

# SERVICE MANUAL

## Level 1&2

# NOKIA

# 7360

RM-127



### Transceiver characteristics:

**Band:** Tri-band phone for GSM 900/1800/1900MHz

**Camera:** Integrated VGA camera

**Display:** Color display with 65,539 colors,  
resolution 128 x 160 pixel

**IRDA**

**FM radio**

**Connector:** Pop Port™ connector

### Transceiver with BL-5b 760mAh Li-Ion battery pack

Talk time	Standby	Note
up to 4 h	up to 18 days	Depends on network parameters

### Environmental characteristics:

- Lead-free soldered

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## CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	11.11.2005	Initial draft
Approved	1.0	21.11.2005	Approved

## 1. INTRODUCTION

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:

<mailto:cc-ts-rc.documentation@nokia.com>

Please keep in mind also that this documentation is continuously being updated and modified, so watch always out for the newest version.

### 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
2. THE IMMUNITY OF VEHICLE ELECTRONIC SYSTEMS TO RF ENERGY.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.



Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Supplier has to take care of all precautions, which are mentioned in the service level related "Service Partner Requirements", available on NOKIA Online. Also see ESD Protection Requirements in this Service Manual.

## 2. GENERAL REPAIR INFORMATION

In this section the technician will get some general hints how to carry out repairs:

- To familiarize oneself with NOKIA product read the tutorials or user guide on [www.nokia.com](http://www.nokia.com) -->Support--> Phones, by selecting the Phone Model.
  - Before starting the repair you must take care of ESD precautions like being in your ESD Protected Area and connecting your wristband.
  - Use gloves to avoid corrosion and fingerprints.
  - Protect windows and displays with a film to avoid dust and scratches.
  - When cleaning the LCD Module any lint-free cloth can be used (e.g. Micro-Fibre cloth).
  - When cleaning the pads you have to use a soft cloth/ESD brush and Isopropanol. It is not allowed to use a glass fiber pencil because it scratches the surface and will lead later on to corrosion.
  - Mechanical parts (except shielding lids and bent parts), which didn't repair the failure, can be reused, if they are not soldered.
  - When removing the shielding lids make sure to replace them with new ones, otherwise the high-frequency leakage can have an influence on the device.
  - Always use original NOKIA spare parts.
  - Check the soldering joints of the parts, which are concerned regarding the indicated error (e.g. soldered connectors or switches) and resolder them if necessary (Level 2 only).
  - Remove redundant soldering flux after repair.
  - Meet the torque requirements when assembling the unit (see also the document "torques for transceiver assembly" on NOKIA Partner Web Site/NOKIA Online).
  - Always use your own equipment for testing where you are sure that it works. E.g. if the customer complains about charger function, please test the phone with your own charger to be sure if phone or charger causes the malfunction.
  - A SIM card is needed for all GoNoGo tests.
  - When doing the fault log entries, always note the Item code, which caused the malfunction. Also, fill in the appropriate part code from the assembly, if needed.
  - Please be aware that some malfunctions could be software related and solved by an update.
- 
- There are several documents available on NOL, which have to be followed:
  - First, take care for the latest content pages of Service Bulletins, which are always available for each folder on NOKIA Online. This is also important to recognize, if existing documents have become invalid.
  - The service level indicator at the bottom of each document tells the appropriate destination.

Downloads > Support Library >

1. Instructions
2. General Service Bulletins
3. Product related documents
4. Spare Part Service Bulletins
5. Service Tools Service Bulletins
6. Common Software Service Bulletins  
etc,...

Use General SB-217 as a reference or overview.

Please also check NOKIA Online (NOL) for latest news and files on a regular basis.

### 3. PATHFINDER FOR WORKSHOP STAFF

In addition to the information in this Service Manual, there are several instructions and information, which have to be followed. Main documentation database is [NOKIA Online](#) with the purpose of serving different multimedia content, like video clips or interactive tutorials.

It is mandatory to watch for newest technical and organizational information on a daily basis to be updated as required (see "Latest files in Support Library"). Every new information has to be processed and implemented as soon as possible. When logged into NOL you can also find needed information in different folder like:

Support Library



- Service Manuals
- Service Bulletins
- Software
- Repair Information

Level 1&2 e-learning (former NOKIA CarePoint) on NOKIA Online

Former NOKIA CarePoint content, such as	<ul style="list-style-type: none"> <li>• Online Troubleshooting</li> <li>• Product information</li> <li>• Videos – Disassembly/Assembly</li> </ul>	can be found on NOKIA Online	
			<p style="text-align: center;"><a href="#">NOKIA Online</a></p> <p style="text-align: center;">↓</p> <p style="text-align: center;">Care Services</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">Training</p> <p style="text-align: center;">↓</p> <p style="text-align: center;">Phone Models</p>

Level 1&2 e-learning courses offer a quick overview of the NOKIA phone and support for how to repair and use the phone:

