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NOKIA 8800	NOKIA 8801	NOKIA 8800 SIROCCO EDITION

RM-13   **RM-33**   **RM-165**

Transceiver characteristics:

- **Band:**
  - - 8800 RM13/RM-165:

    Tri-band phone for GSM 900/1800/1900MHz
  - - - 8801 RM-33:

    Tri-band phone for GSM 850/1800/1900MHz

- **Camera:** Integrated SVGA camera 0,5 Megapixel

- **Camera (RM-165 only):** Integrated 2 Megapixel

- **Display:** Active matrix color display with 262.144 colors, resolution 208 x 208 pixel

- **Bluetooth**

- **FM radio**

- **Vibra Alert:** Small round Vibra motor

- **Connector:** Easy Flash connector

Transceiver with BL-5X (RM-13/33 only) / BL-6X (RM-165 only) Li-Ion battery pack

Talk time	Standby	Note
1,5 h –3 h	Up to 8 days	Depends on network parameters

Environmental characteristics:

- Lead-free soldered

SERVICE MANUAL

Service Level 1&2

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TABLE OF CONTENT

CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	07.04.2005	Initial draft
Approved	1.0	09.05.2005	Approval
Approved	2.0	15.07.2005	8801 RM-33 added
Approved	3.0	21.11.2005	Exploded- and Spare Parts overview Item I039 Speaker Gasket added
Approved	4.0	04.Aug.2006	RM-165 added

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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.
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.

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2. GENERAL REPAIR INFORMATION

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

o To familiarize oneself with NOKIA product read the tutorials or user guide on www.NOKIA.com -->Support--> Phones, by selecting the Phone Model.
o Before starting the repair you must take care of ESD precautions like being in your ESD Protected Area and connecting your wristband.
o Use gloves to avoid corrosion and fingerprints.
o Protect windows and displays with a film to avoid dust and scratches.
o When cleaning the LCD Module any lint-free cloth can be used (e.g. Micro-Fibre cloth).
o 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.
o Mechanical parts (except shielding lids and bent parts), which didn't repair the failure, can be reused, if they are not soldered.
o 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.
o Always use original NOKIA spare parts.
o 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).
o Remove redundant soldering flux after repair.
o Meet the torque requirements when assembling the unit (see also the document "torques for transceiver assembly" on NOKIA Partner Web Site/NOKIA Online).
o 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.
o A SIM card is needed for all GoNoGo tests.
o 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.
o Please be aware that some malfunctions could be software related and solved by an update.

o There are several documents available on NOL, which have to be followed:

o 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.

o 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.

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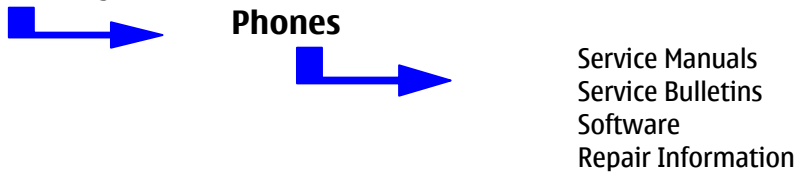Multimedia Creation & Support

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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

