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SERVICE MANUAL Level 1&2



RM-216



Transceiver characteristics:

Band: Quad band phone for GSM/EDGE 850/900/1800/1900MHz
Camera: 1.3-megapixel camera with 8x digital zoom
(1280 x 960 pixel resolution)
Display:
-Main: Active TFT QVGA display supports up to 16,777,216 colors
(320 x 240 pixels, 5,588cm (2.2 inches))
-Outer Display: Active TFT display supports up to 262,144 colors
(128 x 160 pixels, 3,4544cm (inches 1.36))
NFC: Near Field Comunication
Bluetooth
IrDa
FM Radio
Connector: Pop-Port[™] connector
Memory Card: microSD

Transceiver with BL-4c Li-Ion battery pack

Talk time	Standby	Note	Charging
up to 3.4h	up to 10days	Depends on net- work parameters	Up to 2 hours 10 minutes

Environmental characteristics:

Lead-free soldered

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Traini	ng & Vendor Development media Creation & Support	CONFIDENTIAL	12.Sept.2007
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Status	Version No.	Date	Comments	
Draft	0.1	5.Dec.2006	Initial draft	
Approved	1.0	10.Jan.2007	Approval	
Approved	2.0	11.Jan.2007	SS-121 added to tools chapter	
Approved	3.0	29.Jan.2007	Text under pic 12 on page 22 modified	
Approved	4.0	12.Sept.2007	Exploded view & Spare Parts overview updated	



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

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 VEHI-CLE 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 MANUFACTUR-ER 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.



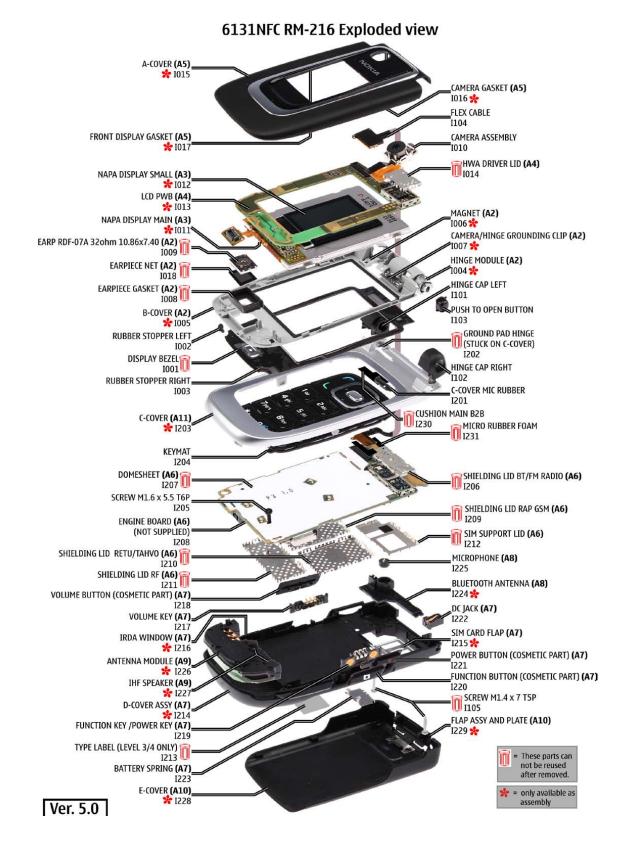
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2. EXPLODED VIEW

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



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3. SPARE PARTS OVERVIEW



6131NFC RM-216 Spare Parts overview

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Some of these options can be utilized directly and some need pretreatment as for instance dismantling, grinding, milling, etc.

For sorting the waste into fractions for recycling, your recycler will offer you more specific information, but a <u>GENERAL RULE</u> is:

Elecronic Equipment: There are recyclers that can process this "multimaterial" for high recycling yields. Metals: Fractions containing metals must always be collected and sent for (metal) material recycling. Plastics: Pure plastics fractions (i.e. covers) can be sent for (plastics) materials recycling. Mixed Plastic/Metals: A metal fraction contaminated with plastics does not represent a problem for metal recycling/recovery whereas recycling/recovery of plastics is generally sensitive for contamination by other materials.

🕨 ELECTRO 🔵 METAL 🛑 PLASTIC 😑 BATTERY



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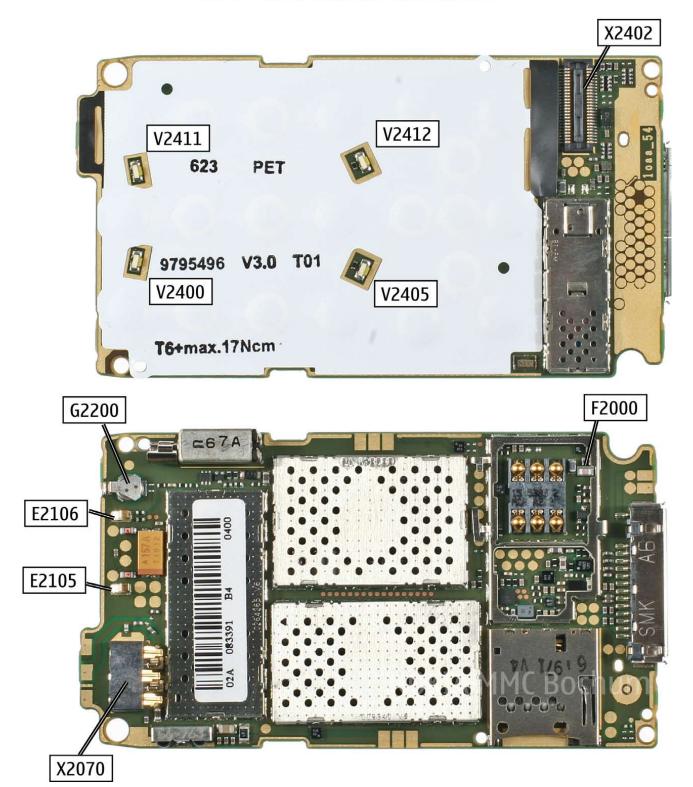
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5. LEVEL 2 SOLDER COMPONENTS