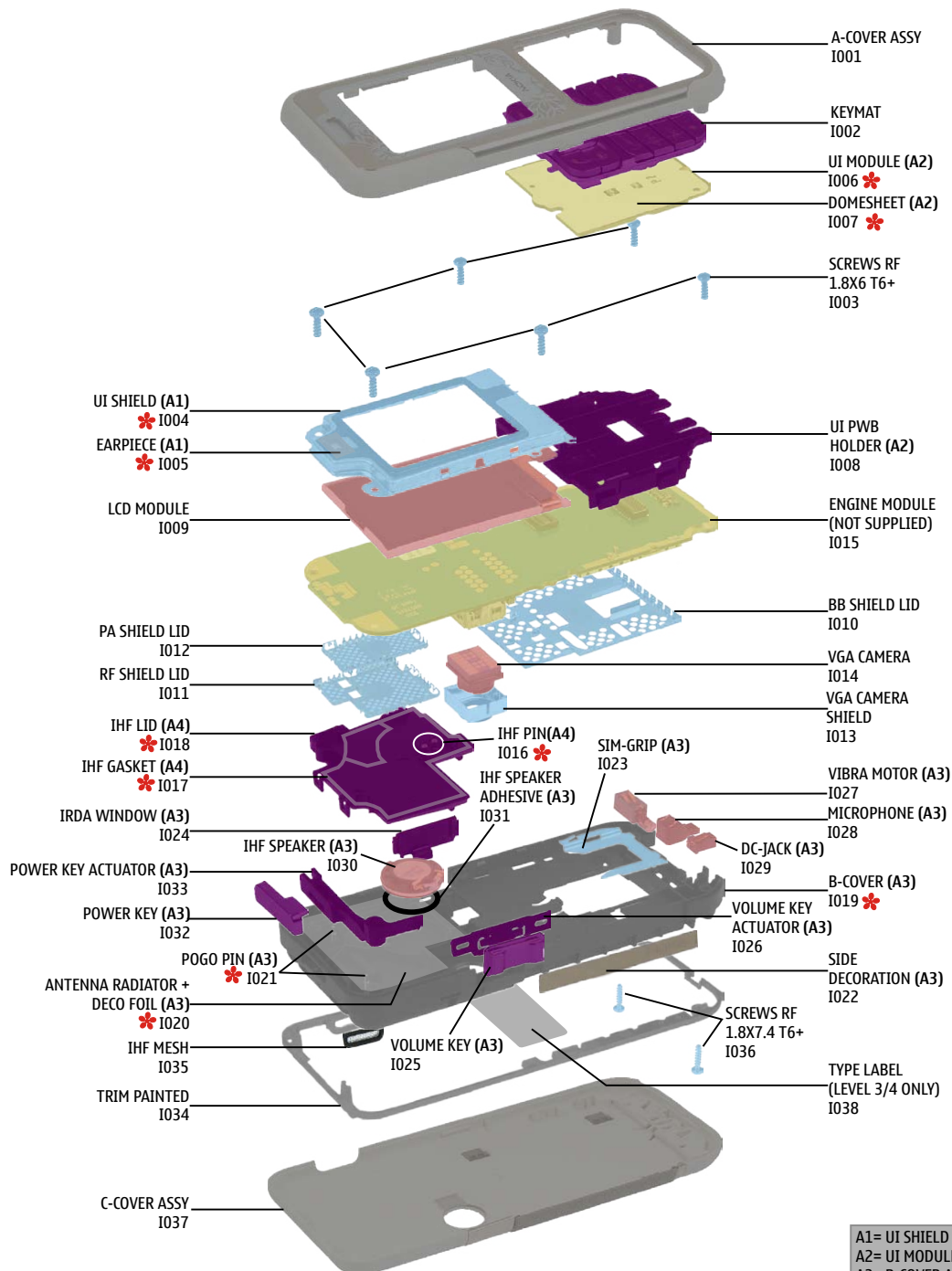
<b>Overview &amp; Guides</b> Basic information about the phone, features and technologies	<b>Disassembly &amp; Assembly</b> Instructions how to disassemble and assemble the phone	<b>Troubleshooting</b> Step-by-step instructions on how to locate and repair the most common problems with the phone
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To reduce the server traffic it is recommended to download newest version of huge files like videos, Phoenix packages or Service Manuals only once and distribute it internally for further use.

## 4. EXPLODED VIEW AND COMPONENT DISPOSAL

Recommendation for the ecologically friendly disposal of components. Colorized components show the different categories. See corresponding ITEM/CIRCUIT REF in the Spare Parts Service Bulletins on NOL.

7360 RM-127 Exploded view



A1= UI SHIELD ASSY  
A2= UI MODULE ASSY  
A3= B-COVER ASSY  
incl. A4  
A4= IHF LID ASSY  
\* = only available as assembly

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ELECTRO SILICON METAL PLASTIC PWB COVER

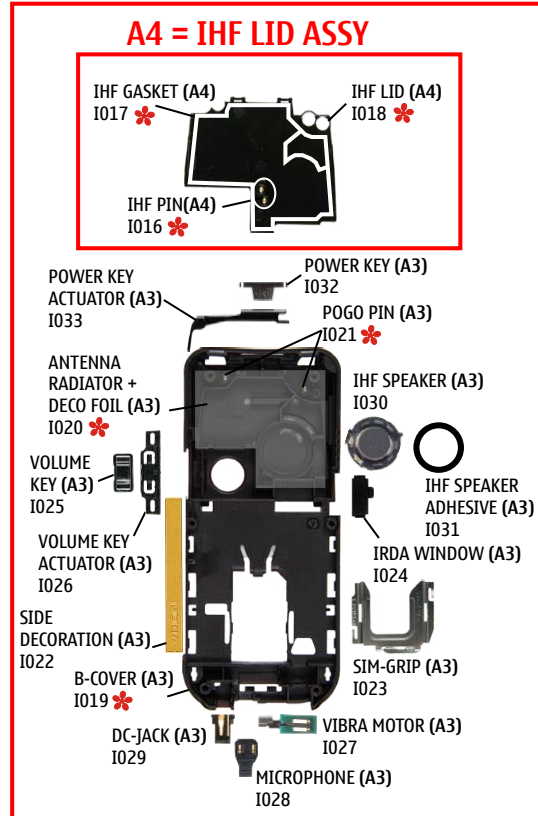
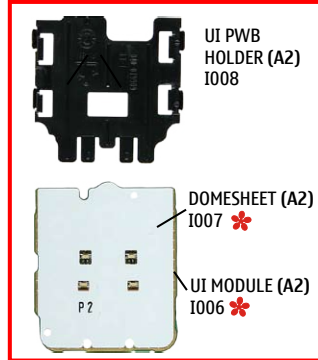
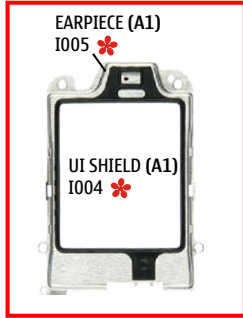
**5. SPARE PARTS OVERVIEW**

**7360 Spare Parts overview**

**A1 = UI SHIELD ASSY**

**A2 = UI MODULE ASSY**

**A3 = B-COVER ASSY**



A-COVER ASSY  
I001



KEYMAT  
I002



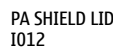
SCREWS RF  
1.8X6 T6+  
I003



LCD MODULE  
I009



RF SHIELD LID  
I011



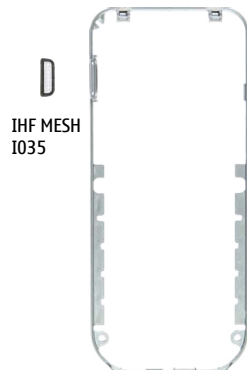
PA SHIELD LID  
I012



VGA CAMERA  
I014



VGA CAMERA  
SHIELD  
I013



IHF MESH  
I035



C-COVER ASSY  
I037



SCREWS RF  
1.8X7.4 T6+  
I036



TYPE LABEL  
(LEVEL 3/4 ONLY)  
I038



ENGINE MODULE  
(NOT SUPPLIED)  
I015



BB SHIELD LID  
I010

A1= UI SHIELD ASSY  
 A2= UI MODULE ASSY  
 A3= B-COVER ASSY  
 incl. A4  
 A4= IHF LID ASSY

\* = only available as assembly

Ver. 2.0

TRIM PAINTED  
I034


## 6. SPARE PARTS LIST

Please exchange this page (placeholder) with latest corresponding Service Bulletins (spare parts, SWAP units and service tools) from NOL!

