

# NOKIA 2600

RH-59



## Transceiver characteristics:

- High-resolution color display ,128 x 128 pixels, 4,096 colors
- Dual-band EGSM 900/GSM 1800 (APAC, E&A, LTA)
- Polyphonic ringing tones
- Pocket-friendly size for easy carrying
- Changeable front and back Xpress-on™ covers available
- Spreadsheet

Transceiver with BL-5c 820mAh Li-Ion battery pack

Talk time	Standby	Note
Up to 2h -3h 30min	Up to 250h	Depends on network parameters

## Environmental characteristics:

- Lead-free soldered
- RoHS compliant (Restriction on Hazardous Substances, 2002/95/EC)

# SERVICE MANUAL

## Service Level 1&2

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## CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	31.08.2004	Initial draft
Approved	1.0	15.09.2004	Approval

## 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 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.  
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 Partner Web Site. 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 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).
- 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.
- 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 PWS/CarePoint, 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 Partner Web Site. 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 >

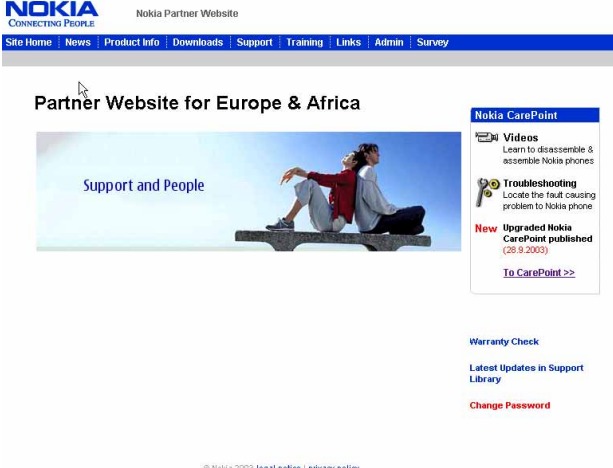
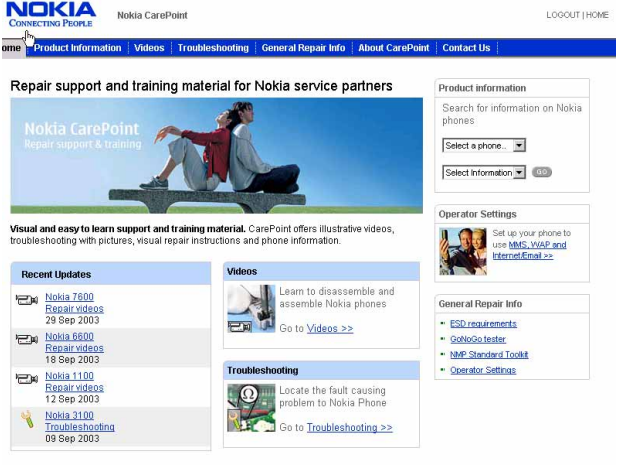
1. Instructions
  2. General Service Bulletins
  3. Product related documents
  4. Spare Part Service Bulletins
  5. Service Tools Service Bulletins
  6. Common Softwares Service Bulletins
- etc,...

- Use General SB-217 as a reference or overview.
- Please also check Nokia Partner Web Site (PWS) for latest news and files on a regular basis.

## 3. PATHFINDER FOR WORKSHOP STAFF

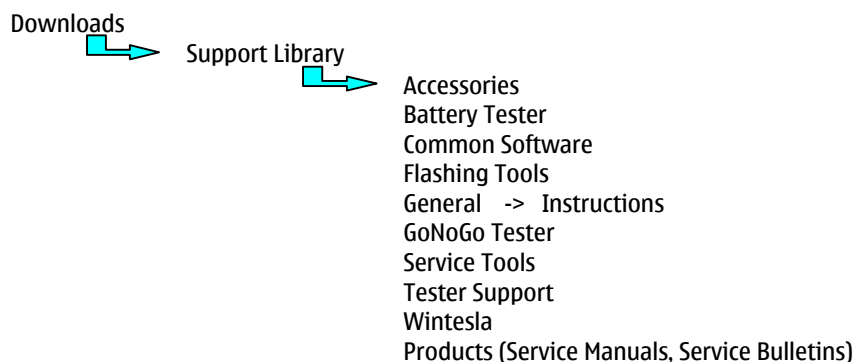
In addition to the information in this Service Manual, there are several instructions and information, which have to be followed.

Main documentation database is Nokia [Partner Website](#), which refers also to [Nokia Care Point](#) with the purpose of serving different multimedia content, like video clips or interactive tutorials.

Nokia Partner Web Site	Nokia Care Point (access through Partner Web Site)
<p>Nokia Partner Web Site for EMEA region is the most important document database for all service suppliers (level 1-4). All service relevant information like e.g. Service Manuals, Service Bulletins or general instructions are available. Content is restricted according your access level. To be kept up-to-date also concerning newest software updates, a daily check of "latest updates in support library" is needed.</p>	<p>Nokia Care Point is repair support and training channel for Nokia service suppliers (mainly for service levels 1 and 2). By providing visual and easy to learn support and training material, such as illustrative repair videos, troubleshooting with pictures, product information and general repair information, Nokia Care Point offers user-friendly channel for service suppliers to learn technical issues.</p>
	

It is mandatory to watch for newest technical and organizational information on a daily basis to be updated as required (see "**Latest Updates in support Library**"). Every new information has to be processed and implemented as soon as possible.