6131NFC RM-216 Level 2 solder components

Solder components only for LEVEL 2



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6.	SERVI	CE DE	VICES
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FLS-45 User Guide	FLS-4S incl. ACF-8, Driver and User Guide Dongle and flash device incorporated into one package, devel- oped specifically for POS use.
	ACF-8 Universal Power Supply is used to power FLS-4S.
	Travel Charger AC-4 Small and lightweight charger for fast charging of your phone battery.
BL-4C	Internal Battery BL-4c Inserted under the back cover, this Li-Ion battery provides power in a lightweight package.
	Headset HS-23 Small and lightweight stereo headset with handsfree call han- dling, volume control, push to talk support, and comfortable earpieces for listening to the FM radio or music player.
RJ-92	RJ-92 Soldering Jig
	CA-53 Service Cable to connect the PC with the Pop-Port [™] connector.

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SS-121	SS-121 RFID Tag is used to test the Near Field Communication (NFC)
CITED AND AND AND AND AND AND AND AND AND AN	Lead-free Solder Wire Mandatory for lead-free products (Level 2 only).
	0772040NMP 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•Artilux goggles AH166•Wera bit T5 867/4TX 5x50•Wera bit T5 867/4TX 6x50•Wera bit T6 867/4TX 6x50•Wera bit T6 867/4TX 6x50•Wera bit T6 867/4TX 6x50•Wera bit T6 PLUS® 867/4TX 6IP•Facom side cutter 416E•Facom T5 driver SP.14032•Facom Slot screwdriver AEF. 2x35.E•Wetec tweezers 7abb 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



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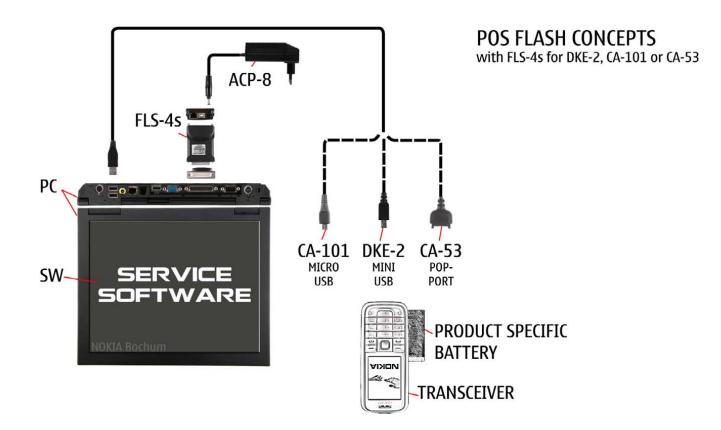
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7. SW-UPDATE

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**. Use the CA-53 cable.





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8. UPPER BLOCK DISASSEMBLY





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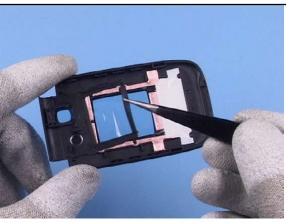




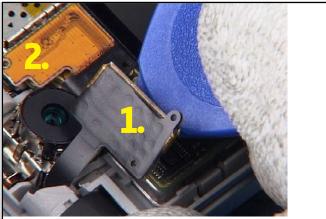
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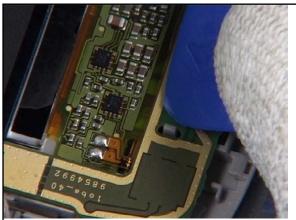
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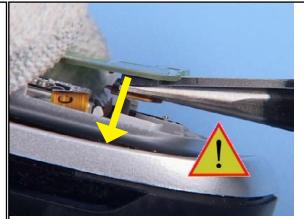
13. Take out the FRONT DISPLAY GASKET.



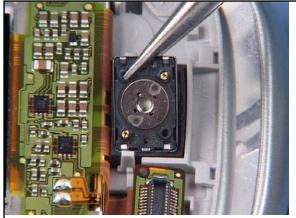
14. Carefully open the two flex connectors with the SRT-6.



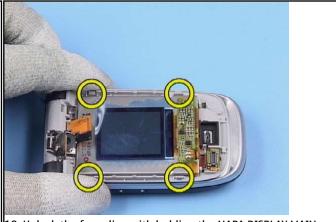
15. Release the two catches holding the LCD PWB in place.