Phones

Service Manuals
Service Bulletins
Software
Repair Information

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

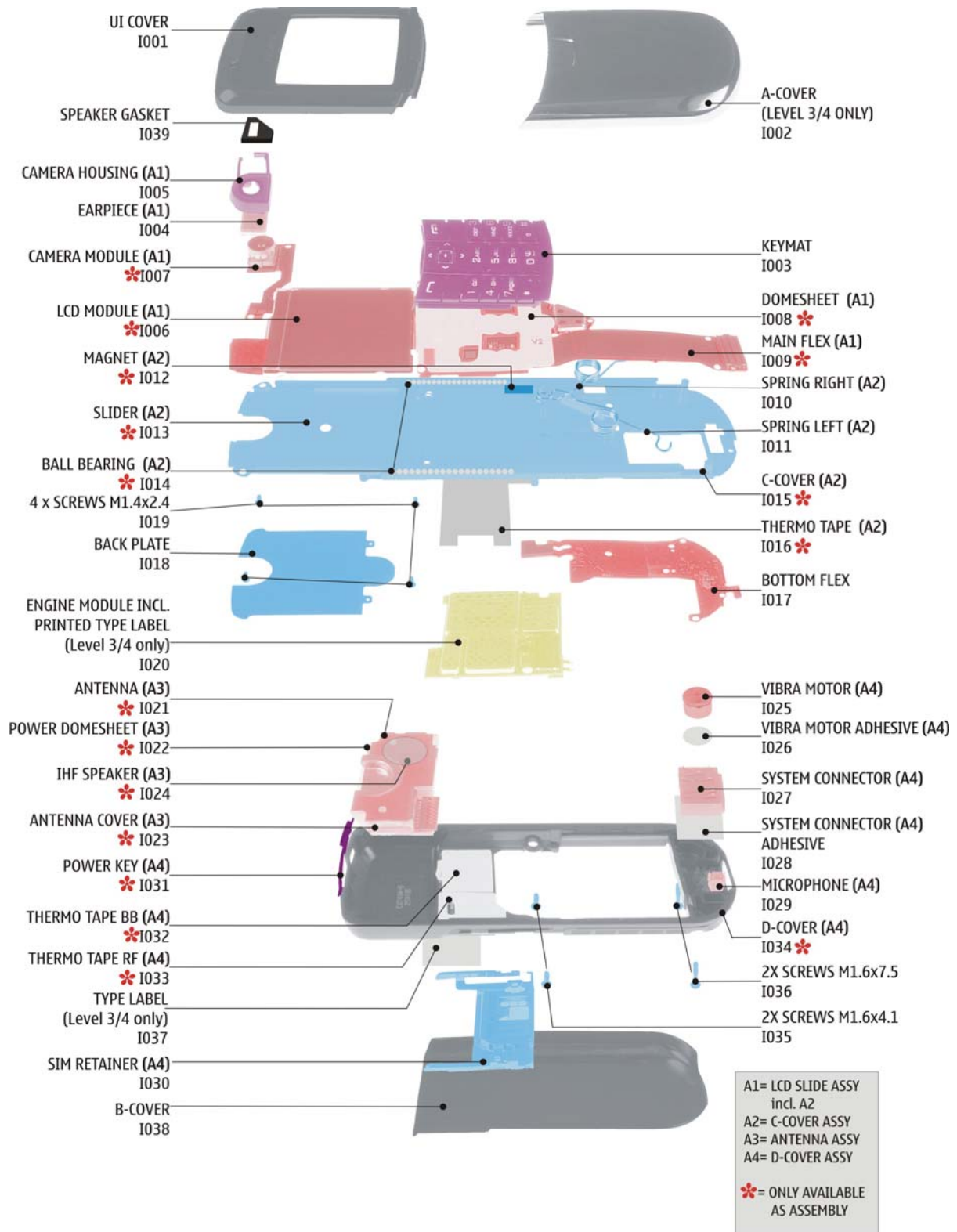| Former NOKIA CarePoint content, such as	• **Online Troubleshooting** • **Product informations** • **Videos – Disassembly/Assembly**	can be found on **NOKIA Online**
		NOKIA Online **Care Services** **Training** **Phone Models**

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

Overview & Guides	Disassembly & Assembly	Troubleshooting
Basic information about the phone, features and technologies	Instructions to disassemble and assemble the phone	Step-by-step instructions on how to locate and repair the most common problems with the phone

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.

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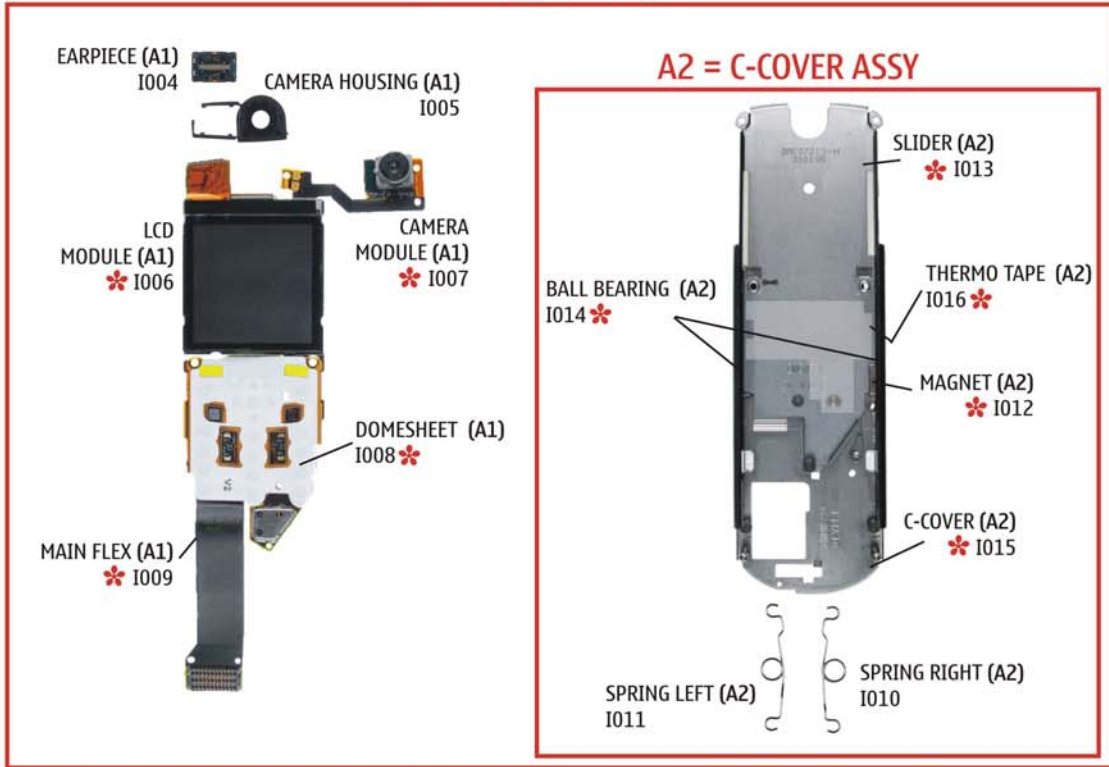
4. EXPLODED VIEW AND COMPONENT DISPOSAL