When logged into PWS you can also find needed information in different folder like:

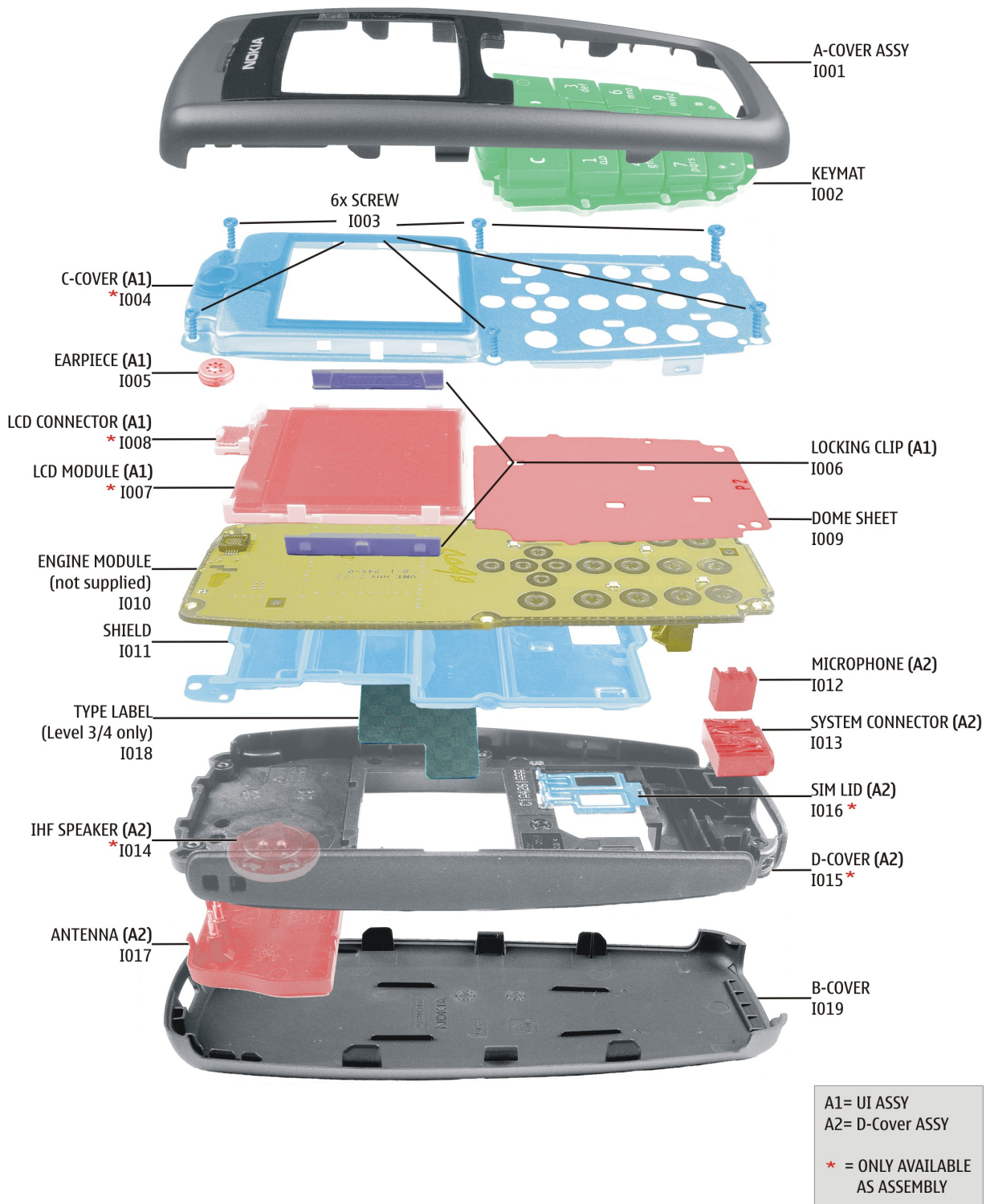


To reduce the server traffic it is recommended to download newest version of huge files like videos, Phoenix packages or Service Manuals only once and distribute it internally for further use.



## 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 PWS.




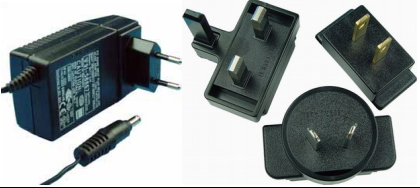






## **5. SPARE PARTS LIST**

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

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

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

## 6. SERVICE TOOLS

	<p><b>FLS-4S incl. ACF-8, Driver and User Guide</b> is a 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>Internal Battery BL-5C</b> Inserted under the back cover, this Li-Ion 820mAh battery provides power in a lightweight package.</p>
	<p><b>Travel Charger ACP-8E</b> <b>Travel Charger ACP-8X</b> Small and lightweight charger for fast charging of your phone battery.</p>
	<p><b>Headset HDC-5</b> Small and lightweight stereo headset for handsfree functionality and listening to FM radio.</p>
	<p><b>XCS-1</b> Service Cable is used to connect FLS-4S to SF-10.</p>
	<p><b>SF-10</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-10</p>





