

**NOKIA**
2100

NAM-2

SERVICE MANUAL

Service Level 1&2

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INTRODUCTION

The purpose of this document is to help Nokia service levels 1 and 2 workshop technicians to carry out service to Nokia 2100. This Service Manual is to be used **only** by authorized Nokia service partners, and the content of it is **confidential**. Please note that Nokia provides also other guidance documents (e.g. Service Bulletins) for service partners, 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, Nokia should be notified. 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. Ensure solder, wire, or foreign matter does not enter the telephone as damage may result.
4. Use only approved components as specified in the parts list.
5. Ensure all components, modules screws and insulators are correctly re-fitted after servicing and alignment. Ensure all cables and wires are repositioned correctly.
6. All PC's used with NMP Service Software for this produce must be bios and operating system "Year 2000 Compliant".

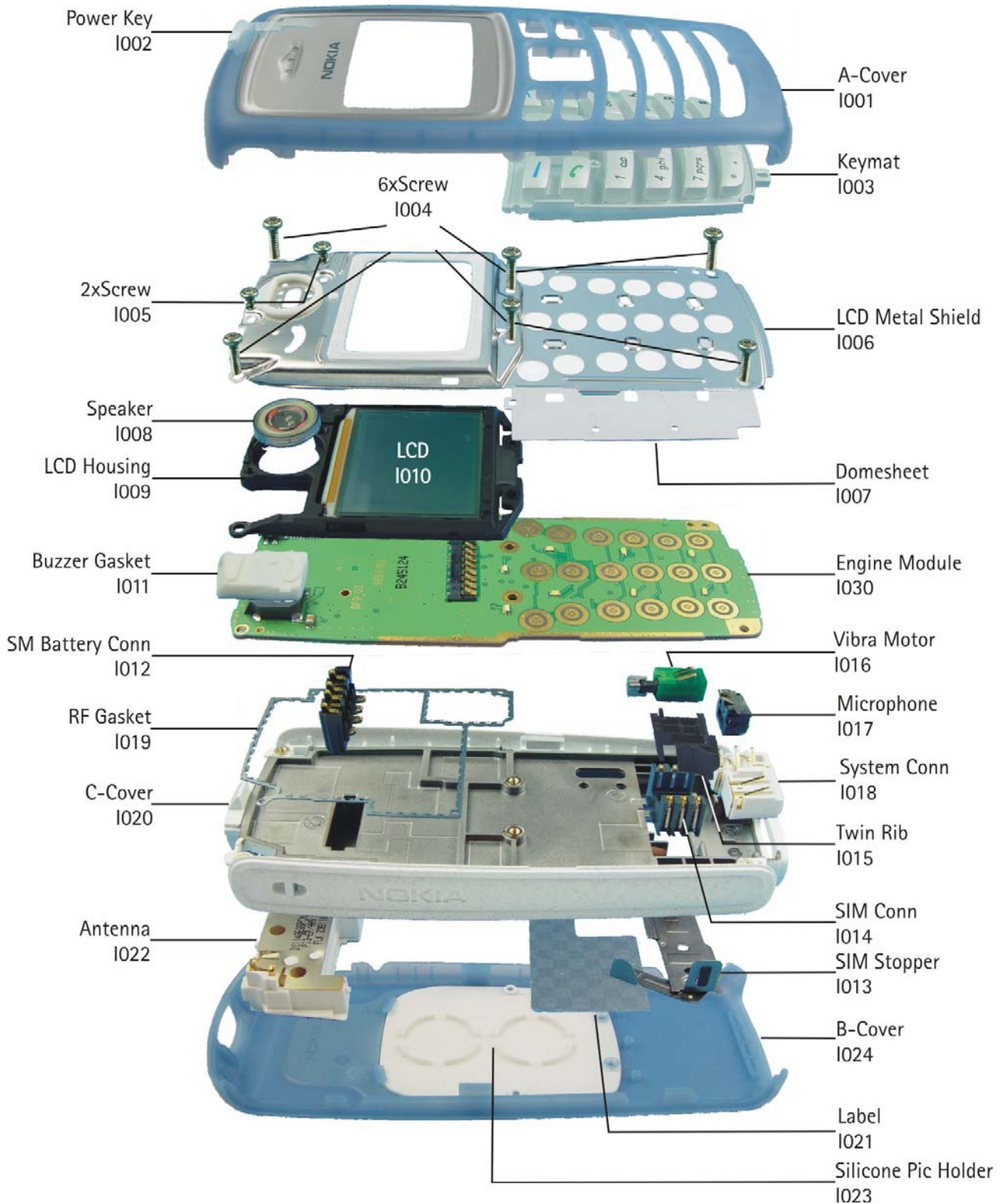
TABLE OF CONTENT

1.	EXPLODED VIEW	4
2.	SPARE PARTS LIST	5
3.	SW-UPDATE	8
4.	GENERAL REPAIR INFORMATION	9
5.	DISASSEMBLY INSTRUCTIONS (ALSO SEE VIDEO CLIPS)	10
6.	QUICK TROUBLE SHOOTER PART1	13
7.	QUICK TROUBLE SHOOTER PART2	14
8.	ESD PROTECTION REQUIREMENTS	15
9.	SERVICE NOTES	16
10.	GONOGO TESTER	17
11.	BATTERY TESTER	17

Change History

Originator	Status	Version No.	Date	Comments
DJK	Draft	0.1	17.12.2002	Initial draft
DJK	Approved	1.0	17.03.2003	Approval