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.

UI COVER
I001

SPEAKER GASKET
I039

CAMERA HOUSING (A1)
I005

EARPIECE (A1)
I004

CAMERA MODULE (A1)
*I007

LCD MODULE (A1)
*I006

MAGNET (A2)
* I012

SLIDER (A2)
* I013

BALL BEARING (A2)
* I014

4 x SCREWS M1.4x2.4
I019

BACK PLATE
I018

ENGINE MODULE INCL.
PRINTED TYPE LABEL
(Level 3/4 only)
I020

ANTENNA (A3)
* I021

POWER DOMESHEET (A3)
* I022

IHF SPEAKER (A3)
* I024

ANTENNA COVER (A3)
* I023

POWER KEY (A4)
* I031

THERMO TAPE BB (A4)
*I032

THERMO TAPE RF (A4)
* I033

TYPE LABEL
(Level 3/4 only)
I037

SIM RETAINER (A4)
I030

B-COVER
I038

A-COVER
(LEVEL 3/4 ONLY)
I002

KEYMAT
I003

DOMESHEET (A1)
I008 *

MAIN FLEX (A1)
I009 *

SPRING RIGHT (A2)
I010

SPRING LEFT (A2)
I011

C-COVER (A2)
I015 *

THERMO TAPE (A2)
I016 *

BOTTOM FLEX
I017

VIBRA MOTOR (A4)
I025

VIBRA MOTOR ADHESIVE (A4)
I026

SYSTEM CONNECTOR (A4)
I027

SYSTEM CONNECTOR (A4)
ADHESIVE
I028

MICROPHONE (A4)
I029

D-COVER (A4)
I034 *

2X SCREWS M1.6x7.5
I036

2X SCREWS M1.6x4.1
I035

A1= LCD SLIDE ASSY
incl. A2
A2= C-COVER ASSY
A3= ANTENNA ASSY
A4= D-COVER ASSY

* = ONLY AVAILABLE
AS ASSEMBLY

● ELECTRO ● SILICONE ● METAL ● PLASTIC ● PWB ● COVER

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5. SPARE PARTS OVERVIEW

A1 = LCD SLIDE ASSY

EARPIECE (A1) I004
CAMERA HOUSING (A1) I005

LCD MODULE (A1) ✱ I006
CAMERA MODULE (A1) ✱ I007

DOMESHEET (A1) I008 ✱

MAIN FLEX (A1) ✱ I009

A2 = C-COVER ASSY

SLIDER (A2) ✱ I013

THERMO TAPE (A2) I016 ✱

BALL BEARING (A2) I014 ✱

MAGNET (A2) ✱ I012

C-COVER (A2) ✱ I015

SPRING LEFT (A2) I011

SPRING RIGHT (A2) I010

A-COVER (Level 3/4 only) I002

UI COVER I001

KEYMAT I003

BOTTOM FLEX I017

ENGINE MODULE INCL. PRINTED TYPE LABEL (Level 3/4 only) I020

TYPE LABEL (Level 3/4 only) I037

SPEAKER GASKET I039

BACK PLATE I018

2X SCREWS M1.6x4.1 I035

4 x SCREWS M1.4x2.4 I019

2X SCREWS M1.6x7.5 I036

A4 = D-COVER ASSY

D-COVER (A4) I034 ✱

POWER KEY (A4) I031 ✱

THERMO TAPE RF (A4) I033 ✱

THERMO TAPE BB (A4) I032 ✱

SIM RETAINER (A4) I030

B-COVER I038

A3 = ANTENNA ASSY
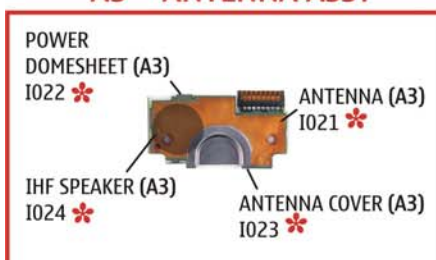
POWER DOMESHEET (A3) I022 ✱