RJ-12  
Soldering Jig



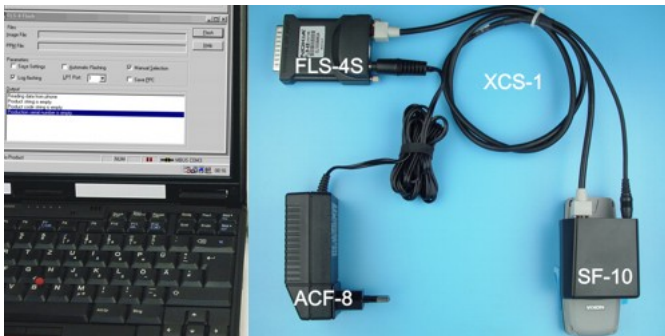
## 0772040 NMP Standard Toolkit

- Nokia opening tool SRT-6 Nokia No. 0770431
- Tonichi torque driver Nokia No. 6901525
- [Hoya](#) micro fibre cloth MX304
- Dastex gloves S, M, XL
- [Artlux](#) goggles AH166
- [Wera](#) bit T5 867/4TX 5x50
- Wera bit T6 867/4TX 6x50
- Wera bit T6 PLUS® 867/4TX 6IP
- [Facom](#) side cutter 416E
- Facom T5 driver SP.14032
- Facom T6 driver SP.14033
- Facom slot screwdriver AEF. 2x35.E
- [Wetec](#) tweezers 7abb SA-ESD
- Wetec tweezers 22 SA-ESD
- Wetec tweezers 13 SA-SMD ESD
- Wetec tweezers PSF SA-ESD
- Wetec ESD brush E1211
- Kaiser [Fototechnik](#) airbrush 6315
- Wetec dental tool DEM83266/0
- RS [Components](#) Scissors 323-5732

## 7. SW-UPDATE

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 [Partner Web Site](#).

### Flash Concept – (Point of Sales)



It is very important to follow this insertion and removal procedure, otherwise the contact pins of Flash Adapter will be damaged.



**Note!** The Battery Connector in the comparison with other products is located on the bottom side of the phone. Before starting the flash process, be sure that the SIM Lid is closed. Insert the Flash Adapter SF-10 like a battery, start at the Battery Connector side.



Now, push down the bottom side of the phone, do not use too much force.



When removing the phone, always start from the bottom side of the unit.



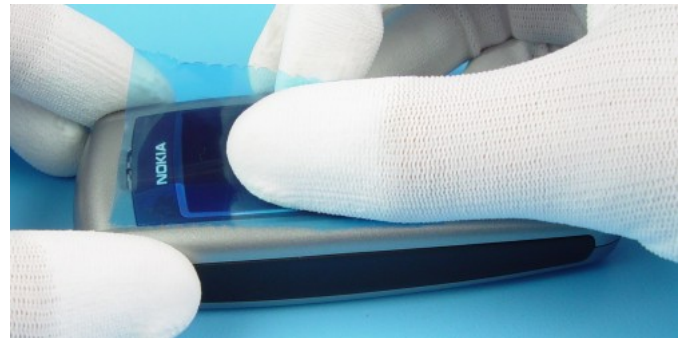
Take away the unit now.



## 8. DISASSEMBLY INSTRUCTIONS (ALSO SEE THE VIDEO CLIPS ON CARE POINT)



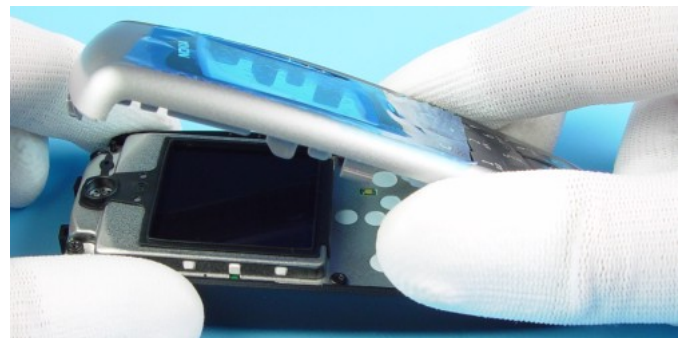
1) Needed tools for disassembly.



2) Protect the Window with a protective film.



3) Press the A-COVER Lock before removing the B-Cover.



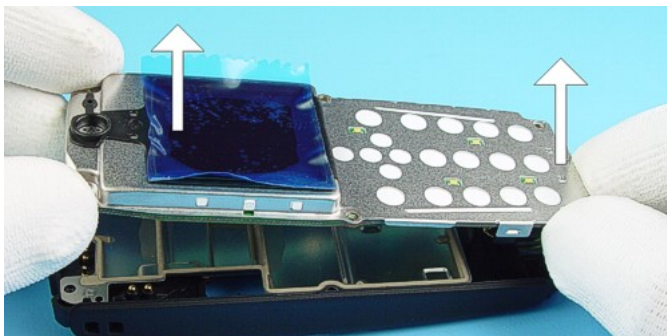
4) Lift the topside of the A-COVER and then remove it carefully.



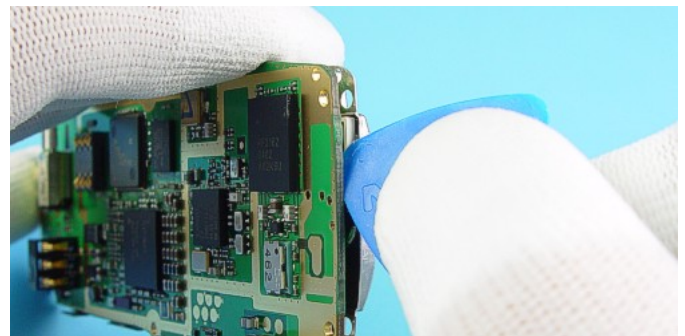
5) Remove KEYMAT, protect LCD and inner side window with a protective film.



6) Remove SCREWS by using the shown order.