1. EXPLODED VIEW



Description: See corresponding ITEM/CIRCUIT REF of the SPL (Spare Parts List)

2. SPARE PARTS LIST

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
	1	9491135	A-COVER ASSY (I001-I002)
I001	1	-	A-COVER SUB ASSY
I002	1	-	POWER KEY
I003	1	9790887	KEYMAT
I004	6	6190049	SCREW M1.6*5.3
	1	4850279	LCD MODULE ASSY (I005-I011)
I005	2	6290103	SCREW 1.6*3.2MM
I006	1	-	LCD METAL SHIELD
I007	1	-	DOMESHEET
I008	1	5140067	SPEAKER+SPRING 103+-3DB 32R D13.2
I009	1	-	LCD HOUSING
I010	1	-	LCD
I011	1	9470398	BUZZER GASKET
I012	1	5409093	SM BATTERY CONN 4POL SPR. 12V 2A
I013	1	9517303	SIM STOPPER ASSY DMC06481 NAM-2
I014	1	5409155	SM SIM CONN 2X3POL P2.54 H=8.25
I015	1	9660147	TWIN RIB DMD06257 NSM-2
I016	1	6800057	VIB.MOTOR ASSY 1.3 VDC 11000 RPM
I017	1	5140175	MIC+HOLDER+SPRINGS 46+-3DB 2K2 D6
I018	1	5460103	SYST. CONN DC JACK+HS/HF SPR.90DEG
I019	1	-	RF GASKET
I020	1	-	C-COVER BLANK
I021	1	-	LABEL 32X21.0
I022	1	0660279	ANTENNA INTERNAL EGSM/PCN
	1	9491136	B-COVER ASSY (I023-I024)
I023	1	-	SILICONE PIC HOLDER
I024	1	-	B-COVER ASSY
I030	1	-	DF9 ENGINE MODULE HDF12

SOLDERING COMPONENTS ONLY FOR LEVEL 2

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
V321	1	4864521	LED CL270WBJD
V323	1	4864521	LED CL270WBJD
V325	1	4864521	LED CL270WBJD
V331	1	4864575	LED CL270WBJD
V332	1	4864575	LED CL270WBJD
V334	1	4864575	LED CL270WBJD
V335	1	4864575	LED CL270WBJD
V337	1	4864575	LED CL270WBJD
V338	1	4864575	LED CL270WBJD
S330	1	5209001	SM SW TACT SPST 12V 50MA SIDE KEY 1.0
F101	1	5119019	SM FUSE F 1.5A 32V 0603

