

# SERVICE MANUAL

## Level 1&2

# NOKIA NOKIA

## 6085 6086

RM-198

RM-260

RM-188



### Transceiver characteristics:

**Band:** Quad-band GSM/EDGE phone 850/900/1800/1900MHz

**Camera:** VGA camera with 4x digital post zoom

#### Display:

- **Main display:** 128 x 160-pixel, 1.8" CSTN passive LCD with 262,144 colors

- **Cover display:** 96 x 68-pixel, FSTN, black/ white with blue LEDs

#### Bluetooth

FM stereo radio

**Connector:** Pop-Port™ Connector

Memory: microSD™

### Transceiver with BL-5C Li-Ion battery pack

Talk time	Standby	Note
up to 5h	up to 10days	Depends on network parameters

### Environmental characteristics:

- Lead-free soldered

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## CHANGE HISTORY

Status	Version No.	Date	Comments
Draft	0.1	09.Okt.2006	Initial draft
Approved	1.0	23.Okt.2006	Approval
Approved	2.0	24.Okt.2006	SS-6 added to the Tools chapter
Approved	3.0	25.Okt.2006	Spare Parts overview added
Approved	4.0	22.Nov.2006	6086 RM-188 added
Approved	5.0	21.Feb.2007	Exploded view & Spare Parts overview update; General Recycling recommendation added
Approved	6.0	14.Mrz.2007	Exploded view & Spare Parts overview update, Page Battery Test and GONOGO Test removed
Approved	7.0	20.Mrz.2007	RM-260 added
Approved	8.0	29.May.2007	Exploded view & Spare Parts overview update
Approved	9.0	28.Sept.2007	Exploded view & Spare Parts overview update
Approved	10.0	15.Oct.2007	Exploded view & Spare Parts overview update