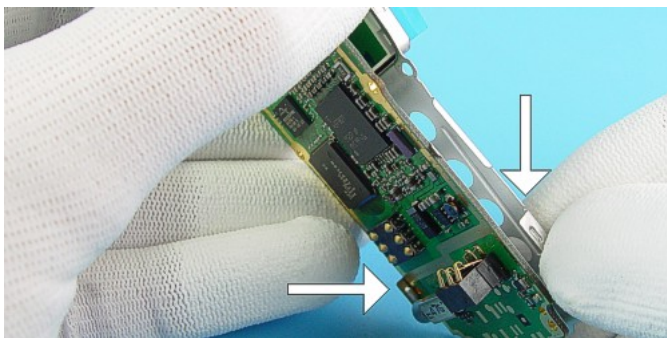


7) Lift up the C-COVER with the ENGINE MODULE vertical.

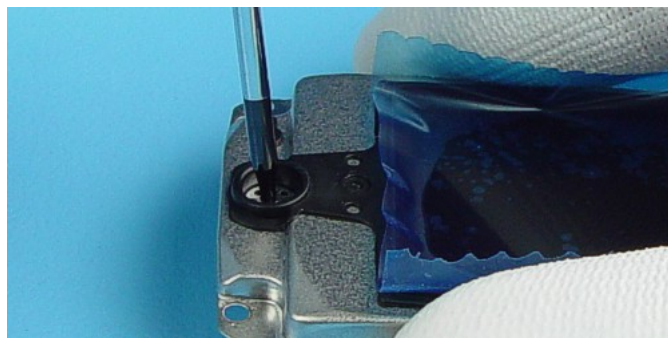


8) Open the LCD CONNECTOR with SRT-6 carefully.





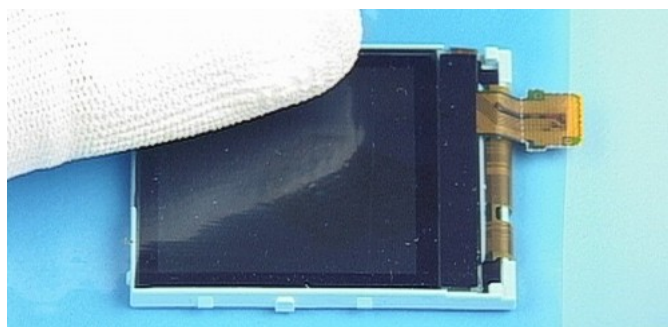
9) Separate the Engine Module from C-COVER.



10) Push out the EARPIECE with the Torx driver.



11) Press out the LCD MODULE while bending the C-COVER gently.



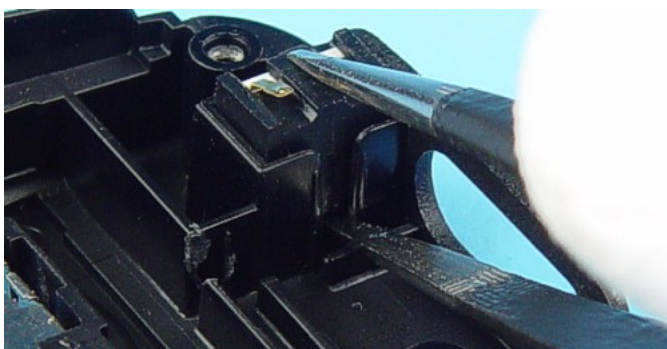
12) Protect the LCD MODULE with a film.



13) Remove the Shield from B-COVER.



14) Use a slotted screwdriver as a lever to remove the SYSTEM CONNECTOR.



15) Remove the MICROPHONE with tweezers.



16) Unlock the plastic clips of the ANTENNA by use of tweezers.



17) Lift up the ANTENNA at the top side first and remove it.



## 9. ASSEMBLY INSTRUCTIONS (ALSO SEE THE VIDEO CLIPS ON CARE POINT)

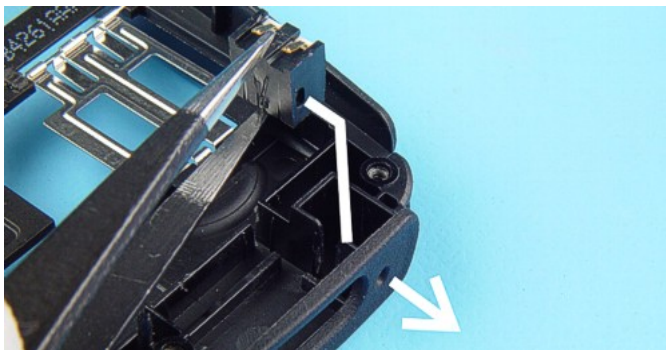


Torque driver equipped with  
Torx plus® size 6 bit

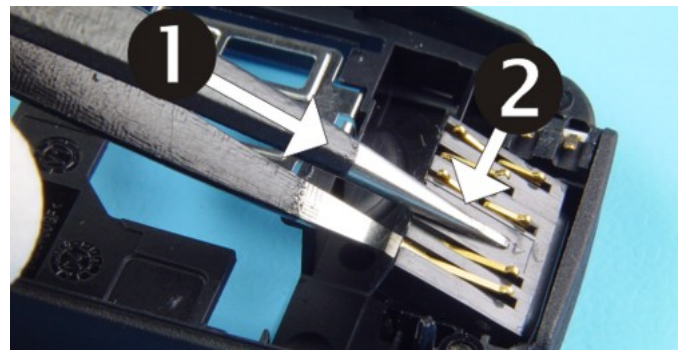
1) Additional tool for assembly required.



