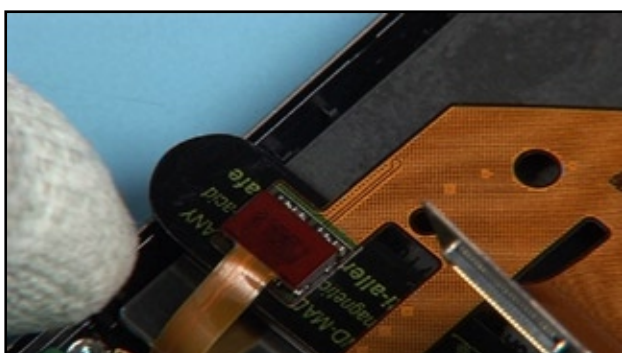




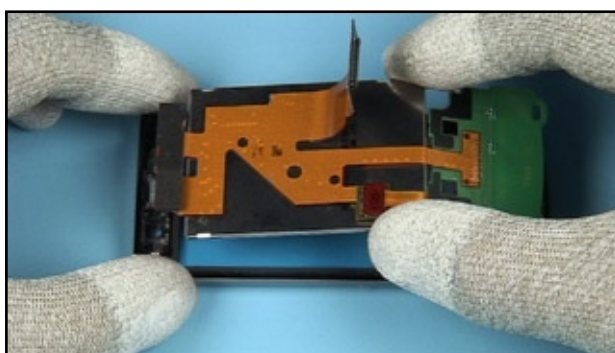
25. Smooth down the TOP FLEX ASSEMBLY evenly.



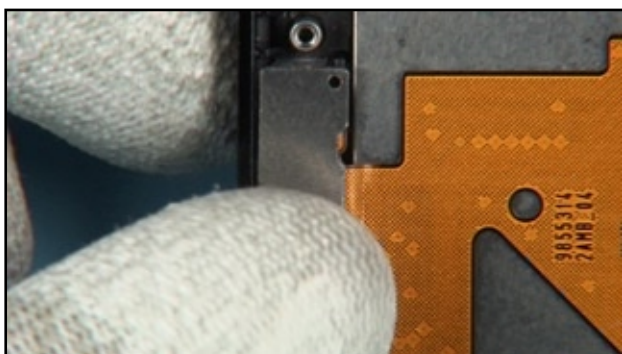
26. Insert the metal tweezers under the flex foil as shown.



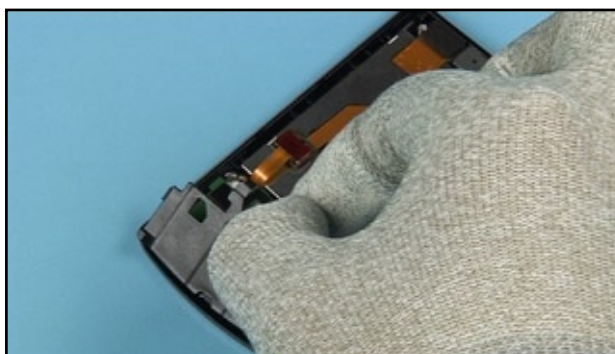
27. Now close the flex connector of the LCD.



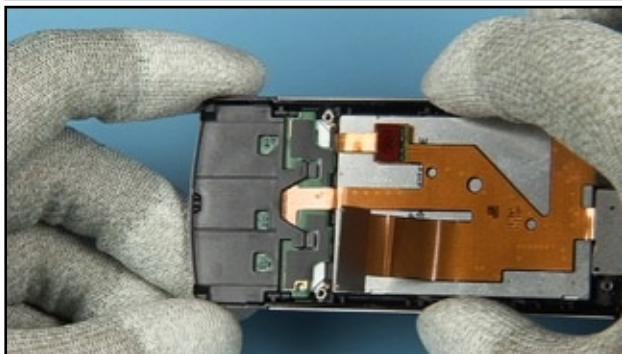
28. If these assembly wasn't separated before, insert the whole assembly into the A-COVER.