VARIANT PARTS

ITEM/ CIRCUIT REF.	QTY	PART NO	PART NAME
		9491135	A-COVER ASSY NAM-2 GREEN
		9491133	A-COVER ASSY NAM-2 YELLOW
		9491131	A-COVER ASSY NAM-2 GREY
I003		9790887	KEYMAT LATIN
I003		9790911	KEYMAT RUSSIAN
I003		9790913	KEYMAT HEBREW
I003		9790914	KEYMAT ARABIC
I003		9790915	KEYMAT GREEK
		9491136	B-COVER ASSY NAM-2 GREEN
		9491134	B-COVER ASSY NAM-2 YELLOW
		9491132	B-COVER ASSY NAM-2 GREY

SWAP UNITS

	QTY	PART NO	PART NAME
		0077111	NAM-2 N2100 SWAP ENGINE E&A
		0077112	NAM-2 N2100 SWAP ENGINE POLAND
		0077113	NAM-2 N2100 SWAP ENGINE S-AFRICA
		0077114	NAM-2 N2100 SWAP ENGINE FRANCE
		0077115	NAM-2 N2100 SWAP ENGINE CZECH
		0077116	NAM-2 N2100 SWAP ENGINE TURKEY
		0077117	NAM-2 N2100 SWAP ENGINE RUSSIA

SERVICE TOOLS

TYPE	QTY	PART NO	PART NAME
		0080541	FLS-4S SALES PACK E&A (inclusive 0680032)
		0680032	UNIV. POWERSUPPLY ACF-8
Accessory		0273460	BLD-3 BATTERY RP E/A (LI-ION 720MAH)
Accessory		0272169	AC TRAVEL CHARGER ACP-8E (EUR)
Accessory		0272172	AC TRAVEL CHARGER ACP-8X (UK)
		0730218	POS SERVICE CABLE XCS-1
		0081346	POS FLASH LOADING ADAPTER FLA-10
Accessory		0273195	HEAD-SET DOUBLE MONO HDD-1
		0770431	SRT-6 OPENING TOOL 5510
		0770226	Battery Connector Extractor Tool SRT-3

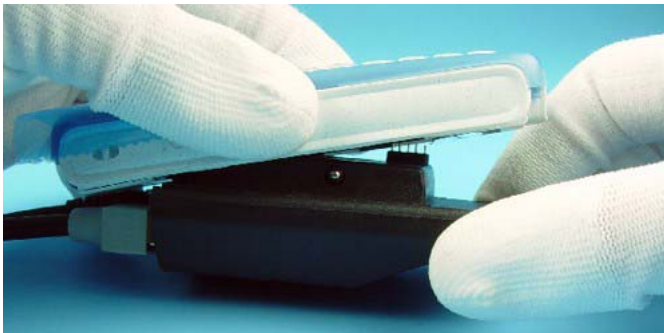
3. SW-UPDATE

To use FLS-4S Flash Dongle you have to follow the user's guide inside the sales package. Please check always for the latest version of flash software, which is available on Nokia Partner Web Site.

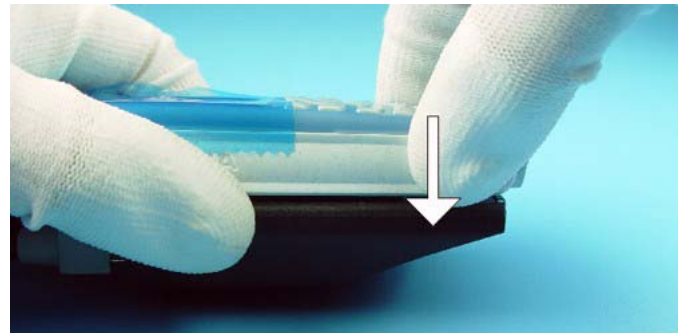
Flash Concept – (Point of Sales)