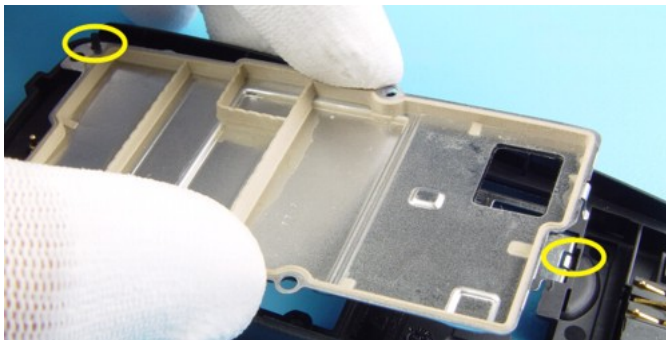
2) Place the ANTENNA at the bottom side first, then press it down slightly. Ensure that all plastic snaps click into their places.



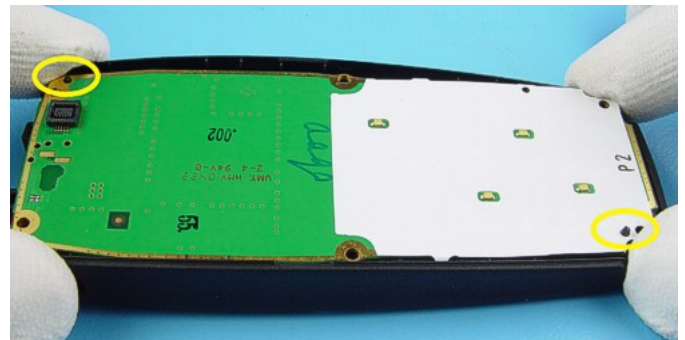
3) Mind the gap while placing the MICROPHONE into the compartment.



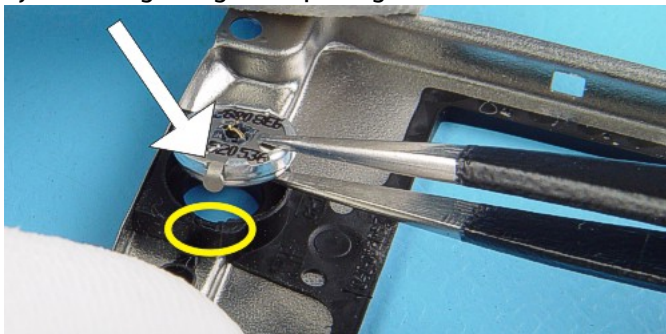
4) Place the SYSTEM CONNECTOR to the D-COVER first, then fix it by pressing down gently.



5) Mind the guiding while placing the SHIELDS.



6) Mind the guiding while placing the ENGINE MODULE.

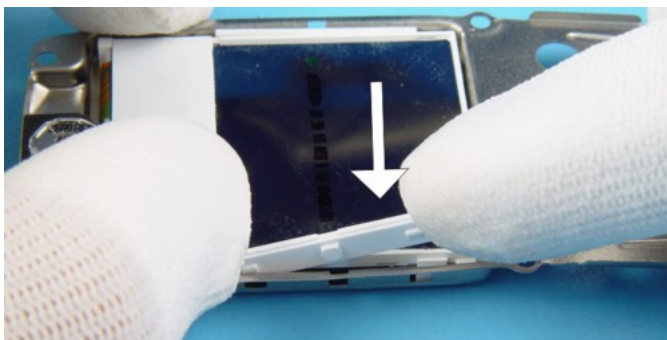


7) Place the EARPIECE in the compartment correctly.

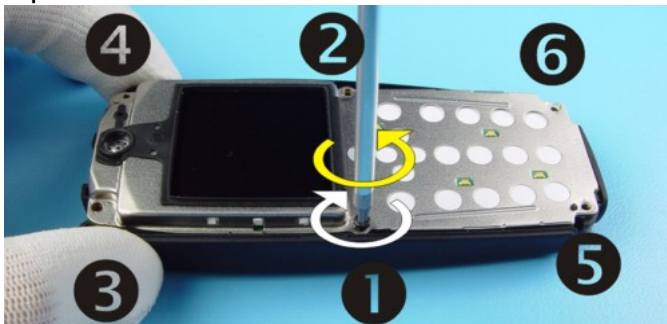


8) Peel of the protective film before placing the LCD MODULE into the C-COVER.





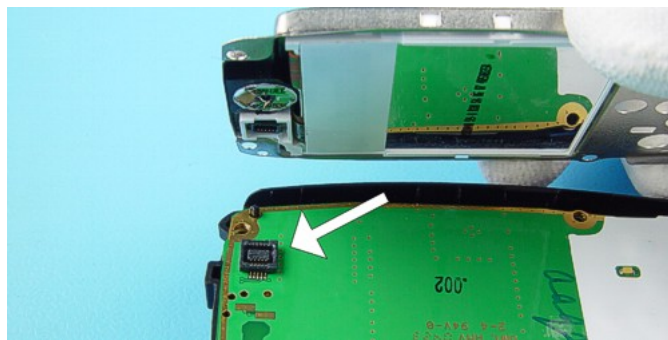
9) Fix the LCD MODULE into the C-COVER with the Locking Clips on both sides of the LCD MODULE.



11) To prevent damaging the plastic threads, first turn the screws slightly left to engage the thread and then tighten them slightly. After that, apply the torque (25Ncm) with the torque driver. Note the shown screwing order.



13) Place the upper part into the A-COVER and click all snaps into their places.



10) Place the C-COVER with LCD MODULE. Ensure the correct connection.



12) Remove the protection film from the inner side window. Place the KEYMAT.