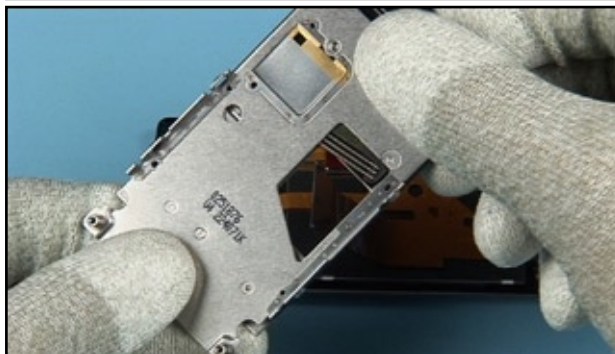
29. Align the LCD to the top guiding pins. Fit the CMOS CAMERA MODULE part as shown before.



30. Insert the TOP KEYMAT SUPPORT, beginning from the top.



31. Click both clips into their places.

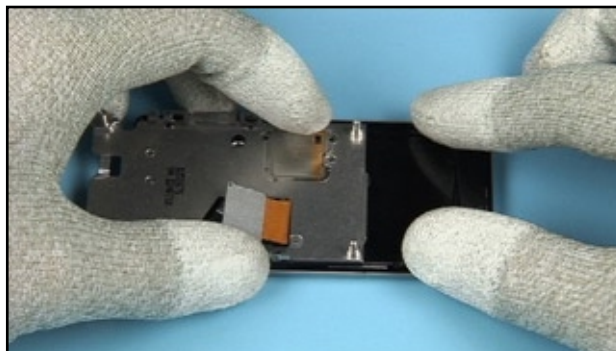


32. Shift open the SLIDE MODULE ASSEMBLY partly...

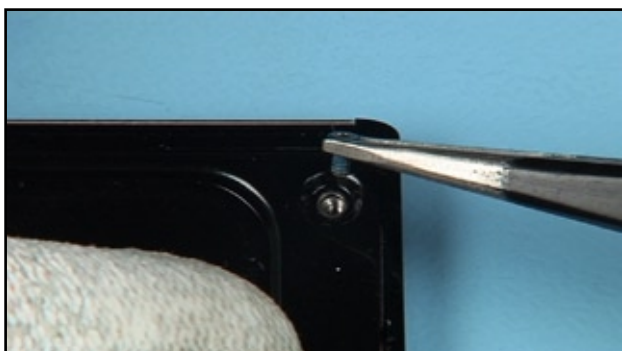




33....to reach the maximum recess. Slot through the flex foil.



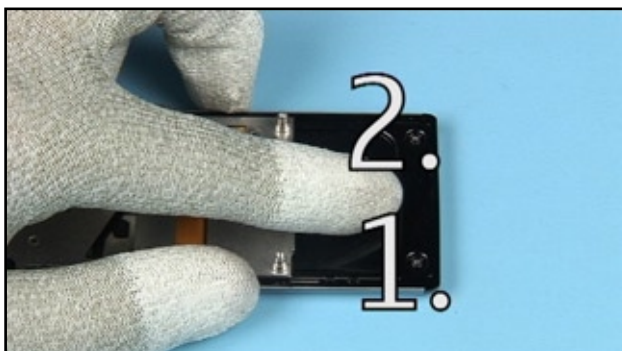
34. Place the SLIDE MODULE ASSEMBLY into the A-COVER, hold down the top side.



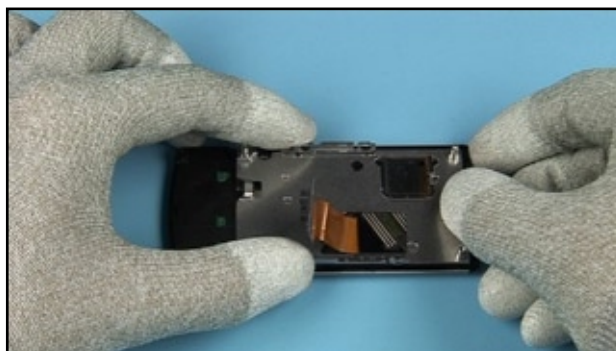
35. Insert 2 new screws.



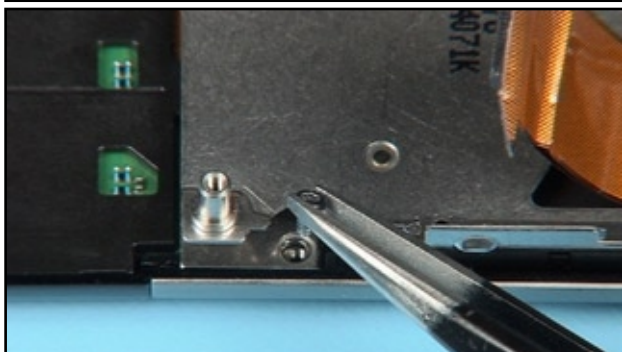
36. Set the correct torque.