This will ensure, that you are using up-to-date order codes only.

Therefore Service Bulletins have to be checked from NOL on daily basis.

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Select subcategory:

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                  until:  /  /

Search:

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**Files for Service level 2** Date:03.02.2005

- XXXXXXXXXXXXXXXXXXXX

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**Files for Service level 1** Date:16.02.2005








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Service Manual 7360 RM-127

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## 7. SERVICE TOOLS

	<p><b>FLS-4S incl. ACF-8, Driver and User Guide</b>                  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-4S.</p>
	<p><b>Travel Charger AC-4</b>                  Small and lightweight charger for fast charging of your phone battery.</p>
	<p><b>Internal Battery BL-5b</b>                  Inserted under the back cover, this Li-Ion 760 mAh battery provides power in a lightweight package.</p>
	<p><b>Headset HS-31</b>                  The Nokia Fashion Stereo Headset provides a convenient handsfree facility and the pleasure of listening to your compatible Nokia phone's FM radio or MP3 player in stereo.</p>
	<p><b>SS-42</b>                  Camera removal tool.</p>
	<p><b>SS-34</b>                  Flex connector opening tool.</p>

	<p><b>SF-17</b>                  POS Flash Adapter is used in POS (Point of Sales) environment for software updating. It provides controlled supply voltage and necessary connections between the phone and the Flash Device. It substitutes for the phone's standard battery during the software update.</p>
	<p><b>Test Pins</b>                  for Flash Adapter SF-17</p>
	<p><b>RJ-107</b>                  Soldering Jig</p>
	<p><b>Lead-free Solder Wire</b>                  Mandatory for lead-free products (Level 2 only).</p>
	<p><b>0772040 NMP Standard Toolkit</b></p> <ul style="list-style-type: none"> <li>• NOKIA opening tool SRT-6 NOKIA No. 0770431</li> <li>• Tonichi torque driver NOKIA No. 6901525</li> <li>• <a href="#">Hoya</a> micro Fibre cloth MX304</li> <li>• <a href="#">Dastex</a> gloves S, M, XL</li> <li>• <a href="#">Artilux</a> goggles AH166</li> <li>• <a href="#">Wera</a> bit T5 867/4TX 5x50</li> <li>• Wera 867/4 6IP; 50mm (Torx 6 PLUS®)</li> <li>• Wera 867/1 5IP; 25mm (Torx 5 PLUS®)</li> <li>• Wera bit T6 PLUS® 867/4TX 6IP</li> <li>• <a href="#">Facom</a> side cutter 416E</li> <li>• Facom T5 driver SP.14032</li> <li>• Facom T6 driver SP.14033</li> <li>• Facom slot screwdriver AEF. 2x35.E</li> <li>• <a href="#">Wetec</a> tweezers 7abb SA-ESD</li> <li>• Wetec tweezers 22 SA-ESD</li> <li>• Wetec tweezers 13 SA-SMD ESD</li> <li>• Wetec tweezers PSF SA-ESD</li> <li>• Wetec ESD brush E1211</li> <li>• <a href="#">Kaiser</a> Fototechnik airbrush 6315</li> <li>• Wetec dental tool DEM83266/0</li> <li>• <a href="#">RS Components</a> Scissors 323-5732</li> </ul>

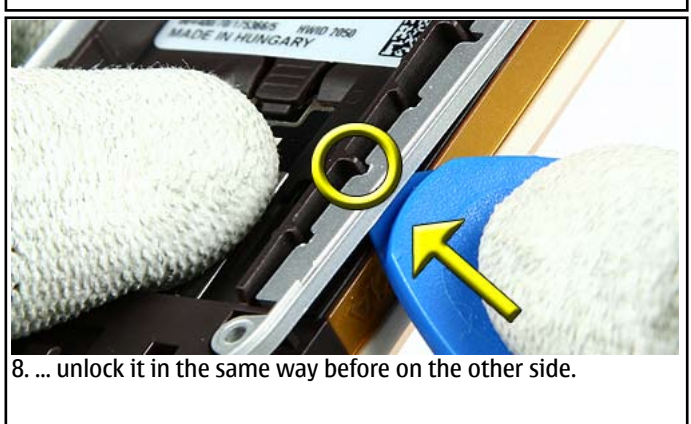
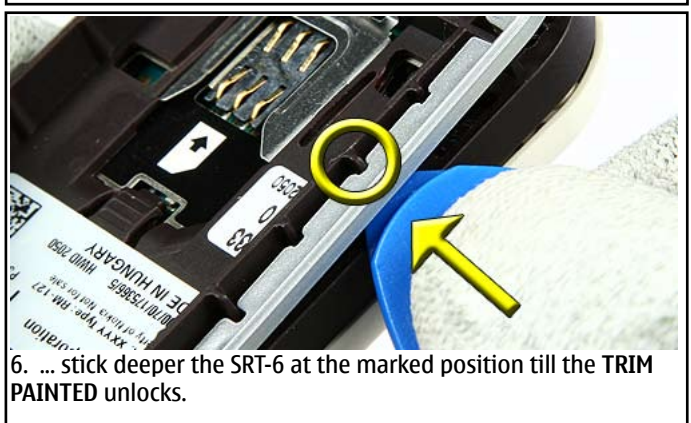
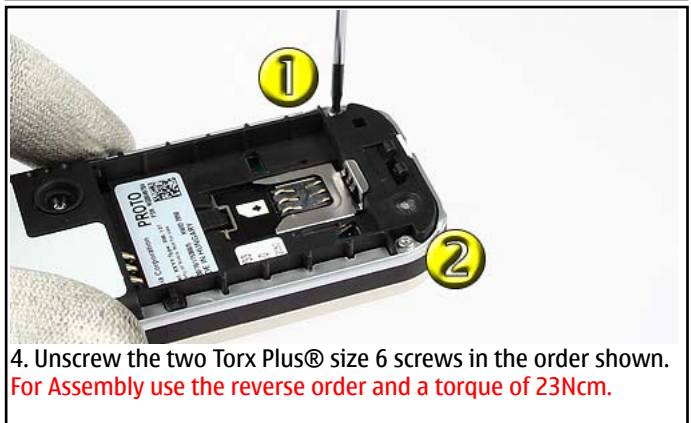
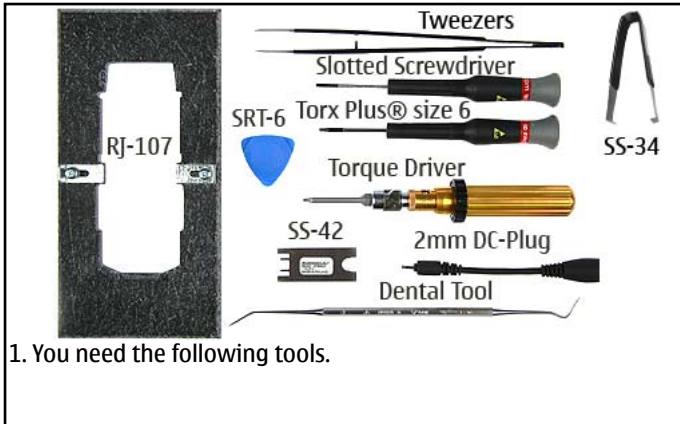
## 8. SW-UPDATE