## 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.

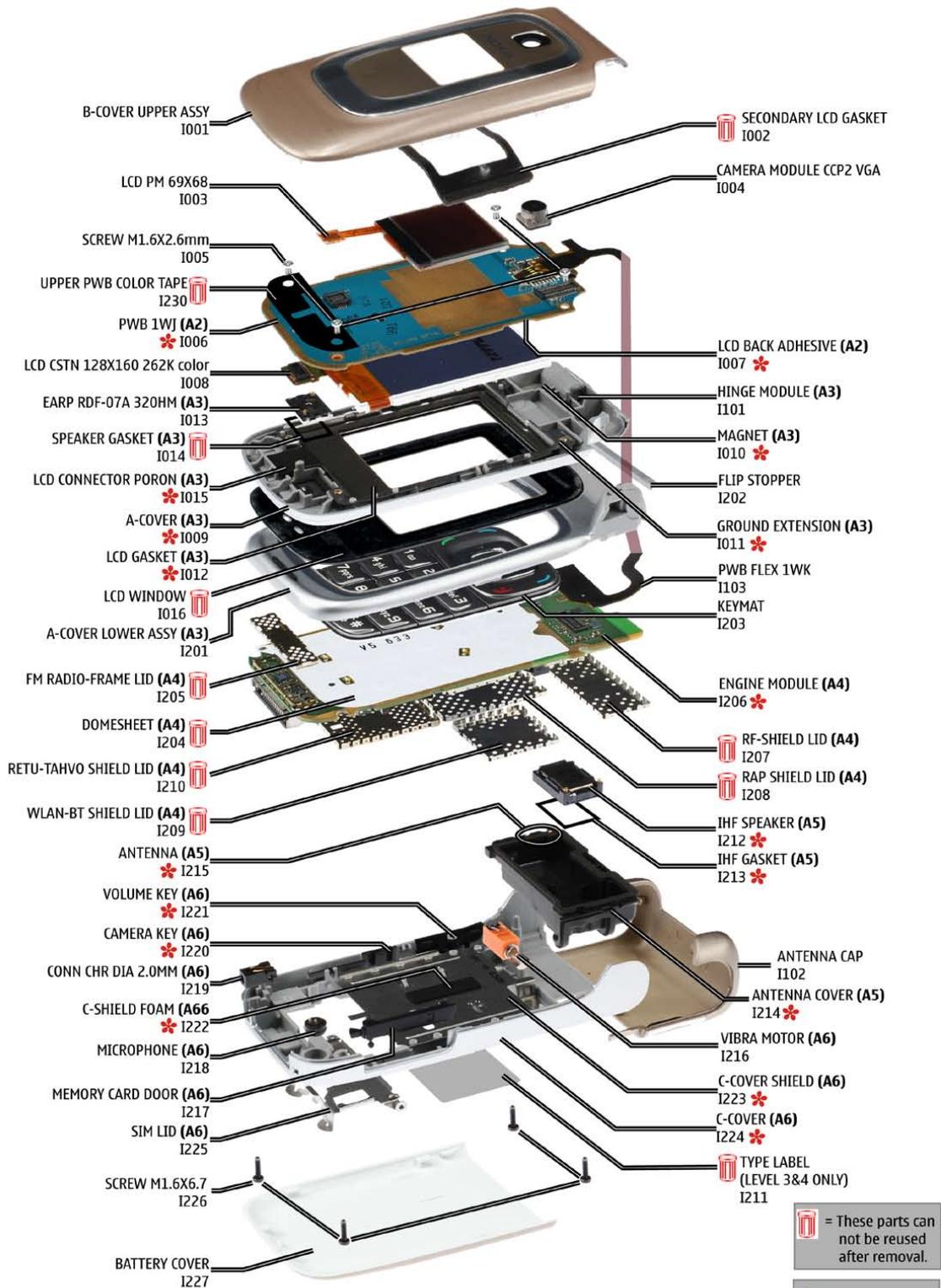


Electrostatic discharge can easily damage the sensitive components of electronic products. Therefore every Service Supplier has to take care of all precautions, which are mentioned in the service level related "Service Partner