37. Tighten both screws in the order shown.



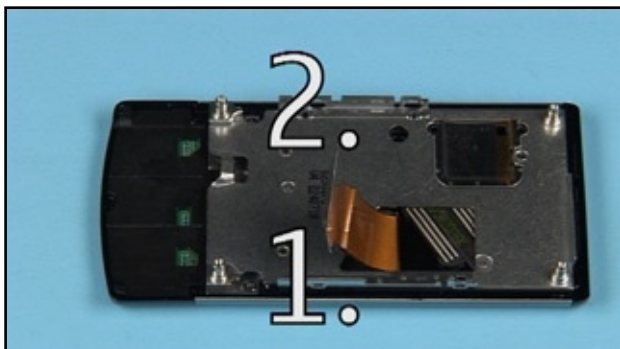
38. Close the slider.



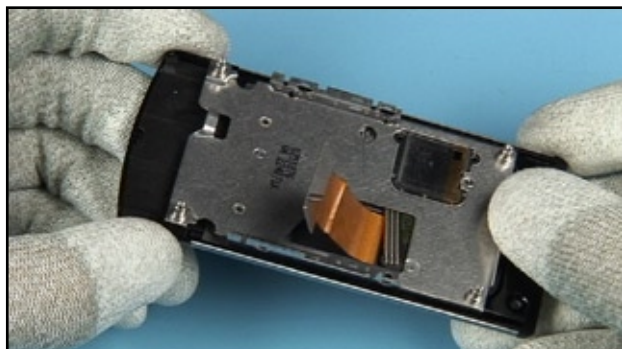
39. Insert the next 2 screws.



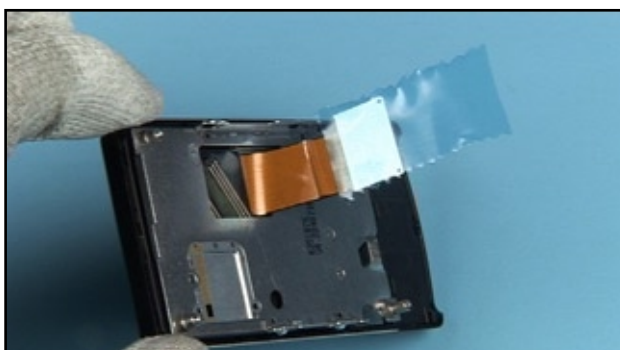
40. Check the torque of the tool.



41. Tighten both screws in the order shown.



42. Check the functionality of the slide before continuing.



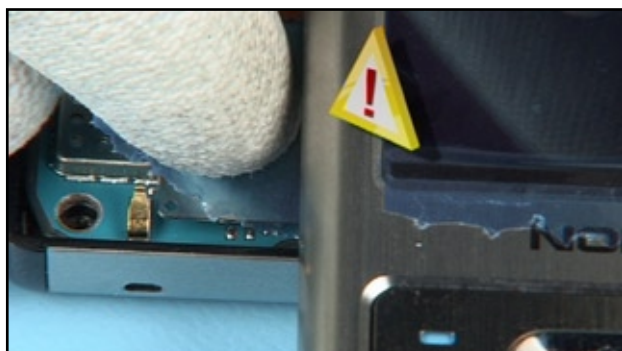
43. Fit a piece of adhesive tape to the connector as shown.



44. Carefully flip the flex foil as shown. Do not fold it!



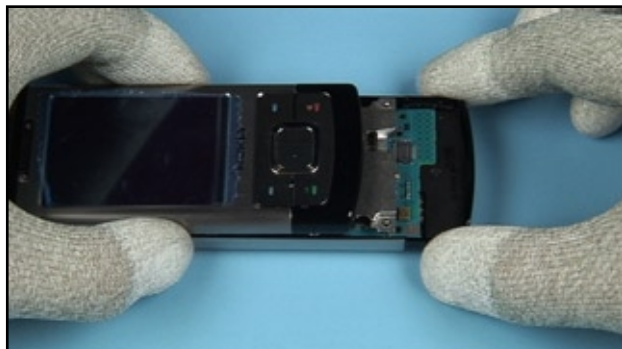
45. Bring the upper part into position as shown.