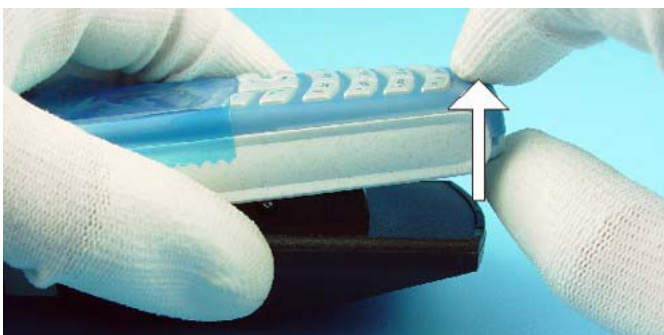
It is very important to follow this insertion and removal procedure, otherwise the contact pins of Flash Adapter will be damaged



Insert the Flash Adapter FLA-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 Flash Adapter, always start from the bottom side of the unit.



Take away the unit now.

4. GENERAL REPAIR INFORMATION

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






- 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 foil 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), which didn't repair the failure, can be reused, if they are not soldered.
- Use always original Nokia parts or accessories.
- 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 Faultlogger 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.

Following General Service Bulletins have to be followed:

- SB-055 Common notice for good ventilation
- SB-089: Don't try to repair prototypes (indicated on Type Label).
- SB-107: Be sure that you have minimum hardware requirements in place.
- SB-115: Handling of liquid damages.
- SB-121: Return the defective part, if one of your service tools causes malfunction.
- SB-122: Soldering with manual hot air gun is totally forbidden because of the very sensitive μ BGA components and μ Via technology.**
- SB-124 Service Policy for packaging serviced products
- SB-131: Check these guidelines when refurbishing products.
- SB-132: You can use a **Golden Phone** for inspecting your measuring equipment.

Please check Nokia Partner Web Site (PWS) for latest news and files on a regular basis.

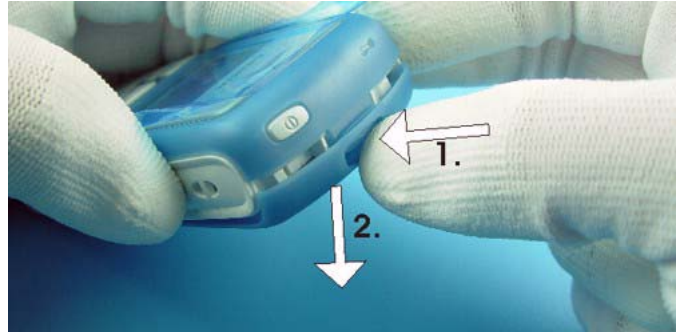
This legend is valid for all parts of the **Quick Trouble Shooter**

Follow the steps until the problem is solved. If this doesn't help, you are not authorized to go forward. Only underlined components (e.g. I008) can be changed.	
	Follow the arrows step by step
	Pads or contacts: Check optical and mechanical condition as well as corrosion. Clean if necessary.
	Check optical and mechanical condition as well as corrosion. Clean with ESD brush only, if necessary.
	Measure component for electrical functionality and change, if needed.
	No more actions possible, send product to the appropriate service partner with higher service level.

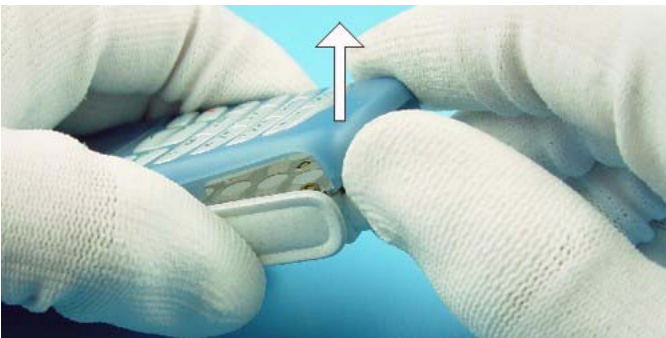
5. DISASSEMBLY INSTRUCTIONS (ALSO SEE VIDEO CLIPS)



Protect the window with protection foil to avoid dust and scratches.