Requirements", available on NOKIA Online. Also see ESD Protection Requirements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

## 2. EXPLODED VIEW

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

### 6085 RM-198 / 6086 RM-188/RM-260 Exploded view



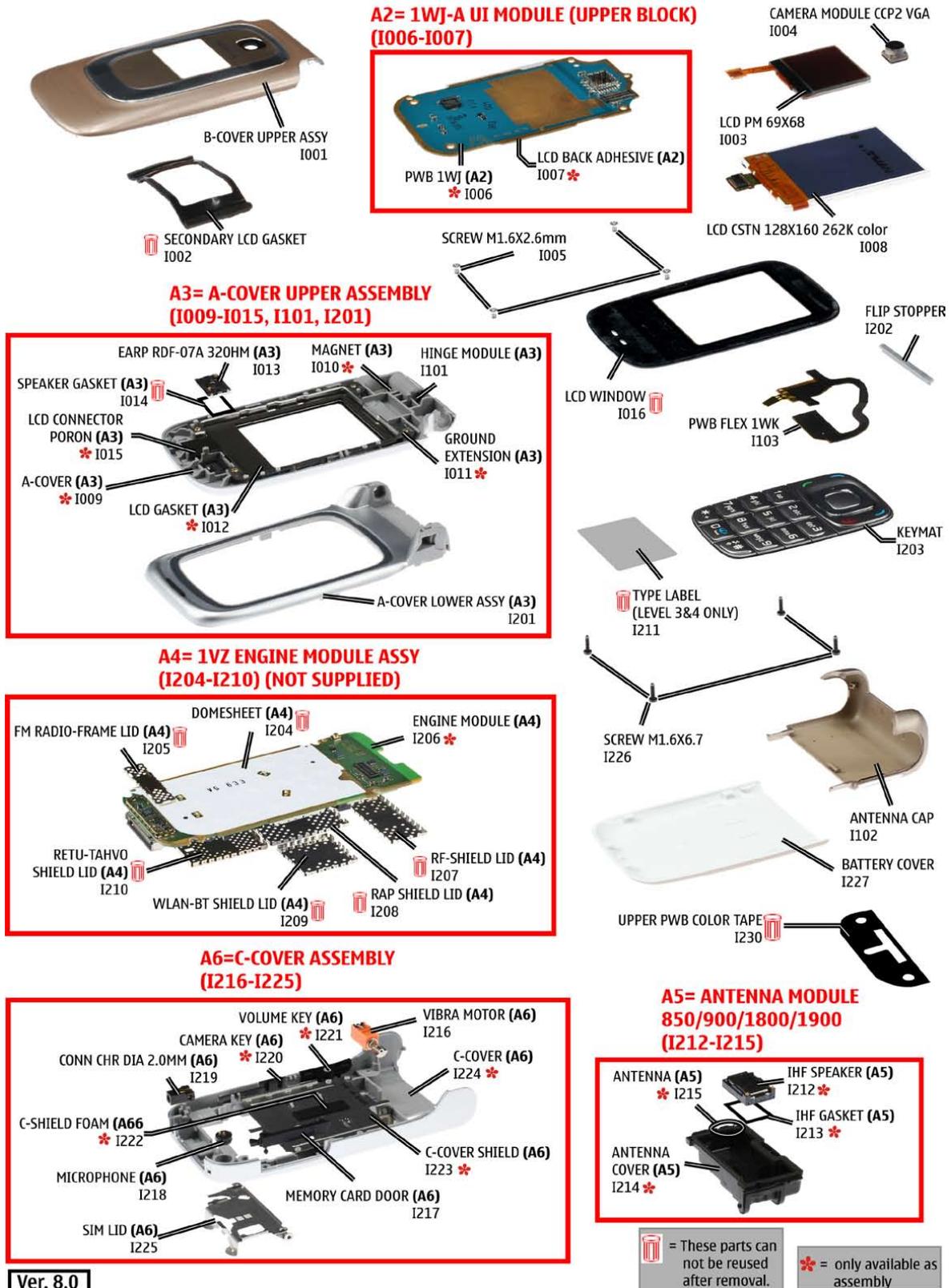
= These parts can not be reused after removal.