Flash Concept – (Point of Sales)

To use FLS-4S 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](#).



## 9. DISASSEMBLY INSTRUCTION

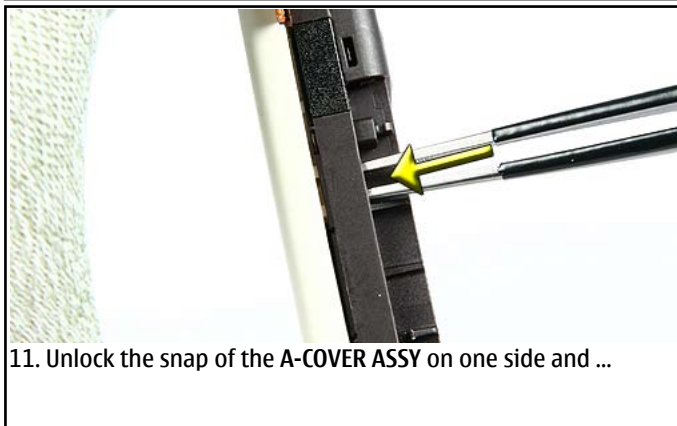




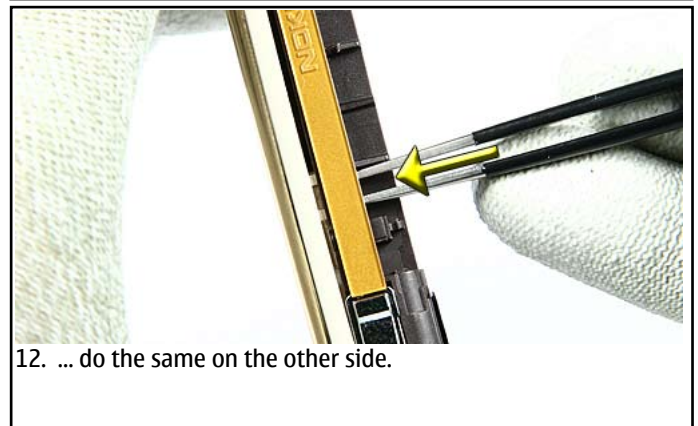
9. Remove the TRIM PAINTED.



10. Note the two snaps of the A-COVER ASSY.



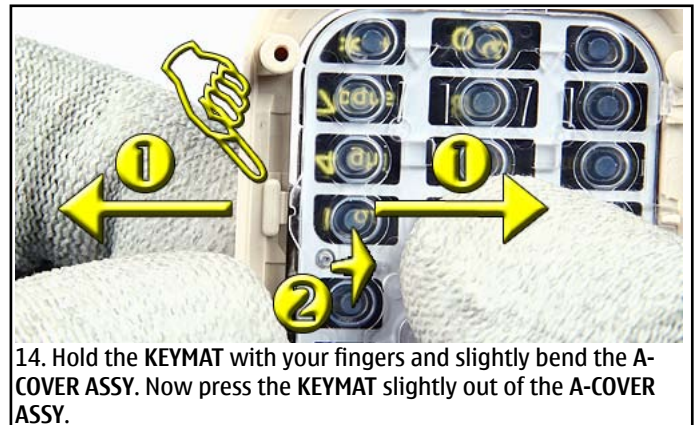
11. Unlock the snap of the A-COVER ASSY on one side and ...



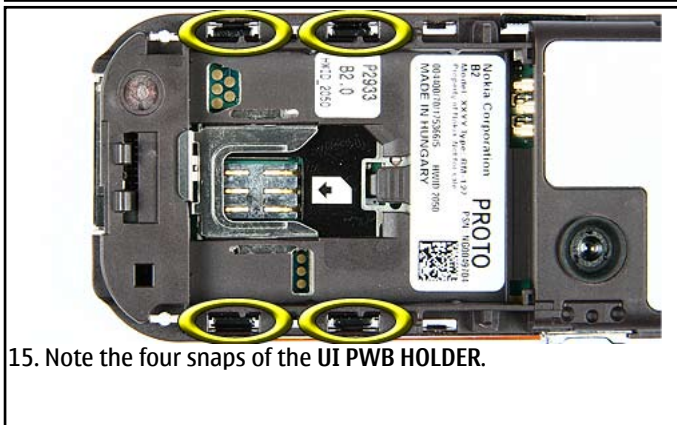
12. ... do the same on the other side.



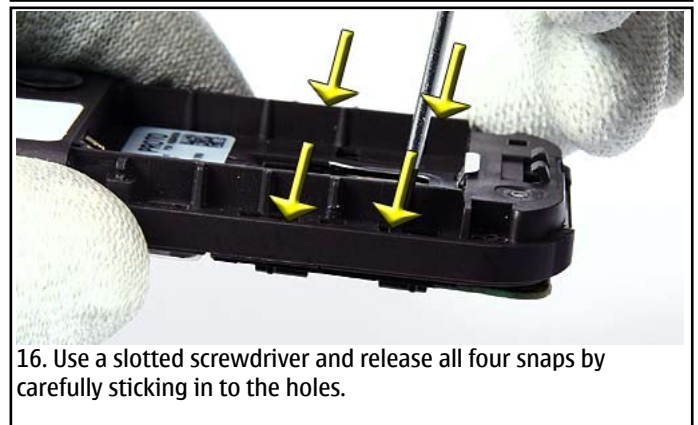
13. To remove the A-COVER ASSY, lift it a little bit and move it to the opposite direction as the B-COVER ASSY.