46. Use the tape to align the connector correctly. Close the connector and remove the tape.



47. Place the upper part over the D-COVER. Do not click it into its place yet.



48. Shift open the assembly.

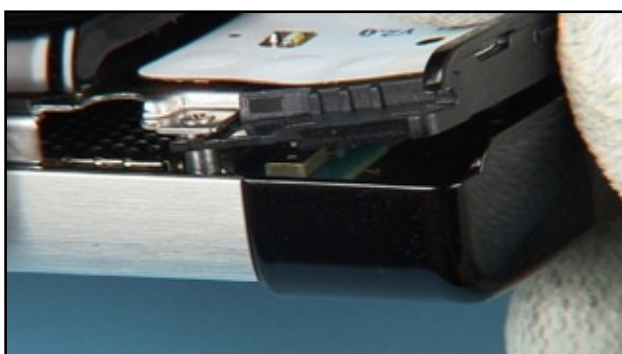




49. Bring the **BOTTOM KEYMAT SUPPORT** into position as shown. Close the flex foil connector.



50. Check the correct positioning of the connector.



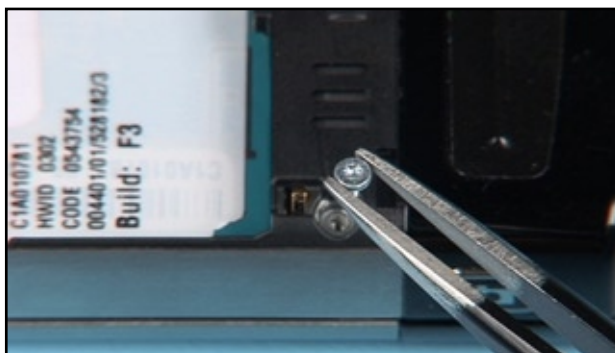
51. Now bring the latches of the **BOTTOM KEYMAT SUPPORT** under the metal latches of the **SLIDE MODULE**.



52. Push down the **BOTTOM KEYMAT SUPPORT** evenly.



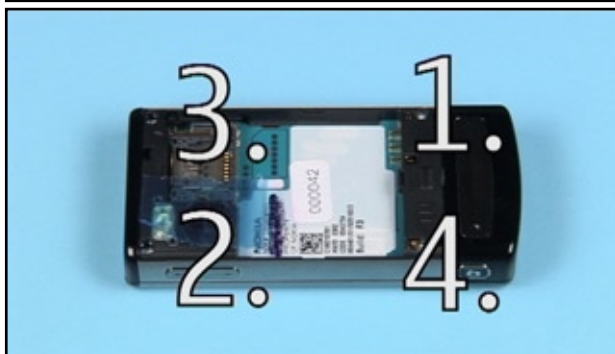
53. Close the assembly. Click all snaps into their places.



54. Insert the 4 new screws.



55. Set the correct torque.



56. Tighten all screws with the correct torque in the order shown.



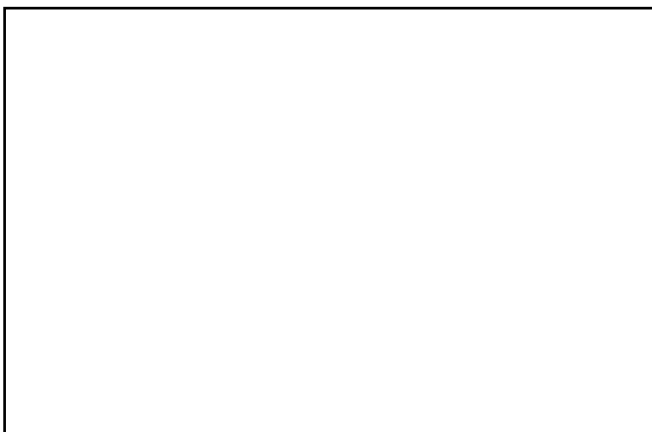
57. Insert the BOTTOM KEYMAT.



58. Place the BATTERY COVER.



59. At least check the functionality of the slider and the Keys.



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