Press the latch before removing the B-COVER.



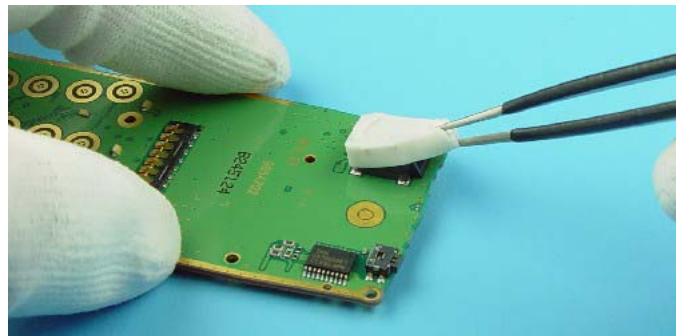
Remove the A-COVER.



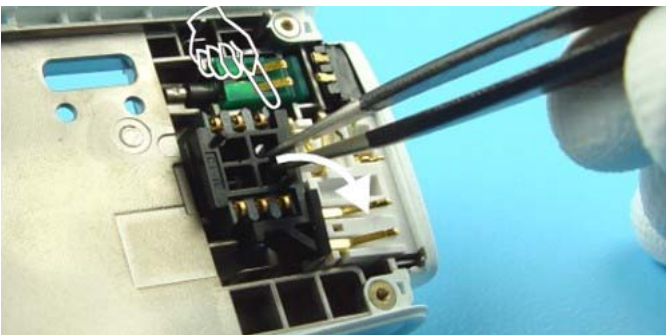
Unscrew the six TORX PLUS® screws size 6, using the order shown. **For assembly, the reverse order and a torque of 17Ncm has to be used.**



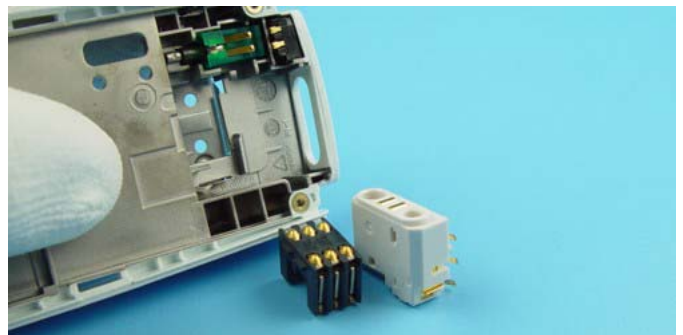
Separate the UI MODULE from the radio module.



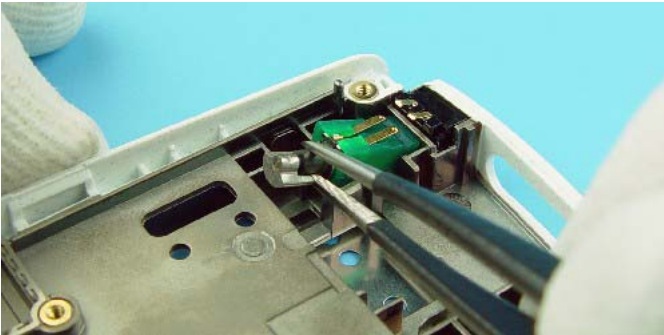
Remove the BUZZER GASKET.



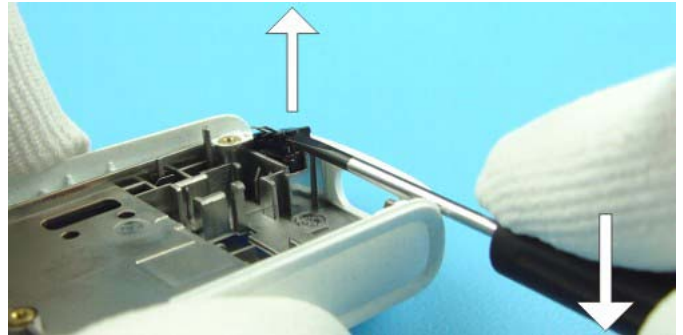
The TWIN RIB is attached with a hook in into guidance. Lift the TWIN RIB using tweezers by tilting it carefully.