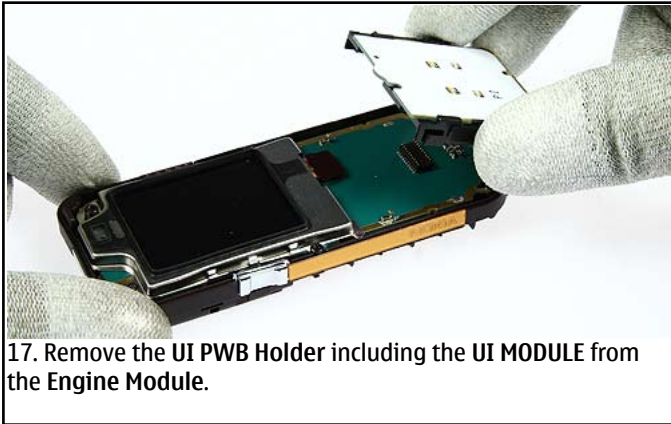
14. Hold the KEYMAT with your fingers and slightly bend the A-COVER ASSY. Now press the KEYMAT slightly out of the A-COVER ASSY.



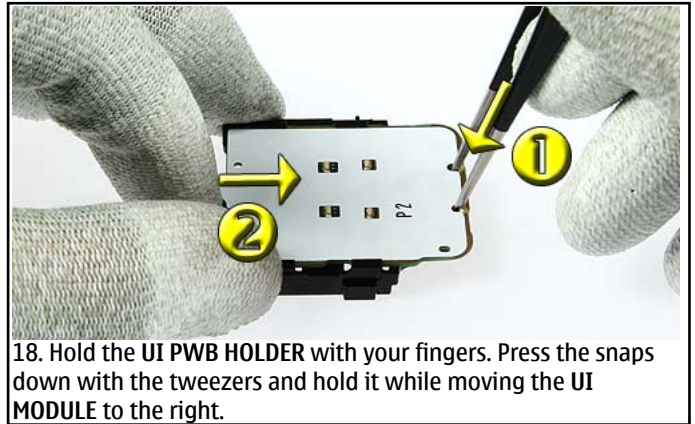
15. Note the four snaps of the UI PWB HOLDER.



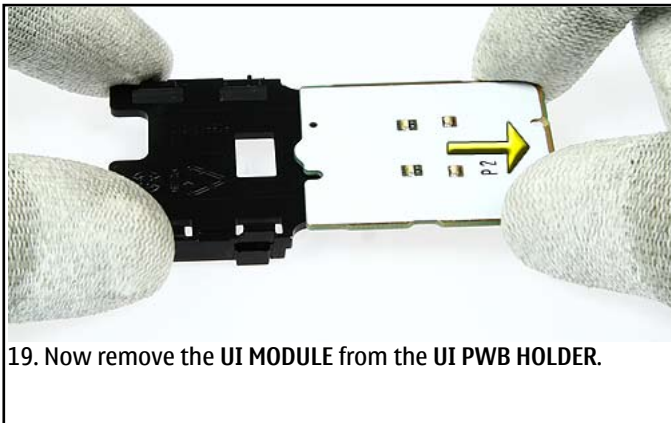
16. Use a slotted screwdriver and release all four snaps by carefully sticking in to the holes.



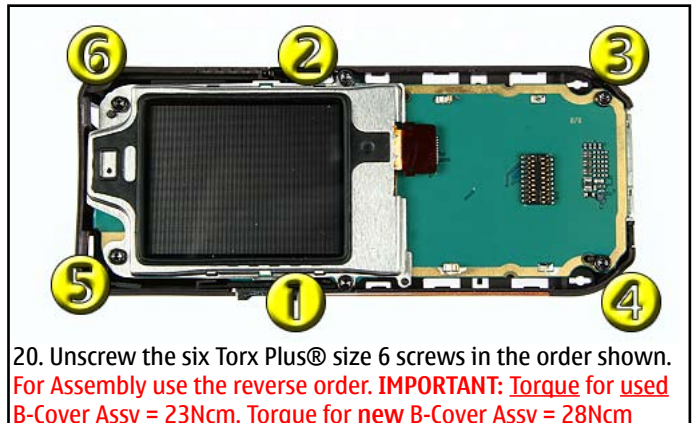
17. Remove the UI PWB Holder including the UI MODULE from the Engine Module.



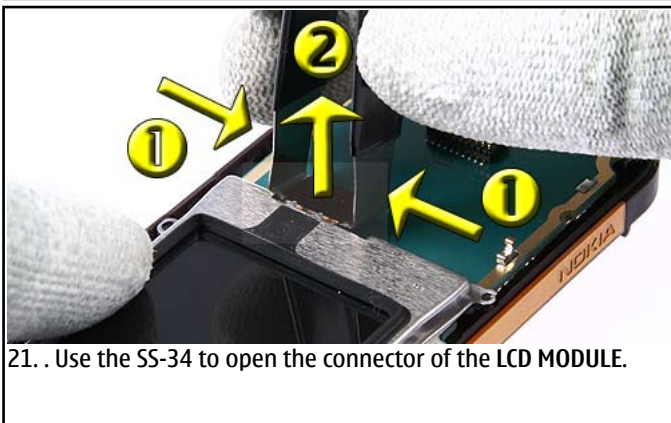
18. Hold the UI PWB HOLDER with your fingers. Press the snaps down with the tweezers and hold it while moving the UI MODULE to the right.



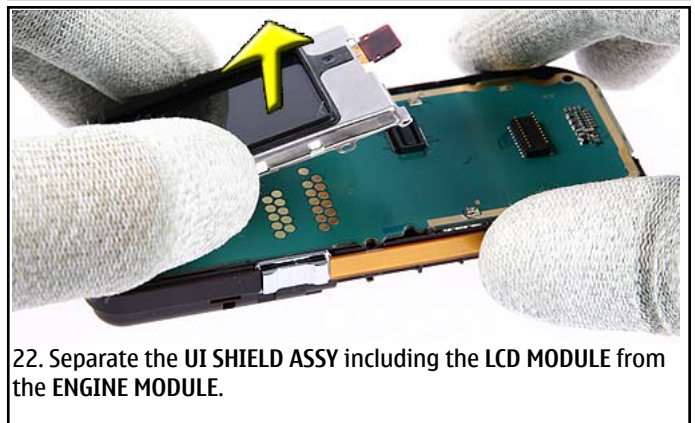
19. Now remove the UI MODULE from the UI PWB HOLDER.