ANTENNA (A3) I021 ✱

IHF SPEAKER (A3) I024 ✱

ANTENNA COVER (A3) I023 ✱

MICROPHONE (A4) I029

SYSTEM CONNECTOR ADHESIVE (A4) I028

VIBRA MOTOR ADHESIVE (A4) I026

VIBRA MOTOR (A4) I025

SYSTEM CONNECTOR (A4) I027

A1= LCD SLIDE ASSY
    incl. A2
A2= C-COVER ASSY
A3= ANTENNA ASSY
A4= D-COVER ASSY

✱ = ONLY AVAILABLE AS ASSEMBLY

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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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7. SERVICE TOOLS

FLS-4S incl. ACF-8, Driver and User Guide
Dongle and flash device incorporated into one package, developed specifically for POS use.

ACF-8
Universal Power Supply is used to power FLS-4S.

Internal Battery BL-5X
Inserted under the back cover, this Li-Ion 600 mAh battery provides power in a lightweight package.

Travel Charger ACP-12 (RM-13/RM-33 only)
Small and lightweight charger for fast charging of your phone battery.

Travel Charger AC-4 (RM-165 only)
Small and lightweight charger for fast charging of your phone battery.

Headset HDC-5
Small and lightweight mono headset for handsfree functionality and listening to FM radio.

XCS-1
Service Cable is used to connect FLS-4S to **SF-29** .

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SF-29
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.

Test Pins
for Flash Adapter **SF-29**

RJ-87
Soldering Jig

Lead-free Solder Wire
Mandatory for lead-free products (Level 2 only).

0772040   NMP Standard Toolkit (V2)

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.

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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.

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

Insert the Flash Adapter SF-29 like a battery, start at the Battery Connector side.
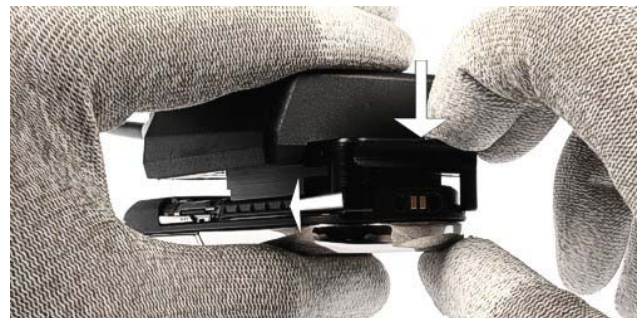
Now, push down the bottom side of the phone and close the locking mechanic. Do not use too much force.

When removing the phone, always start from the bottom side of the unit. First unlock the locking mechanic.

Now, take the unit away.

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9. DISASSEMBLY INSTRUCTIONS
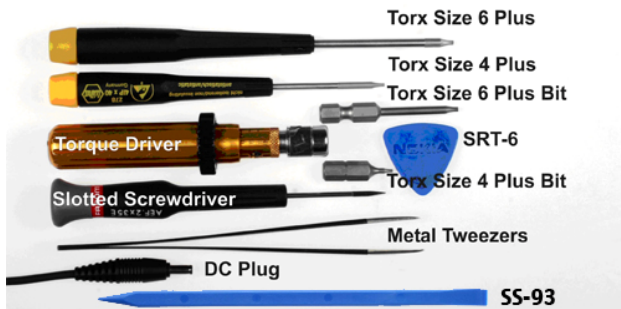
1.) You need the following tools.

2.) Always protect the window with a plastic film.

3.) Remove the **Battery Cover**.
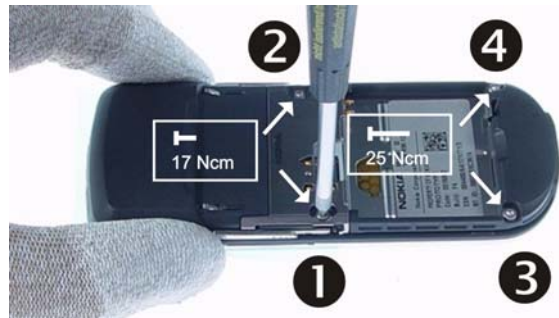
4.) Unscrew the four Torx size 6 plus screws in the shown order. Mind the different screw lengths. For Assembly use the reverse order and the following torques: For M1.6x4.1: 17Ncm, for 1.6x7.5: 25Ncm. Always use new screws.
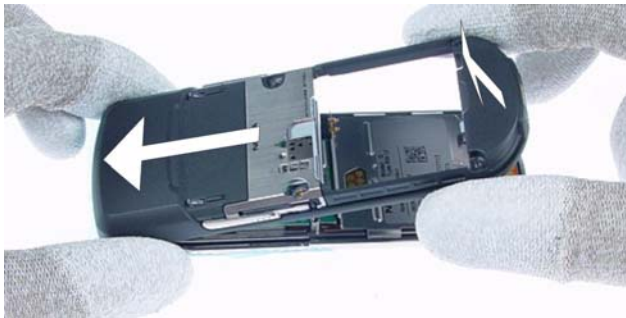
5.) Remove the **D-Cover** by shifting it as shown in the picture carefully. Mind the sharp contact springs.