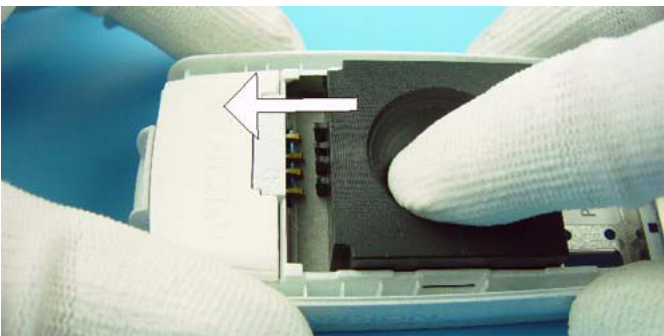
The SYSTEM CONNECTOR and the SIM CONNECTOR drops out when turning C-COVER.



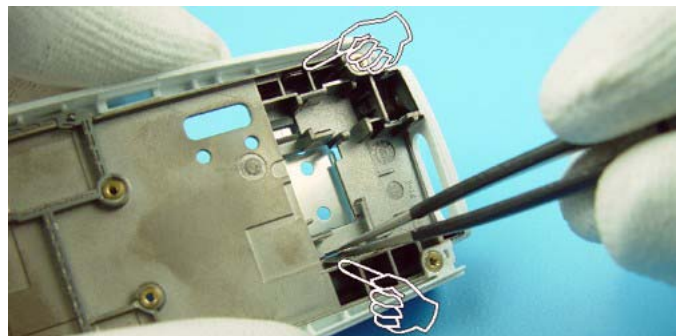
Remove the VIBRA MOTOR with the rubber from its guidance.



Lift the MICROPHONE from its guidance forcefully, because it is stuck into its guidance. Use a straight bladed screwdriver for this procedure.



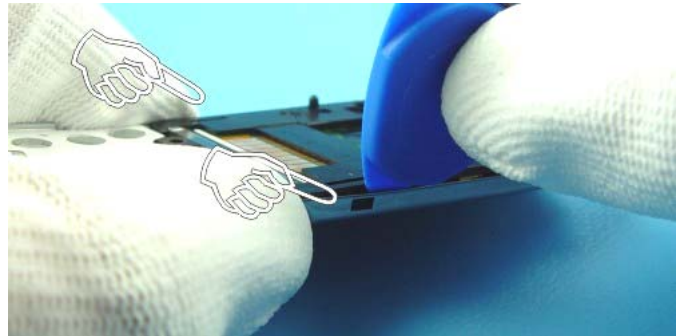
Use SRT-3 to release the BATTERY CONNECTOR from the main frame.



The SIM STOPPER is attached with snaps. Use tweezers to release the snaps.



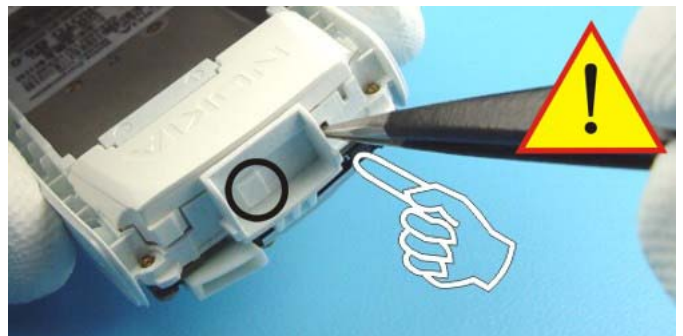
If it is needed to change the SPEAKER, release the TORX PLUS® screws size 6 as shown in the picture. **When assembling use a torque of 8Ncm.**



Open the snaps with SRT-6 on both sides of the LCD METAL SHIELD.



The SPEAKER can be changed separately. To remove it from the LCD Housing, push it with SRT-6. Do not damage the spring contacts.