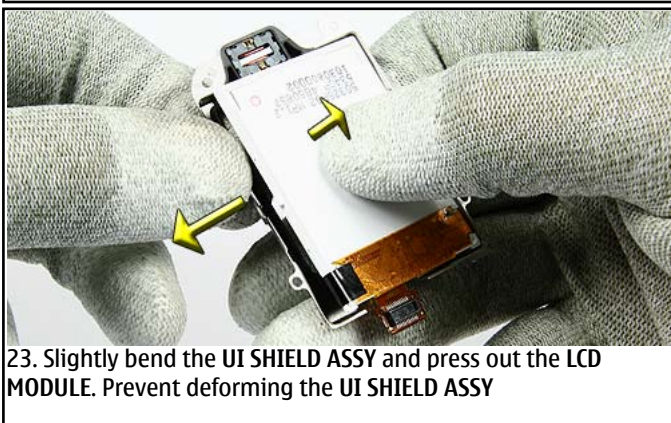
20. Unscrew the six Torx Plus® size 6 screws in the order shown. For Assembly use the reverse order. **IMPORTANT: Torque for used B-Cover Assy = 23Ncm. Torque for new B-Cover Assy = 28Ncm**



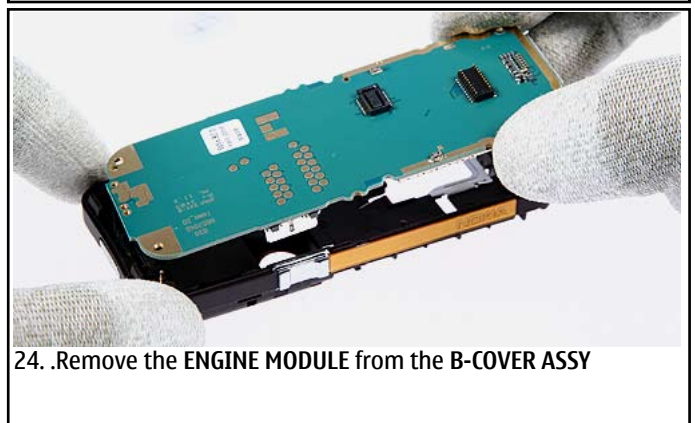
21. Use the SS-34 to open the connector of the LCD MODULE.



22. Separate the UI SHIELD ASSY including the LCD MODULE from the ENGINE MODULE.



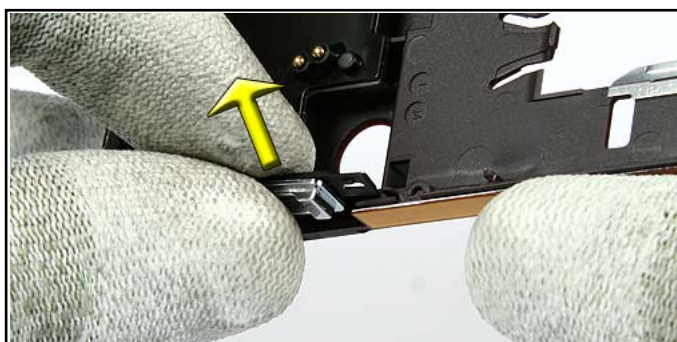
23. Slightly bend the UI SHIELD ASSY and press out the LCD MODULE. Prevent deforming the UI SHIELD ASSY



24. Remove the ENGINE MODULE from the B-COVER ASSY



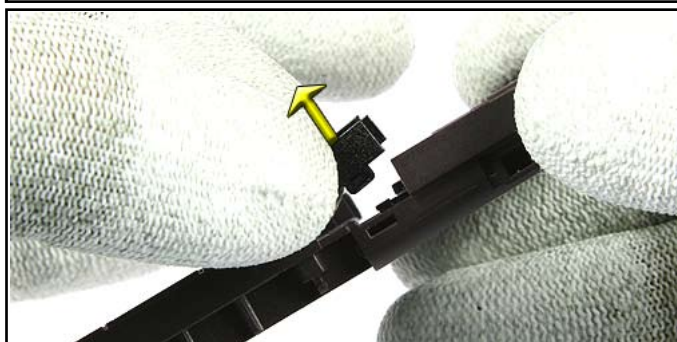
25. Protect the LCD MODULE with a plastic film.



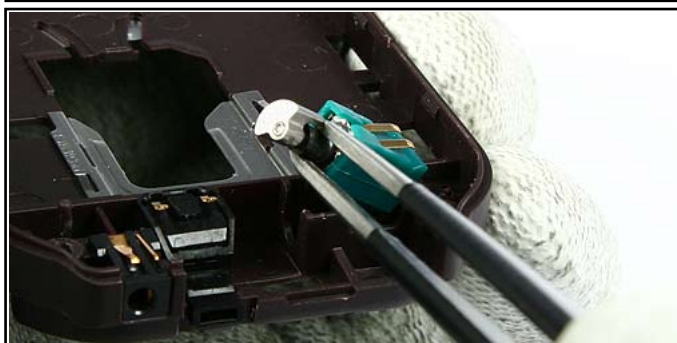
26. Remove the VOLUME KEY ACTUATOR including the VOLUME KEY from the B-COVER ASSY.