= only available as assembly

Ver. 8.0

### 3. SPARE PARTS OVERVIEW

#### 6085 RM-198 / 6086 RM-188/RM-260 Spare Parts overview

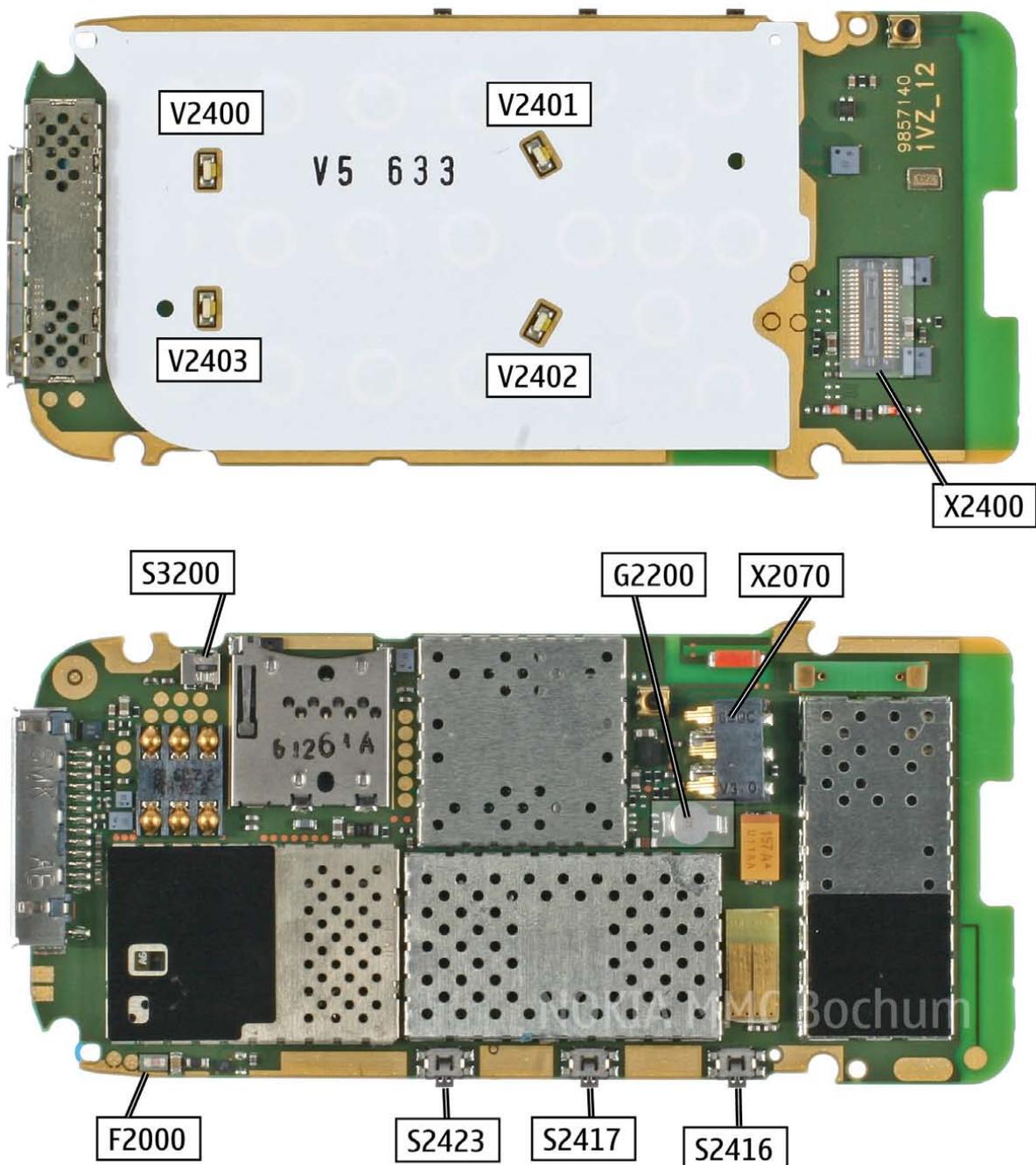


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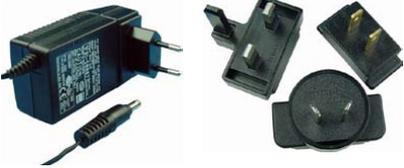
#### 4. LEVEL 2 SOLDER COMPONENTS