6.) Unlock the **Antenna Assy**, beginning from the left side.

7.) Use the **DC** Plug to remove the System Connector. Ensure that no adhesive remains.

8.) Lever out the **Vibra Motor** with a slotted screwdriver. Ensure that no adhesive remains.

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9.) Once removed, the **Microphone** can't be reused again.
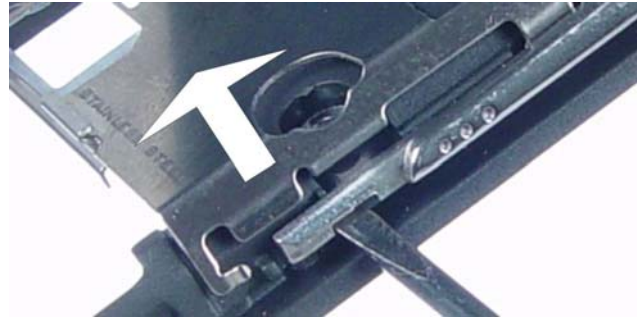
10.) Unlock and remove the **SIM Retainer**.

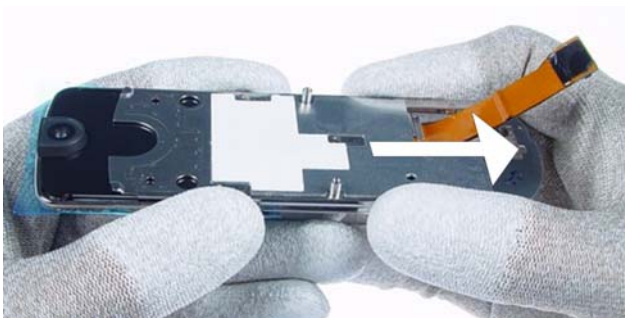11.) Pull up the **A-Cover.** Mind the Flex foil's components.
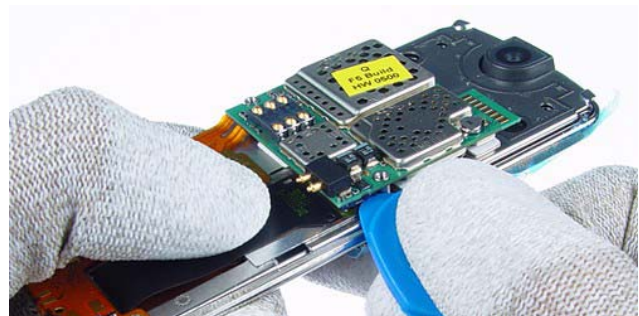
12.) Open the first flex connector of the **Engine Module** with the SRT-6.
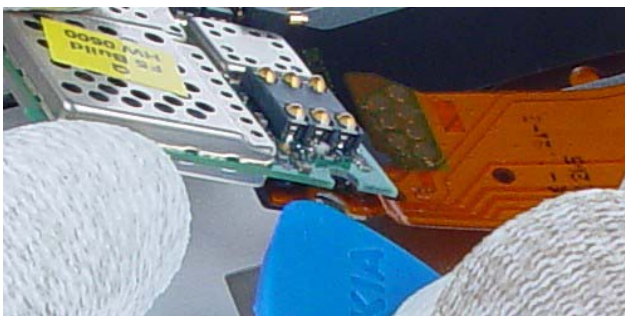
13.) Open the second flex connector and remove the **Engine Module.**

14.) Peel of the **Bottom Flex** carefully.

15.) Shift the **Slider** to the end position before continuing.

16.) Once released, the **Backplate** can't be reused again**.**

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17.) Peel of the **Backplate** slowly.
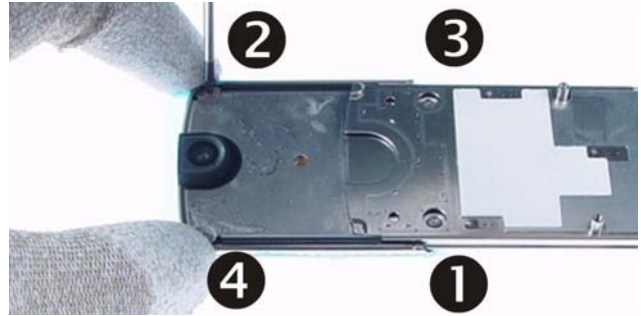
18.) Unscrew four Torx size 4 Plus screws in the shown order. For Assembly use the reverse order and a torque of 17 Ncm. Always use new screws.