16. Raise the board a little and carefully open the flex connector.



17. Ease out the Earpiece and remove it.

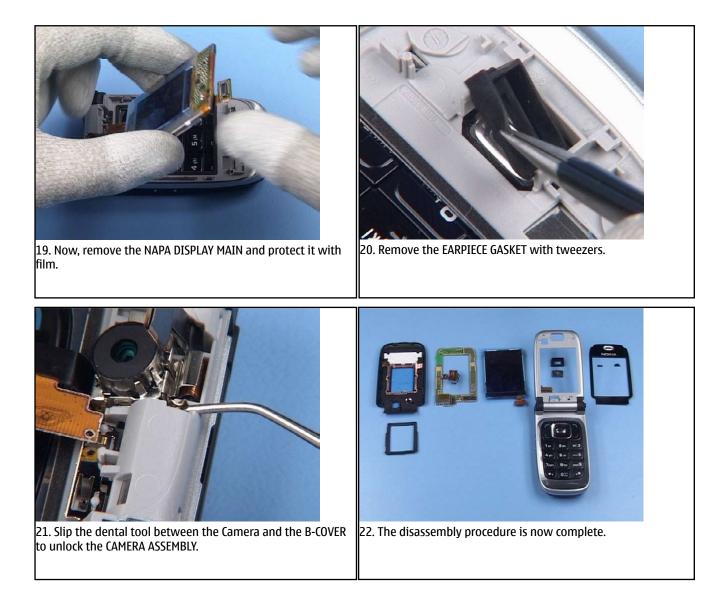


18. Unlock the four clips with holding the NAPA DISPLAY MAIN.



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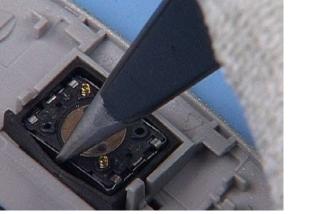
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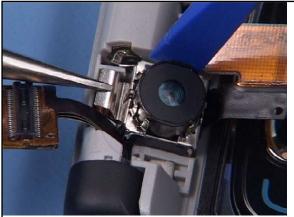
9. UPPER BLOCK ASSEMBLY



1. Insert the EARPIECE GASKET, noting that there is only one correct position.



2. Fit the EARPIECE evenly into the Gasket.



3. Place the CAMERA ASSEMBLY in its guides in the B-COVER, taking care not to damage the adjacent flex connector.



4. Remove the protective film.



5. Place the NAPA DISPLAY MAIN in the B-Cover guides.



6. Be sure to lock all four clips of the display.

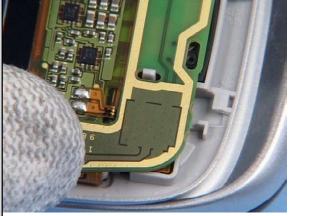


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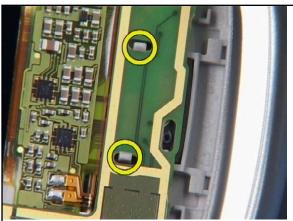
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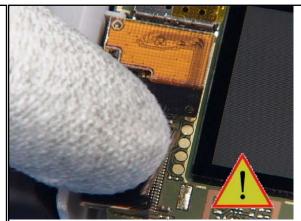
7. Locate the PCD PWB over the Napa display, avoiding damage to the flex connectors.



8. Ensure that the LCD connector is properly locked.



9. Check that the snaps are closed.



10. Carefully close the two flex connectors, avoiding contact with the Camera.



11. Put the FRONT DISPLAY GASKET to the A-COVER.



12. Slide the A-Cover on to its lower guides.



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10.LOWER BLOCK DISASSEMBLY



1. Needed tools: 1. SS-93, 2. SRT-6, Metal tweezers, 4. Torque driver, 5. Torx plus size 5 bit, 6. Torx plus size 6 bit, 7. Torx plus driver size 6, 8. Torx plus driver size 5, 9. Dental pick and 10. DC-Plug.



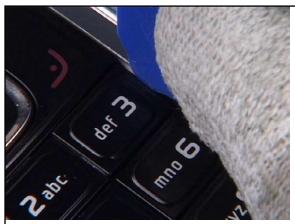
2. Note that all windows are covered with protection film.



3. Unlock and remove the E-COVER.



4. Check that there is no SIM or SD card still inserted before continuing.



5. Carefully pry open the KEYMAT with SRT-6 at key 3.



6. Undo both screws in the order shown and discard them.



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7. These screws are coated with locking compound and cannot 8. Hold the assembly as shown and locate the 2 holes in the Dbe reused.