27. Separate the VOLUME KEY ACTUATOR from the VOLUME KEY.



28. Remove the IRDA WINDOW.



29. Remove the VIBRA MOTOR.



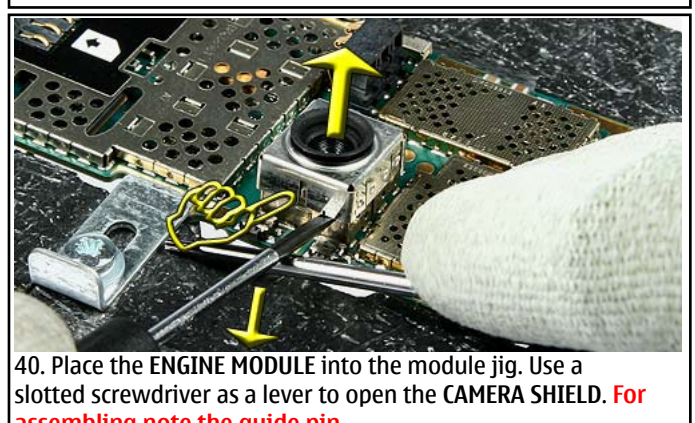
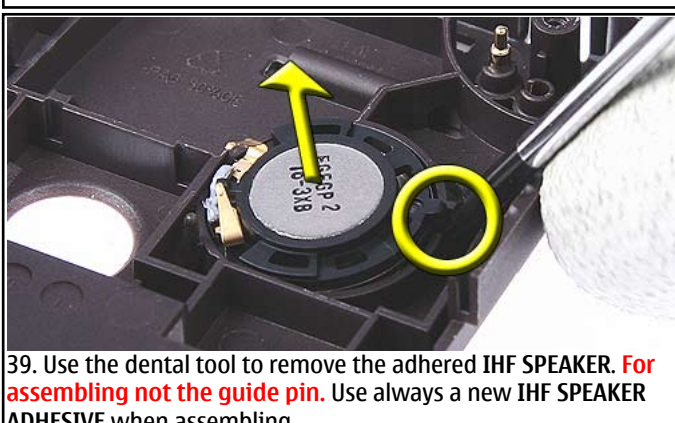
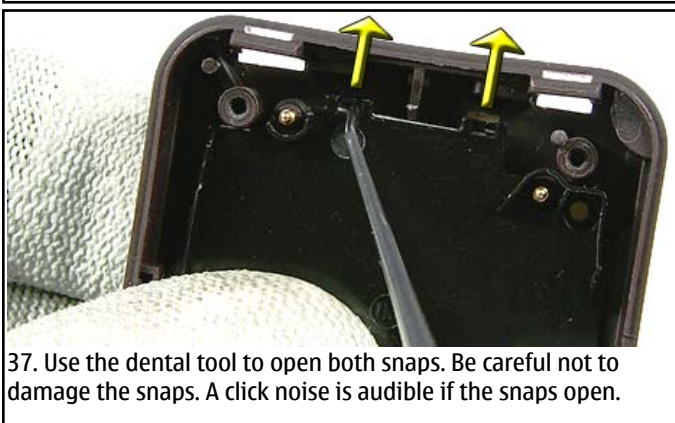
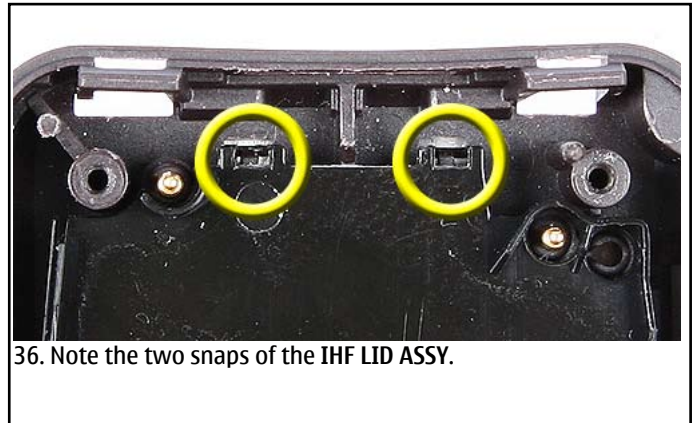
30. Remove the MICROPHONE.

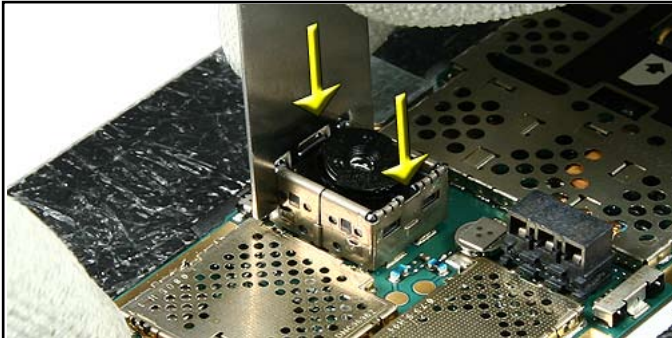


31. Remove the DC-JACK with a DC PLUG.

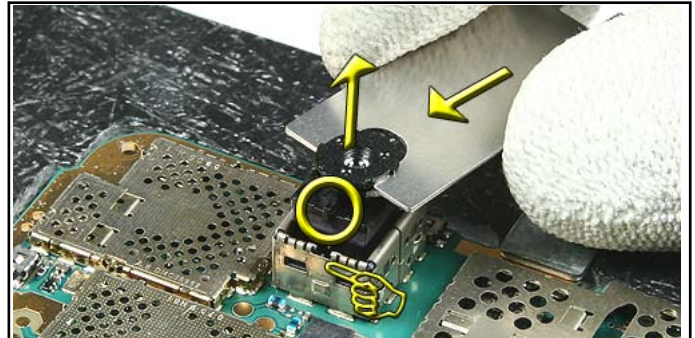


32. Press the SIM-GRIP in the shown direction, and lift one side of it out of the B-COVER ASSY.









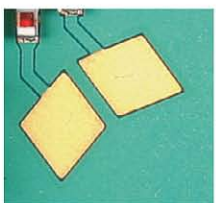



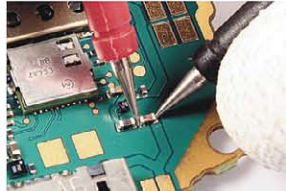








41. Stick the SS-42 into the marked positions of the camera connector to release the snaps.



42. Use the back side of the SS-42 to remove the CAMERA MODULE. **For assembling note the guide pin of the CAMERA MODULE and slot of the connector (white fingers).**

## 10.LEGEND FOR QUICK TROUBLE SHOOTER

Legend for Quick Troubleshooter	
This legend is valid for all parts of the Quick Troubleshooter	
Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward.	
	The start point of repair activities regarding the appeared fault symptoms.
	Only marked components (e.g. I002  ) can be replaced.
	<p><b>Cloth usage:</b> Check pads or contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary.</p>    
	<p>Measure component for electrical functionality and change, if needed. (Level 2 only)</p>  
	<p><b>ESD Brush usage:</b> Check pads or contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary.</p>    
	No more action possible - send product to the appropriate service supplier with higher service level.

## 11. QUICK TROUBLE SHOOTER PART 1

**Will be  
implemented  
soon!**

## 12. QUICK TROUBLE SHOOTER PART 2

**Will be  
implemented  
soon!**

## 13. QUICK TROUBLE SHOOTER PART 3



**Will be  
implemented  
soon!**

## 14. CAMERA GONOGO TEST

Before starting the GoNoGo test, check that camera window is clean. If not, clean the window with cloth.