19.) Remove the **UI Cover**.

20.) Protect the inner side window and the LCD with a plastic film.

21.) Carefully lever out the Camera Module with the **SRT-6**.

22.) Remove the **Earpiece** with tweezers.

23.) Pull up the **Camera Housing.**

24.) Lever out the **Keymat** with the SS-93.

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25.) Make sure that the SS-93 is moved between the **Keymat** and the Domesheet.

26.) Move the SS-93 along the right edge and fix the **Keymat** on the left side with your thumb…

27.) … till the **Keymat** flips out.

28.) Remove the **Keymat**.

29.) Carefully lift up the **Main Flex**.

30.) Peel of the **Main Flex.**

31.) Release the **Springs** from the middle pin first.

32.) Release the end loop of the **Springs**.

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For assembly only !

33.) Mind the correct positioning of the **Springs**. Place the lower **Spring** first.

For assembly only !
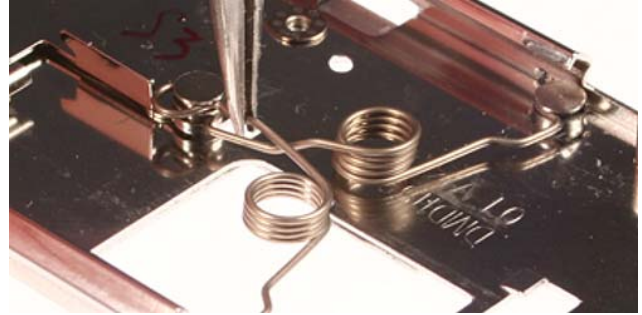
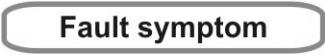34.) Now place the upper **Spring.**

For assembly only !
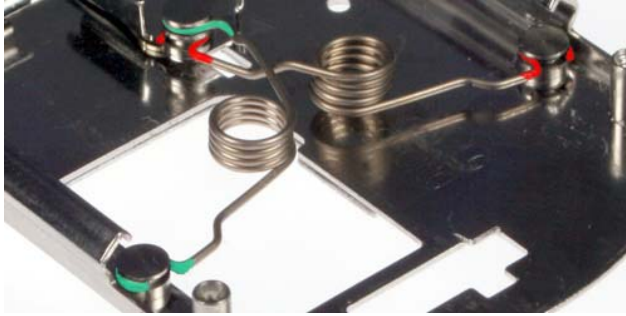
35.) Check the correct functionality of the **Springs.**