11. Carefully separate the C-COVER from the Upper Block and slot the flex connector through the C-COVER.

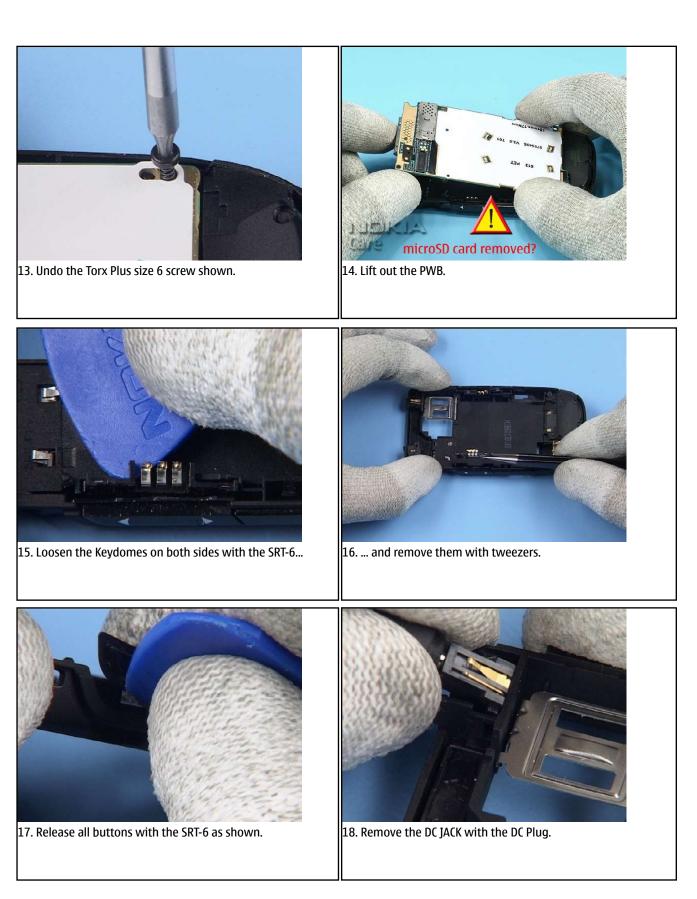


12. Remove the HINGE CAP RIGHT and then the Push to Open Button.



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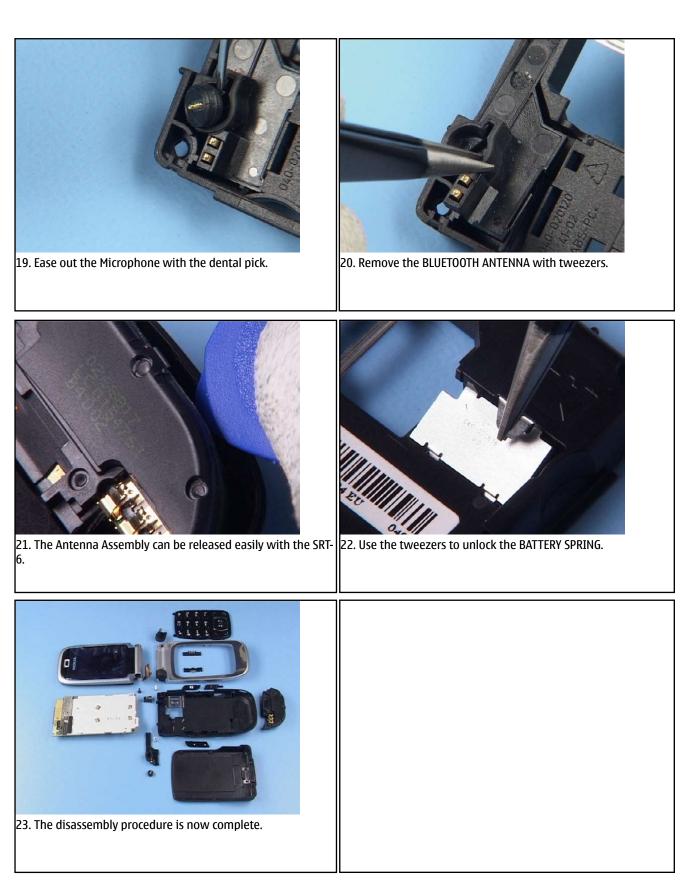
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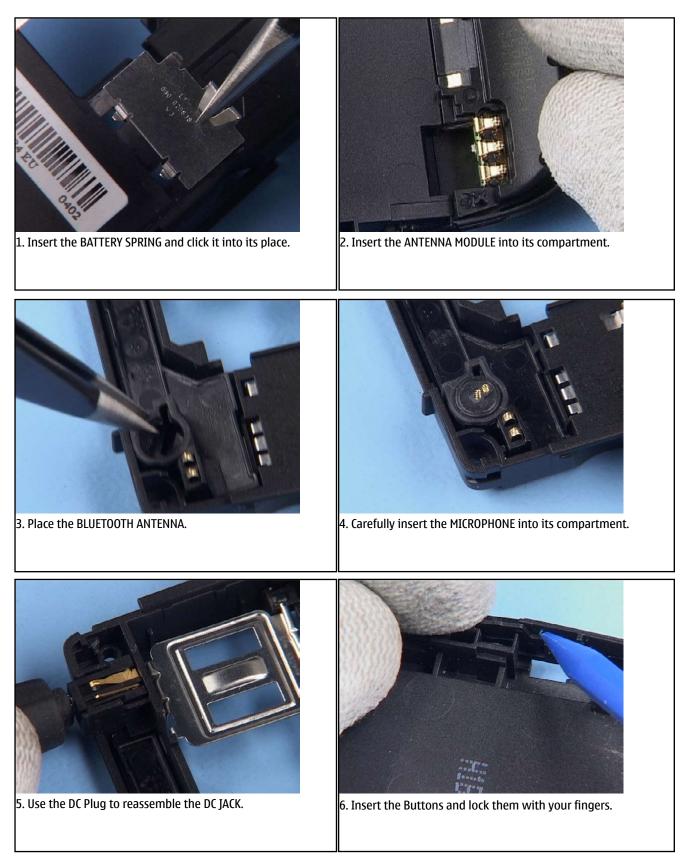


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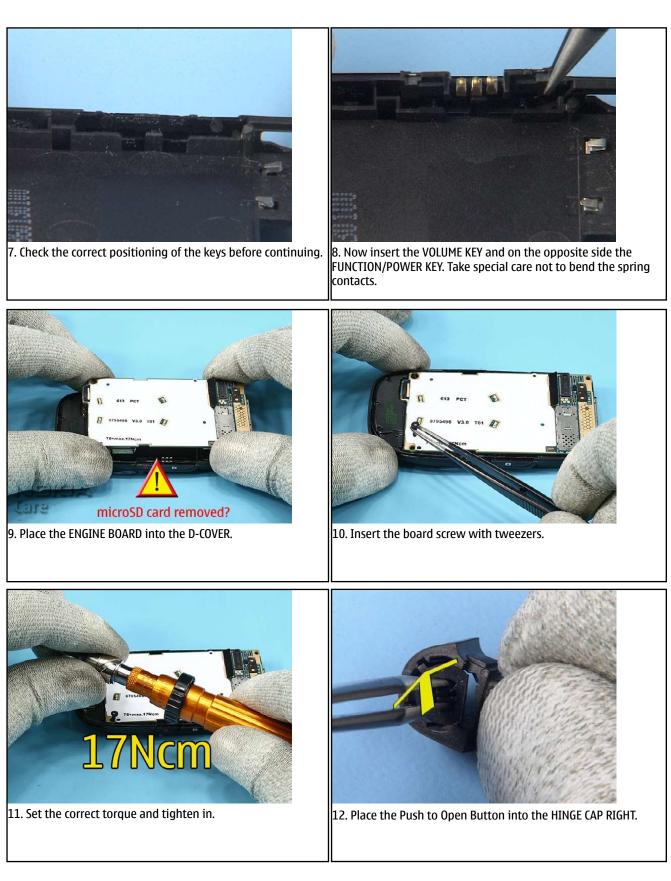
11.LOWER BLOCK ASSEMBLY