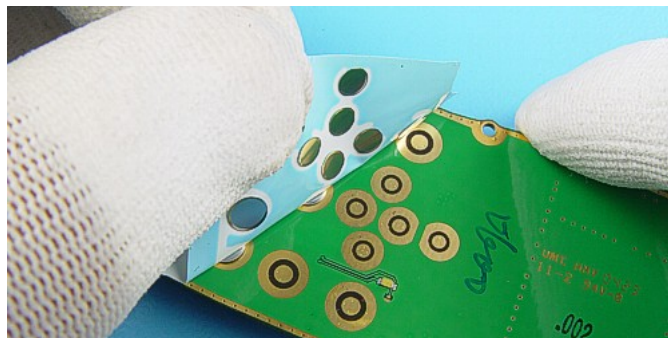


14) Complete the Phone with the B-COVER.

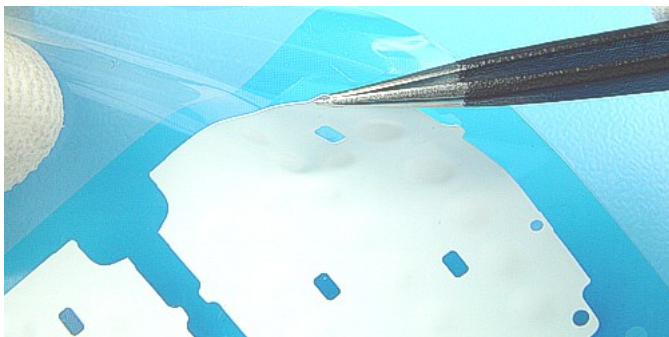
## 10. DOMESHEET EXCHANGE INSTRUCTION



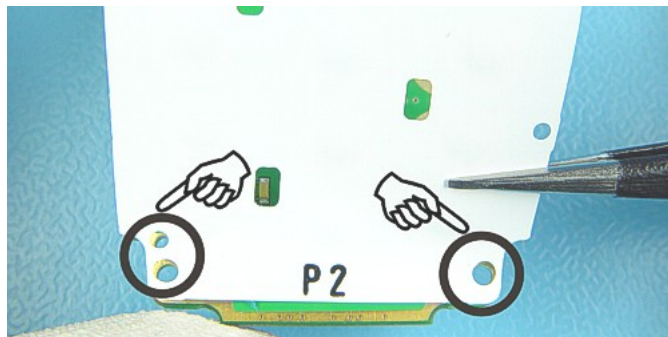
Use SRT-6 to loosen one corner of the DOMESHEET.



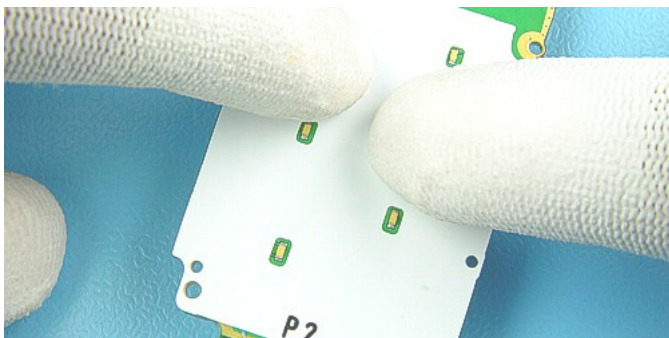
Tear off DOMESHEET in diagonal direction to avoid residue of glue. Check pads for cleanness.



Take a new DOMESHEET from carrier film. Do not touch the keydome from adhesive side.








Place the new DOMESHEET to the exact position on the ENGINE MODULE.



Press the ENGINE MODULE and the DOMESHEET firmly together to avoid the contamination by dust and humidity.