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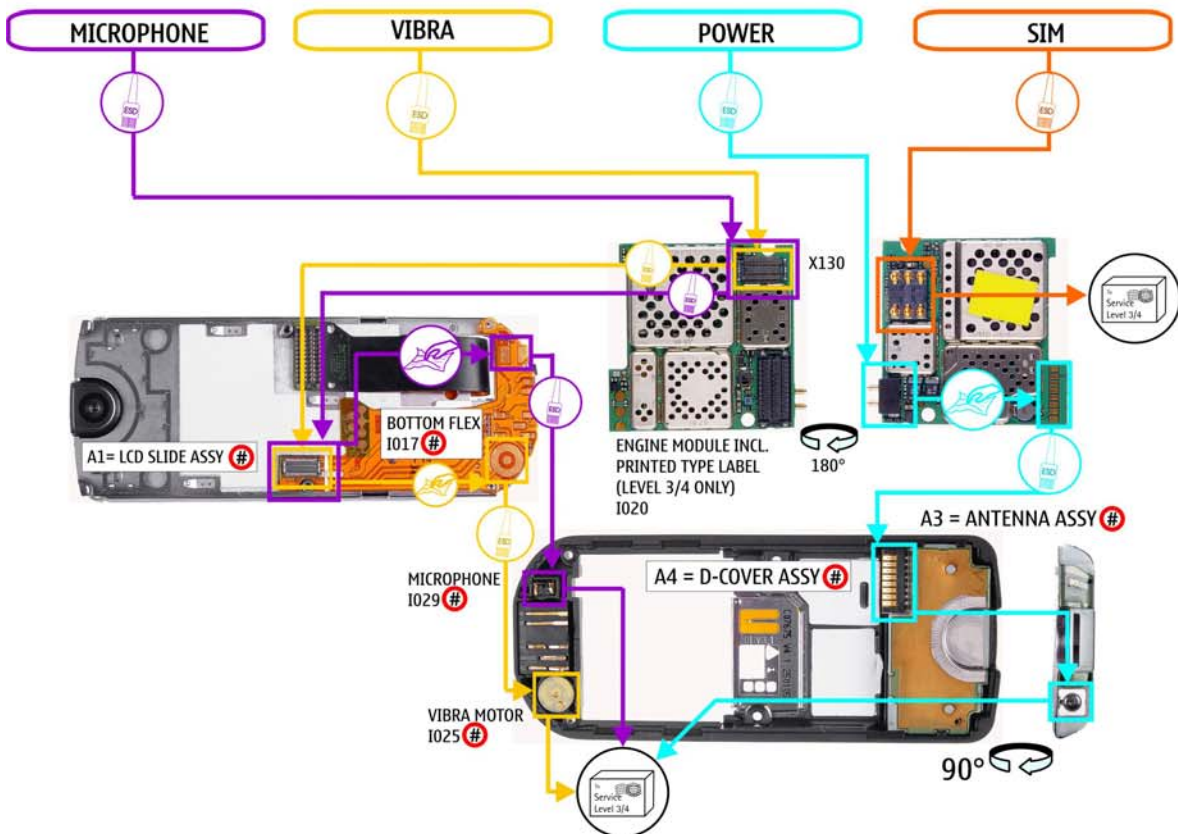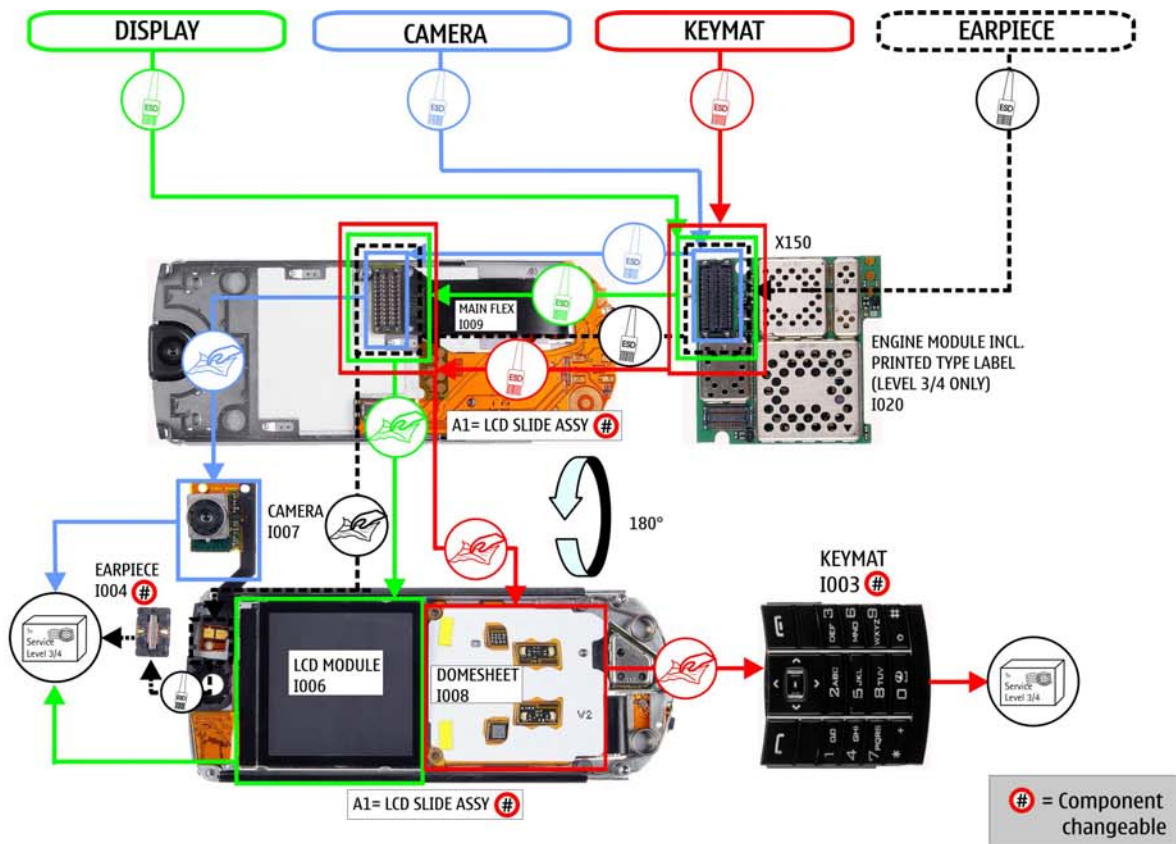CONNECTING PEOPLE