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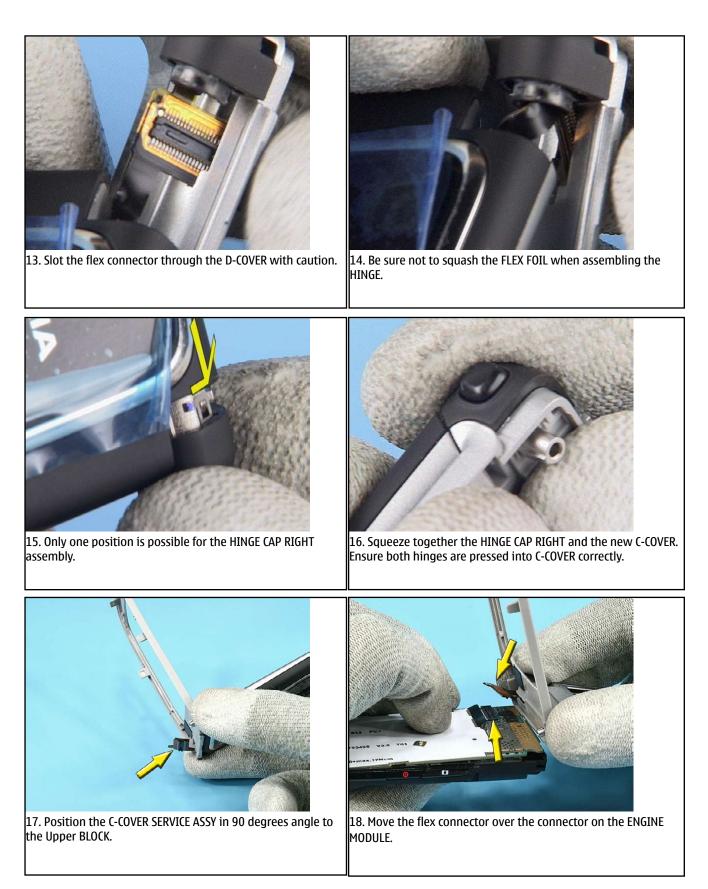
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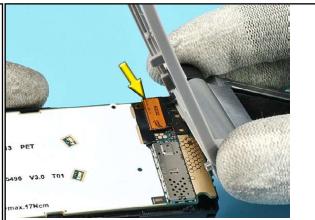


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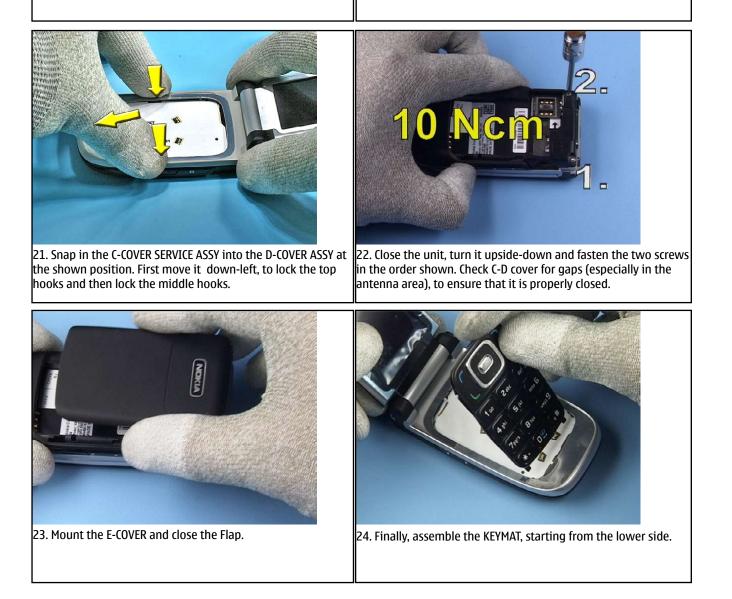
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19. Press onto the flex connector. A "click" noise can be heard when the connector lock properly.