If it is needed to change the ANTENNA, use tweezers to release the snap fixings by pushing slightly. The ANTENNA is attached with four snap fixings in its guidance. One of the snaps cannot be released. See picture up there.

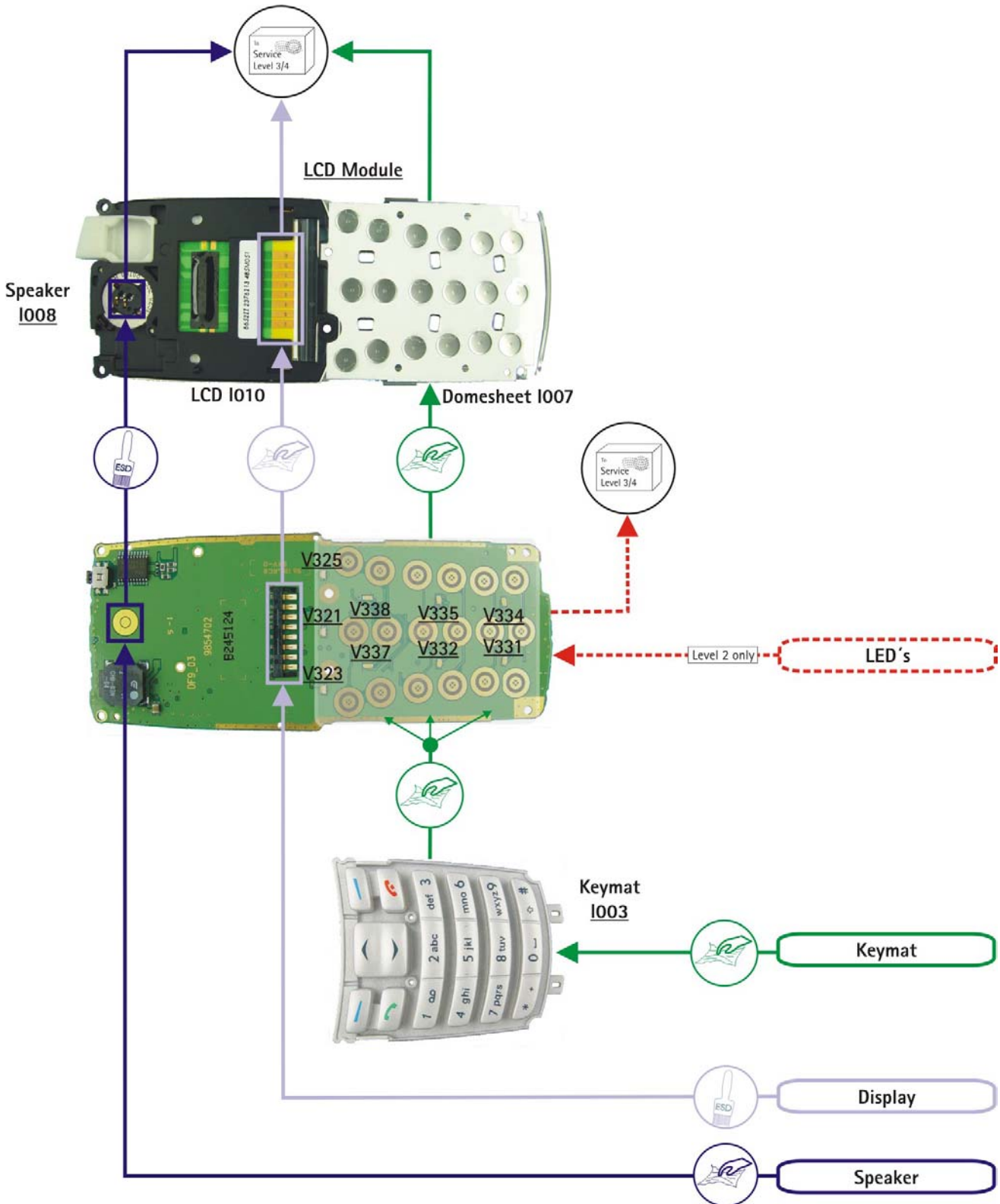


Release the snap fixing also on the other end of the ANTENNA.