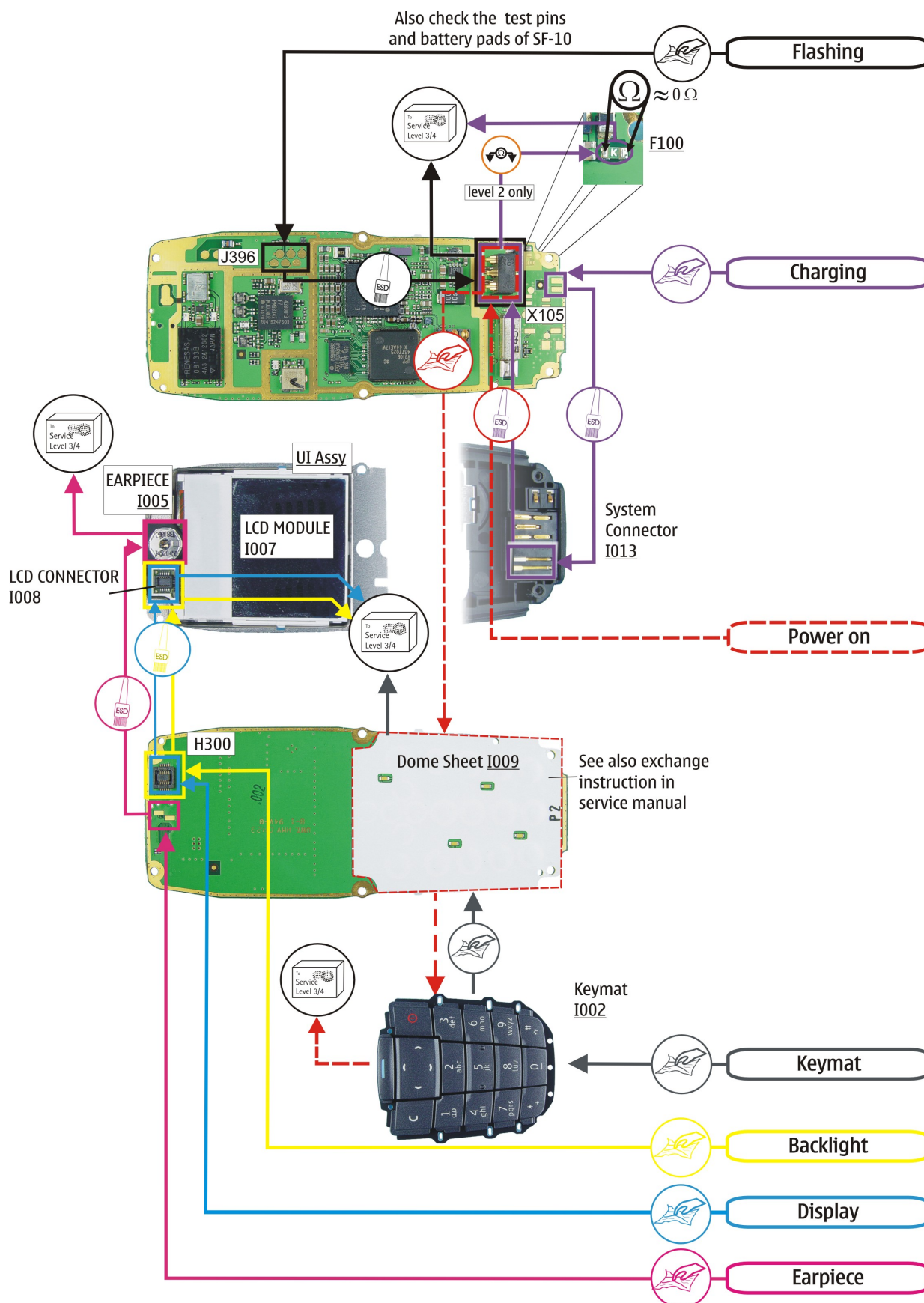
## 11. LEGEND FOR QUICK TROUBLE SHOOTER

This legend is valid for all parts of the **Quick Trouble Shooter**

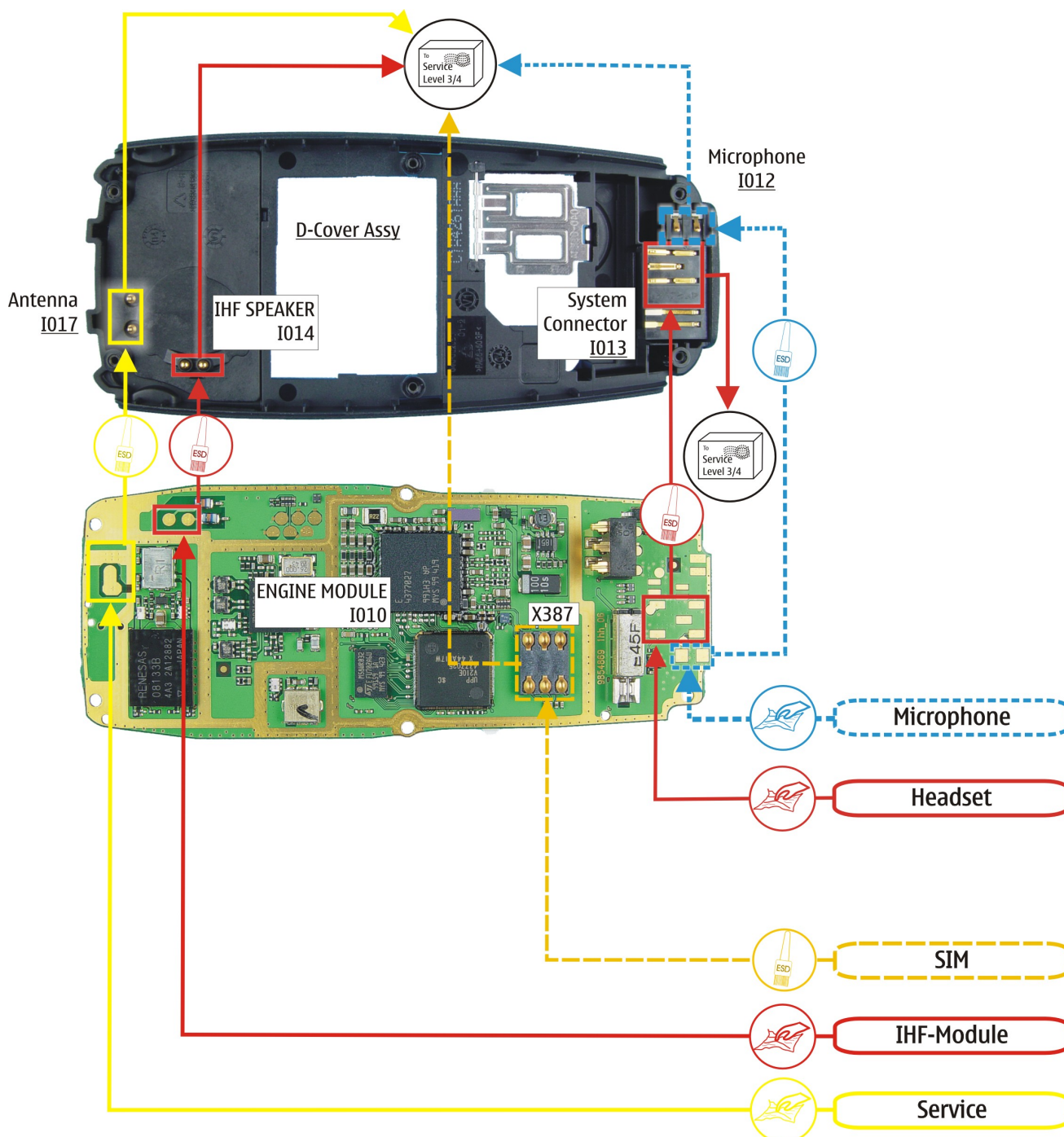
<p>Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward.  <i>Only underlined components ( e.g. <u>1002</u>) can be changed.</i></p>	
<div>Fault symptom</div>	The start point of repair activities regarding the appeared fault symptoms.
	Follow the arrows step by step
	Pads or contacts: Check optical and mechanical condition particularly regarding to corrosion. Clean if necessary.
	Measure component for electrical functionality and change, if needed. (Level 2 only)
	Pads or contacts: Check optical and mechanical condition particularly regarding to corrosion. Clean with ESD brush only, if necessary.
	No more actions possible send product to the appropriate service supplier with higher service level.