20. Check the flex connector if it is locked correctly.



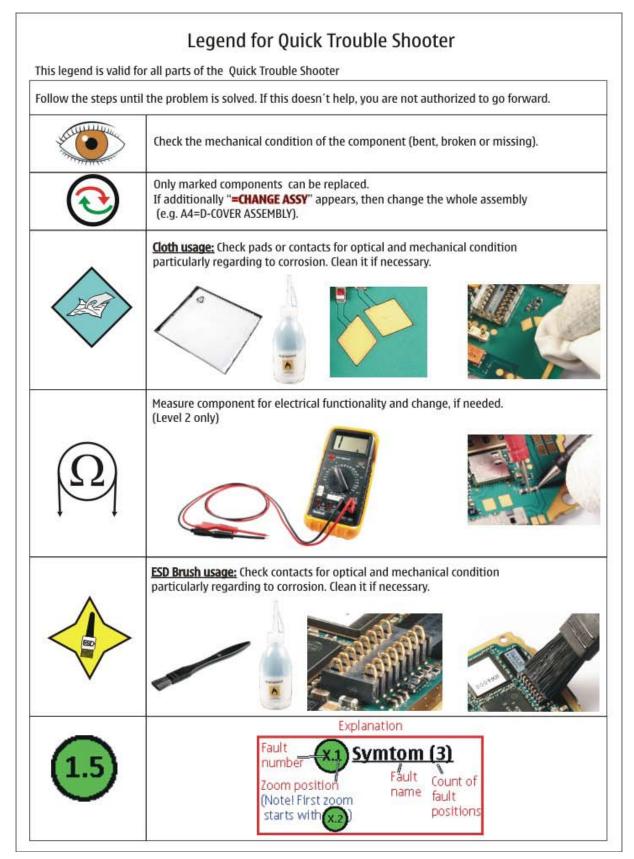


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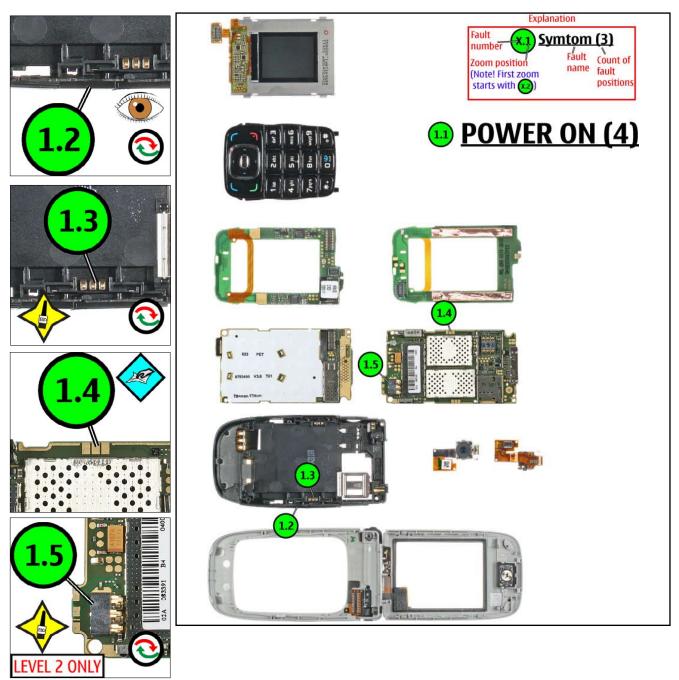
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12.LEGEND FOR QUICK TROUBLESHOOTER



13.QUICK TROUBLESHOOTER - POWER ON



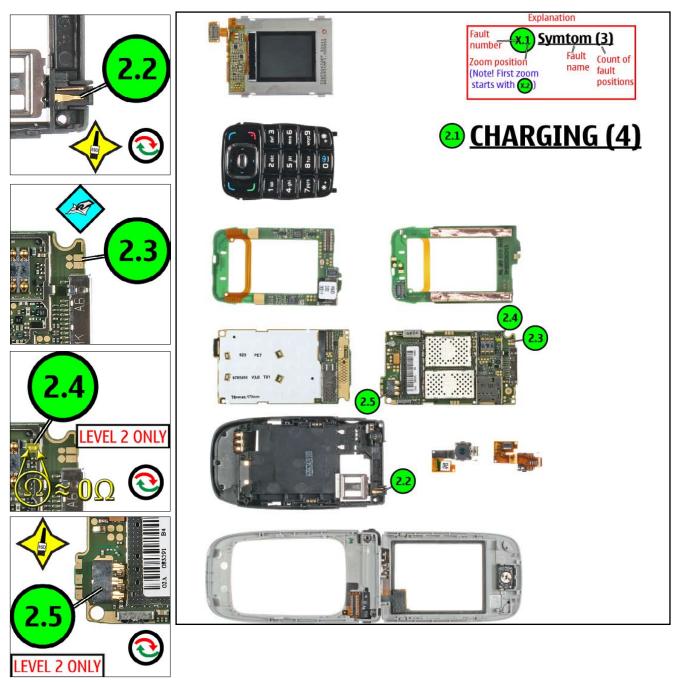


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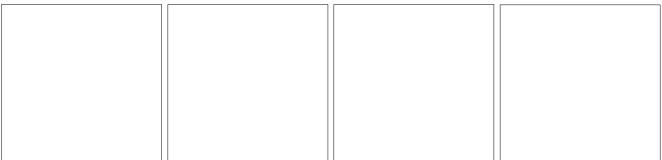
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14.QUICK TROUBLESHOOTER - CHARGING



15.QUICK TROUBLESHOOTER - NO SERVICE





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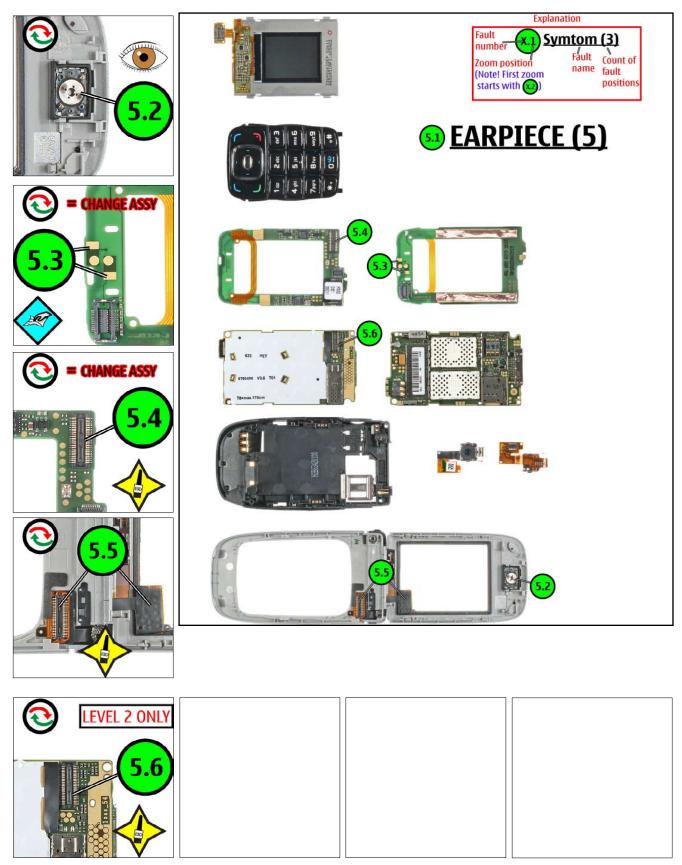
16.QUICK TROUBLESHOOTER - SIM