Lift the ANTENNA with SRT-6. Do not use again the same ANTENNA, if the snaps are damaged.

6. QUICK TROUBLE SHOOTER PART1



8. ESD PROTECTION REQUIREMENTS

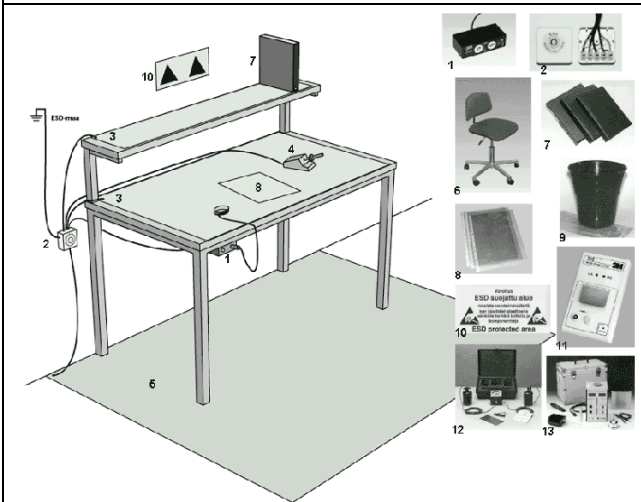
	<p>Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Partner has to take care of at least some precautions like ESD restricted area, floor, table, covering, chair(s), shoes or arm wrist.</p>
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example configuration of an epa-area
 source: www.armeka.com



example configuration of a workbench
 source: www.warmbier.com



example workbench and testers
 source: <http://www.armekaengineering.com>

9. SERVICE NOTES

We recommend using Service Notes when shipping phones to other Service Partners. It prevents the product from scratches, it is ESD-neutral and has the possibility to give valuable feedback of the fault symptom through a structured form.

Please refer to the document [Service Notes for faulty NMP transceiver](#) on Partner Web Site to get further information.

Sender <i>Repair Center</i>	Our Ref. <i>4711</i>
Handled by _____	Product Code <i>050381</i>
Serial n.o.: <i>449333/20/975406/2</i>	Date <i>10-07-01</i>

Yes Warranty Case No Inst Instant Service DOA

R Repair RR Repair and Refurbishment
 RO Refurbishment only SW Software update
 A Analysis C Claim
 24h 24 h Service SR Special Request *Save User data*

A) EXISTENCE OF FAULT

1. Continuous fault 2. Intermittent fault 3. Temperature
 4. By shock or vibration 5. No clear fault 6. Only as portable
 7. Only in a car 8. Only in desktop

B) SYMPTOM OF THE FAULT ON CMT-PART - Symptom Code _____


1. Totally dead 2. Selftest failure 3. SIM Fail
 4. No service 5. No calls in 6. No calls out
 7. Keypad failure 8. Display failure 9. Audio failure
 10. Doesn't charge 11. Overcharging 12. Hand-free failure
 13. Burns fuses 14. Accessory fail, which _____
 15. Switches off 16. Other _____

C) OBSERVED OR MEASURED FAULT

1. TX Power
 2. TX Phase error
 3. Bit Error Rate
 4. Burst Template
 5. Ramping spectra
 6. RX Quality
 7. RSSI
 8. Other _____

D) SYMPTOM OF THE FAULT ON PDA-PART - Symptom Code _____

1. PDA doesn't start
 2. Internal error
 3. Keypad failure
 4. Display failure



10. GONOGO TESTER

The will'tek GoNoGo Tester has to be used to carry out the final test after your service action to guarantee the functionality of the phone. Please refer to the actual information in the Nokia Care Point Extranet within the Partner Web Site.



11. BATTERY TESTER

The Astratec battery tester lets you test the capacity of Nokia batteries. Please refer to the actual information in the Nokia Care Point Extranet within the Partner Web Site.