## 12. QUICK TROUBLE SHOOTER PART 1



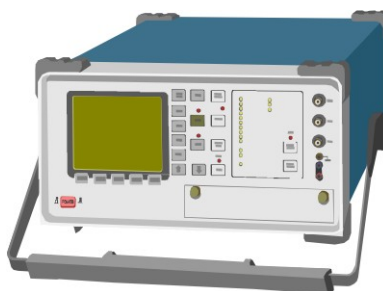
## 13. QUICK TROUBLE SHOOTER PART 2



## 14. 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 Partner Web Site and Nokia Care Point. 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 Partner Web Site.



Mobile Phone Tester

## 15. BATTERY TEST

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

Please refer to the actual information on Partner Web Site.



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

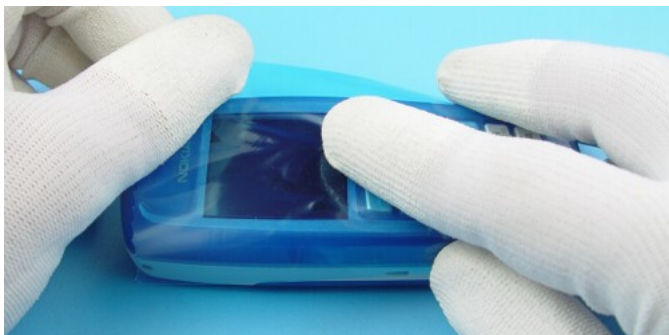


<http://www.cadex.com/>



## 16. FOR 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.



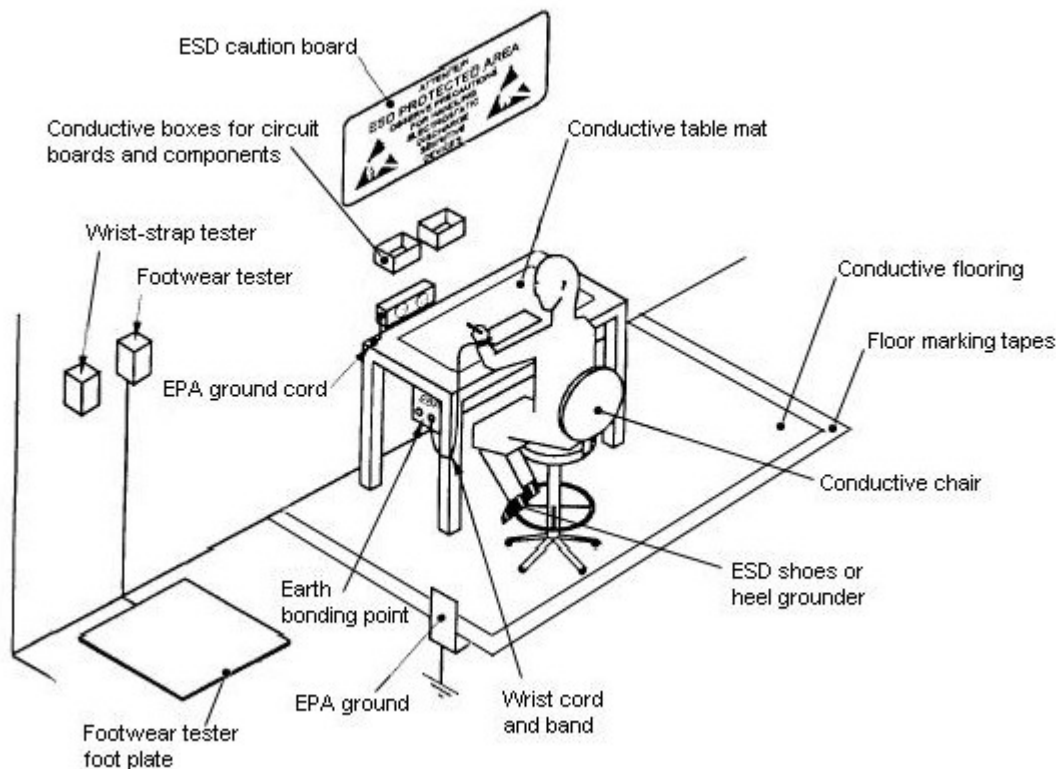
Fold the swap carton as shown in Spare Parts SB-004.



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

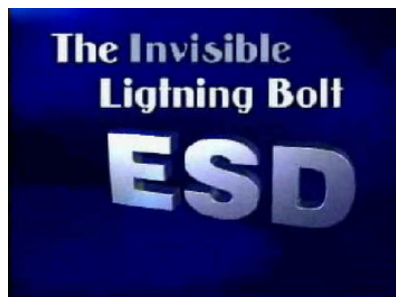
## 17. ESD PROTECTION REQUIREMENTS

Please refer to the Partner Web Site 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)  
source: Nokia Care Point