Test Unit

- Press the End button  to reach the Home Menu
- Select Menu 
- Browse in the Menu and Select **Media**
- Select **Camera**
- Press **Capture** to take a photo  
This Image will be saved to Gallery into the Photos folder automatically.  
Test was successful, if the Image appears on your Display. The camera is ok.
- Select **Options**
- Select **Delete**
- Select **Yes**
- Press the End button to reach the Home Menu

If the test is failed see Quick Trouble Shooter.

## 15. INFRARED TEST

### Infrared test

You need another infrared device (e.g. 6230) to do a GoNoGo test. The infrared windows of the devices must be directed to each other and should have a distance of approximate 15 cm. Make sure that infrared is activated in receiver device.

**Warning:** Do not point the IR (infrared) beam at anyone's eye or allow it to interfere with other IR devices. This device is a Class 1 Laser product.




Reference unit, infrared activated



Test unit

Settings on the test unit:

- Press the **End** button  to reach the Home Menu
- Select **Names** and select **Search** for an entry  
If phone and SIM memory is empty, create one new entry.
- **Select** an entry and select **Details**
- Select **Options**
- Select **Send business card**
- Select **Via infrared**

If sending of business card fails, make sure again that infrared windows are directed to each other and infrared is activated in reference unit. Then try again sending.

Test was successful, if you get the message "Business card received" on the Reference unit.

You will not get a confirmation on sender device.

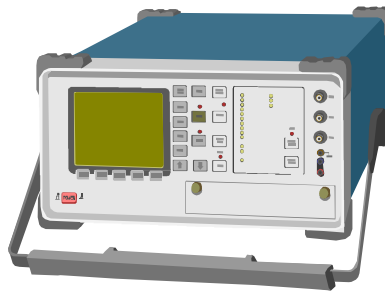
- Press the **End** button to reach the Home Menu

## 16. GONOGO TEST

After the optical check, a GoNoGo test has to be carried out if the unit has been unscrewed to guarantee the functionality of the phone.

Please refer to the actual information on NOKIA Online. When using delivered tester support files, take care of the right setup according to the tester type and product type.

Please refer to "Recommended Service Equipment" on NOKIA Online.



Mobile Phone Tester

## 17. BATTERY TEST

A battery tester lets you test the capacity of NOKIA batteries.

Please refer to the actual information on NOKIA Online.



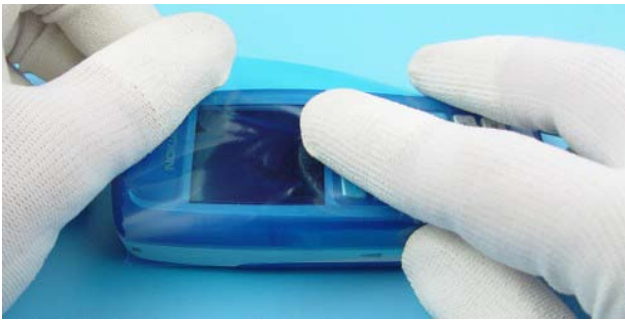
<http://www.astratec.co.uk/>



<http://www.cadex.com/>

## 18. FORWARDING OF REPAIRS

When it is necessary to forward of repairs to appropriate service supplier with higher service level we recommend using the offered swap phone cartons as described in Spare Parts SB-004.



Always Protect the window with a protection film.



Put the unit under the stretch film.



Add repair documentation e.g. filled-in service note into the swap carton.



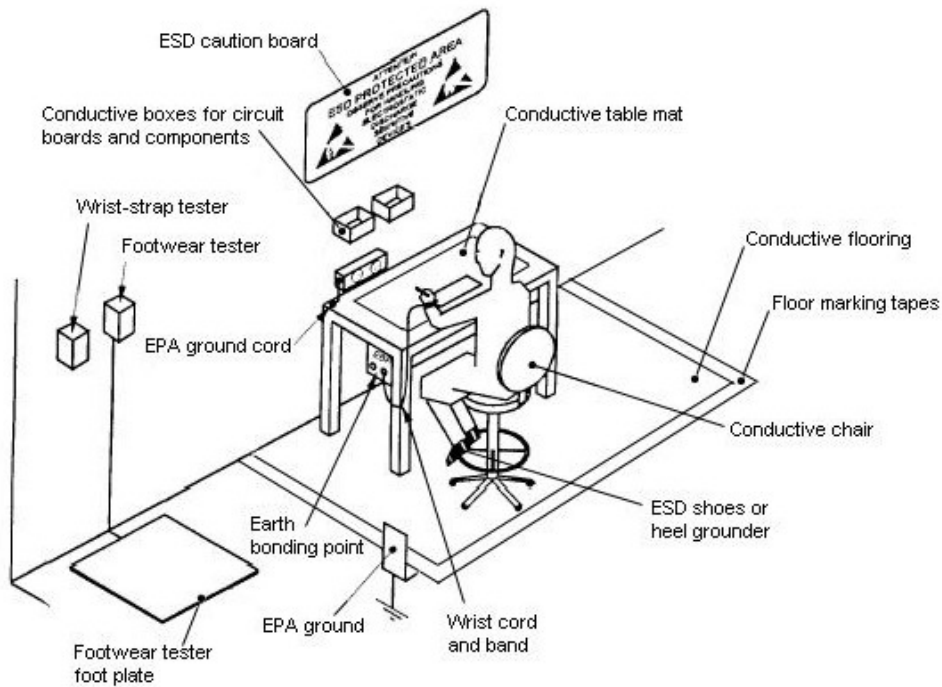
Fold the swap carton as shown in Spare Parts SB-004.



There are two different sizes of swap cartons for common mobile phones.

## 19. ESD PROTECTION REQUIREMENTS

Please refer to the NOKIA Online document [Service Supplier Requirements](#) in folder General instructions.



- USE Conductive bags and boxes
- USE ESD compatible service tools
- USE Conductive wastebaskets
- USE ESD gloves when handling PWBs/PCBs
- USE Cleaning material without changing el. Characteristics
- USE Grounded service equipment, i.e. soldering station
- USE ESD clothes such as coat or frock

- NO Smoking
- NO Drinking
- NO Eating
- NO Dust
- NO Useless Items
- NO Normal pressured air for cleaning modules/ displays



The video covers general issues concerning Electro-Static Discharge (ESD)