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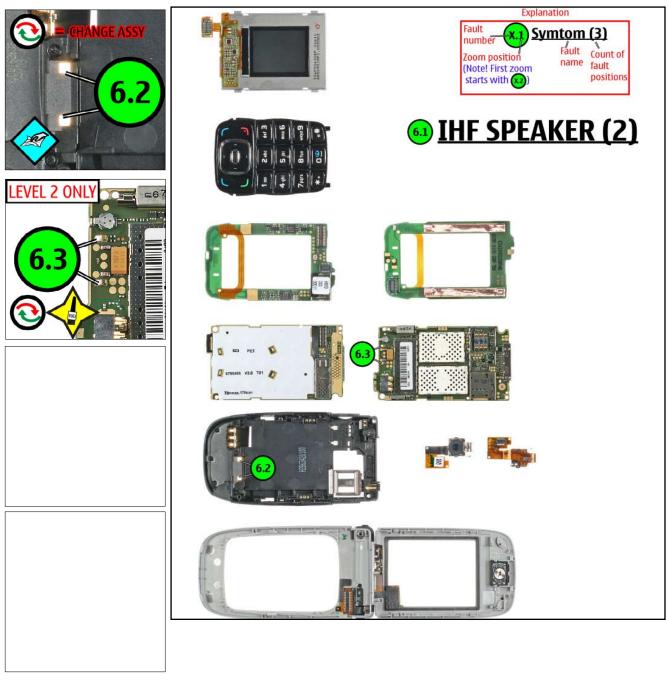
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17.QUICK TROUBLESHOOTER - EARPIECE



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18.QUICK TROUBLESHOOTER - IHF SPEAKER

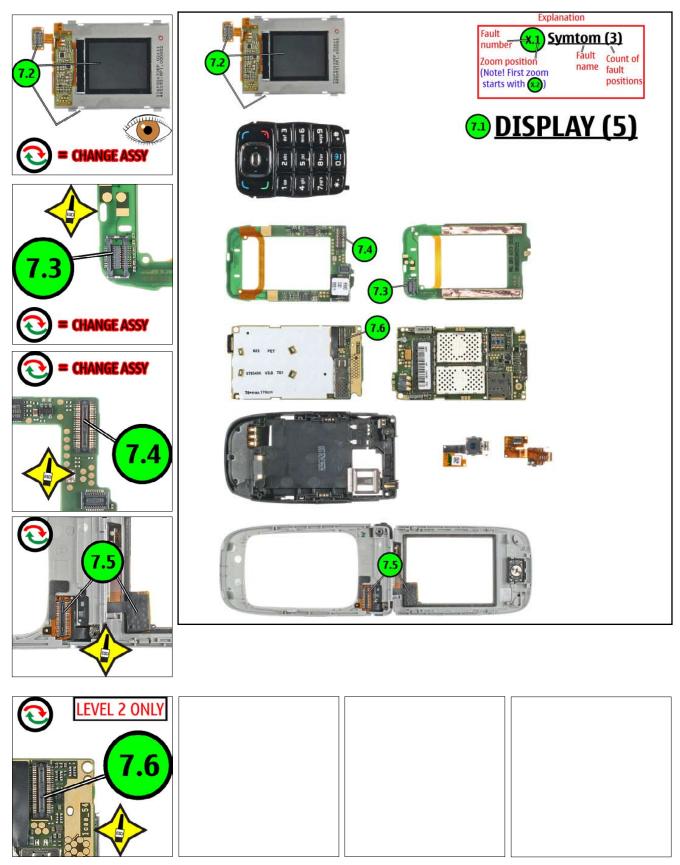


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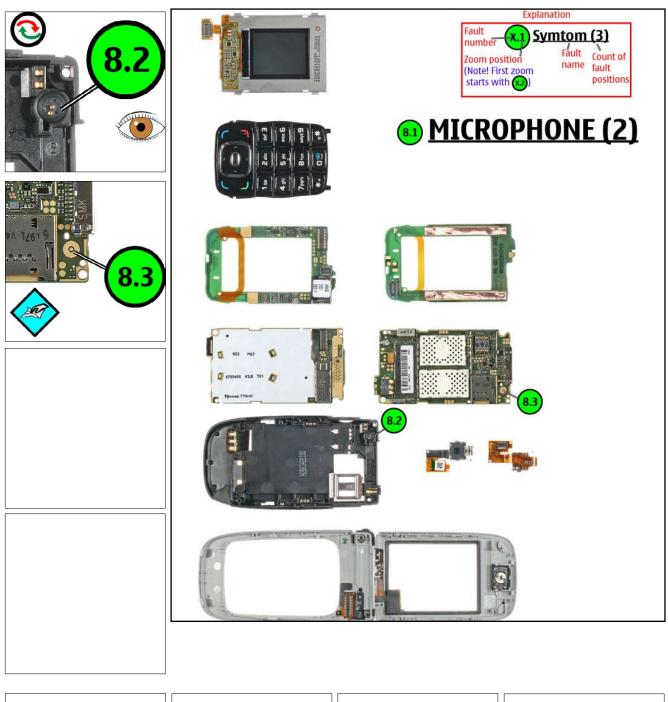
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19.QUICK TROUBLESHOOTER - DISPLAY



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20.QUICK TROUBLESHOOTER - MICROPHONE