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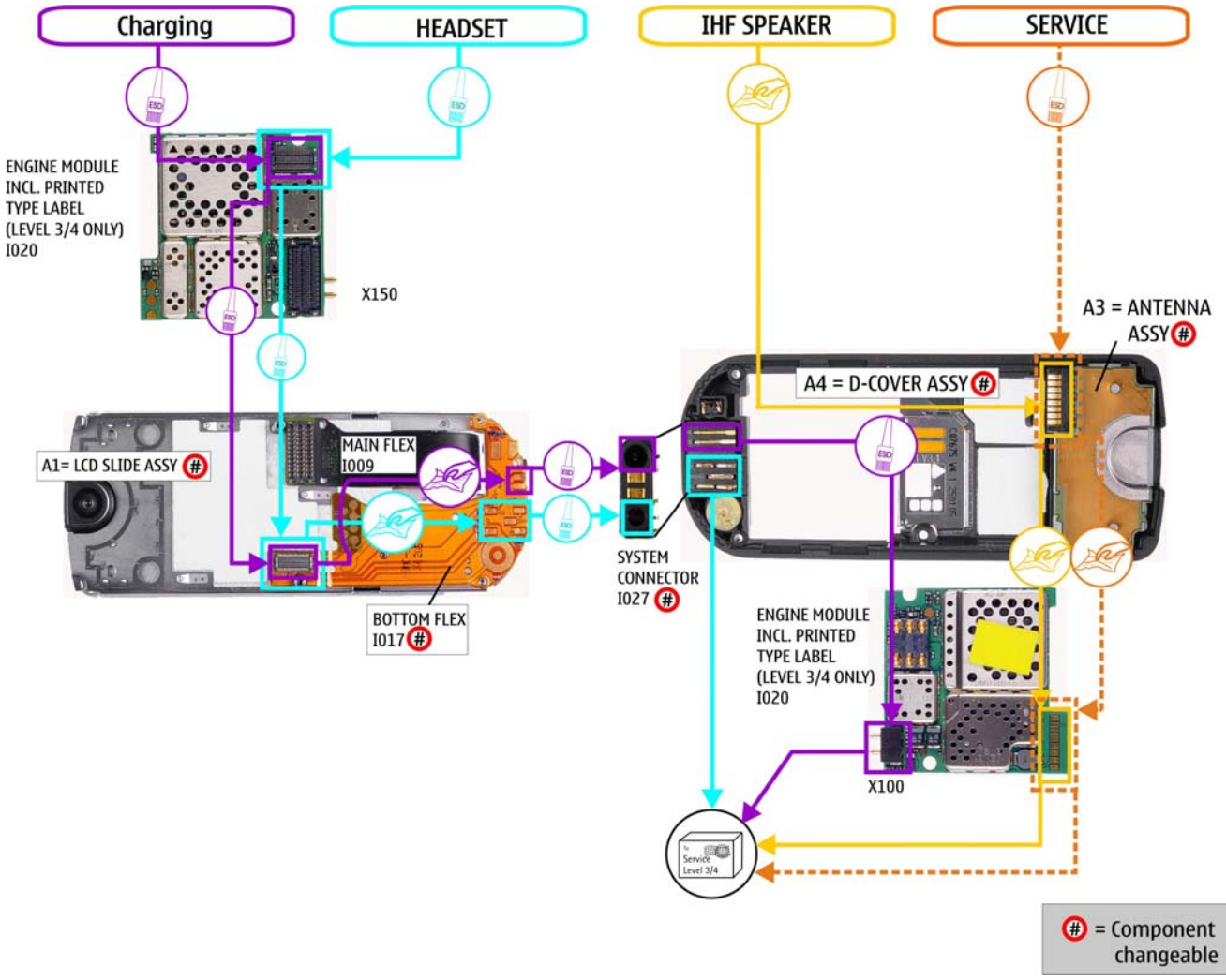
10.LEGEND FOR QUICK TROUBLE SHOOTER

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

Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward.	
#	Only marked components (e.g. I002 #) can be changed.
Fault symptom	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.
To Service Level 3/4	No more actions possible send product to the appropriate service supplier with higher service level.

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11.QUICK TROUBLE SHOOTER PART 1

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12.QUICK TROUBLE SHOOTER PART 2

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13. GONOGO TEST

To test the Camera and Bluetooth functionality refer to the phone User's guide.

The User's Guide is available on www.nokia.com

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

Bluetooth test
You need another Bluetooth device (e.g. 6230) to do a GoNoGo test.
Make sure that Bluetooth is activated in the reference unit. The distance of the devices should be not more than 5m from each other.

Reference unit, Bluetooth activated   Test unit

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14. 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/