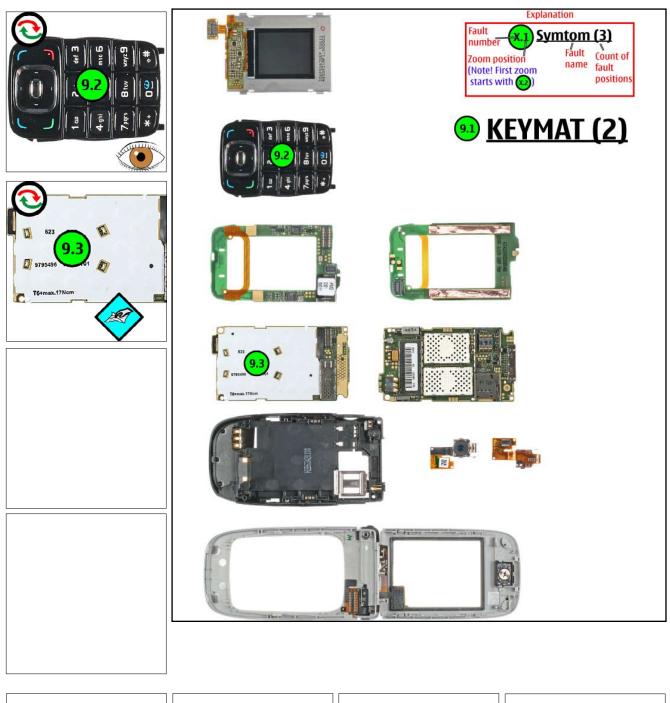


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21.QUICK TROUBLESHOOTER - KEYMAT



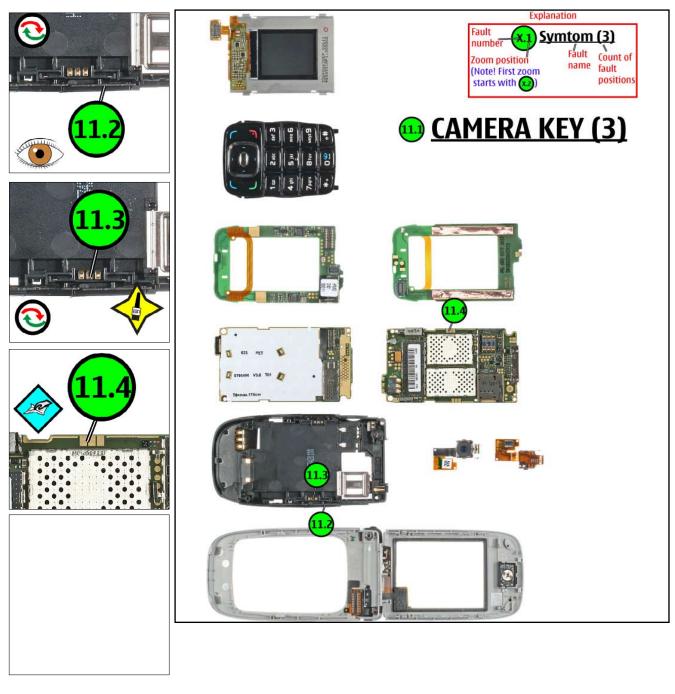
1	1	1	
1	1	1	
1	1	1	
1	1	1	
1	1	1	
1			

22.QUICK TROUBLESHOOTER - VOLUME KEY

$\bigcirc \bigcirc$		Explanation
		Fault number Zoom position (Note! First zoom
		Zoom position (Note! First zoom starts with (20)
		NOLUME KEYS (3)
10.3		
	423 PET EFSLESS VLD TO1 TBemax.177cm 10,2	
10.4		



23.QUICK TROUBLESHOOTER - CAMERA KEY



- 1			
	1	1	
	1	1	
	1	1	
	1	1	

24.QUICK TROUBLESHOOTER - CARD READER



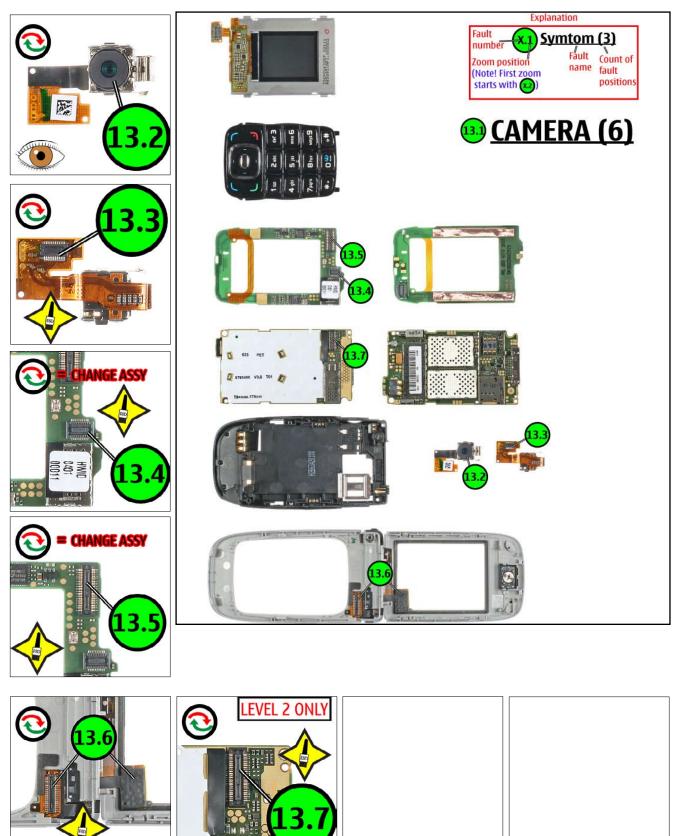


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25.QUICK TROUBLESHOOTER - CAMERA



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