6085 RM-198 / 6086 RM-188/ RM-260 Level 2 solder components

**Solder components only for LEVEL 2**



## 5. SERVICE DEVICES

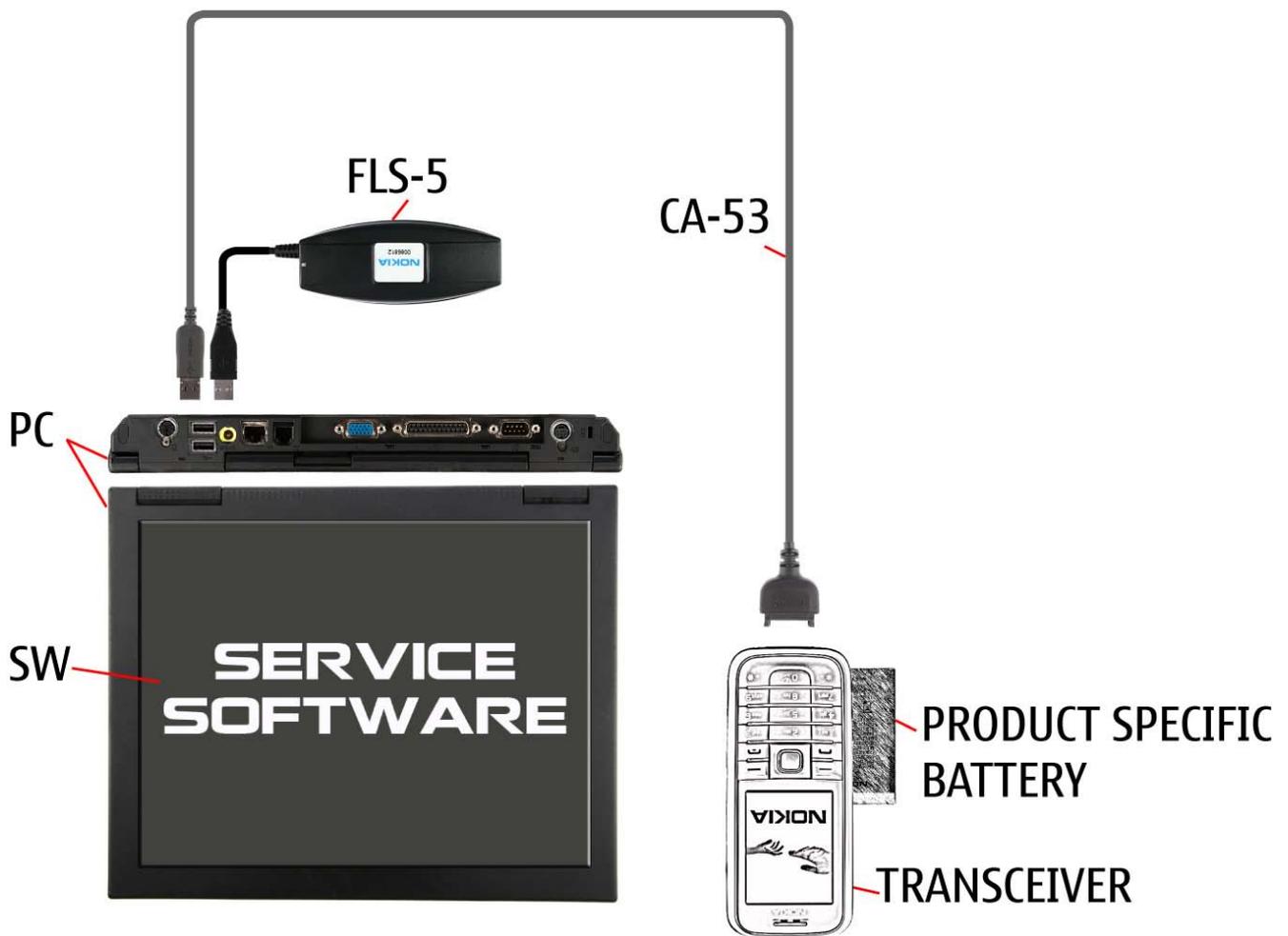
	<p><b>FLS-4S incl. ACF-8, Driver and User Guide</b> Dongle and flash device incorporated into one package, developed specifically for POS use.</p>
	<p><b>ACF-8</b> Universal Power Supply is used to power FLS-4S.</p>
	<p><b>Travel Charger AC-4</b> Small and lightweight charger for fast charging of your phone battery.</p>
<p>BL-5C</p> 	<p><b>Internal Battery BL-5C</b> Inserted under the back cover, this Li-Ion battery provides power in a lightweight package.</p>
<p>SS-104</p> 	<p><b>SS-104</b> Domesheet &amp; Display alignment jig</p>
<p>SS-88</p> 	<p><b>SS-88</b> Camera removal tool.</p>
	<p><b>CA-53</b> Service Cable to connect the PC with the Pop-Port™ connector.</p>

	<p><b>SS-6</b> Hinge opening tool.</p>
<p>RJ-154</p> 	<p><b>RJ-154</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 (V2)</b></p> <p>For more informations refer to the Service Bulletin (SB-011) on NOKIA Online.</p> <p>Supplier or manufacturer contacts for tool re-order can be found in <b>“Recommended service equipment”</b> document on NOKIA Online.</p>

## 6. 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](#).



## 7. UPPER BLOCK DISASSEMBLY



1. Needed tools: SS-88 camera removal tool, the SS-6, the SS-93, metal tweezers, a bit holder with a Torx Plus size 6 bit, a torque driver...



2. ... and the SS-104 for fitting the adhesives and displays.



3. Always cover the windows with a protective film.



4. Remove the battery if it is still inserted.



5. Use the SS-93 to pry open the B-COVER UPPER ASSEMBLY, starting at the top.



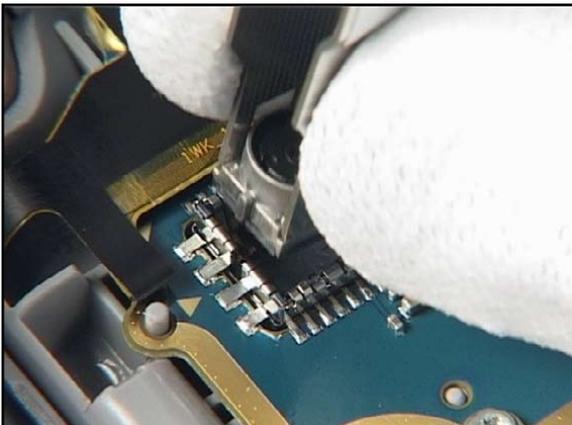
6. Release the clips shown, on both sides.



7. Shift the B-Cover Assy to the hinge direction and lift it up.



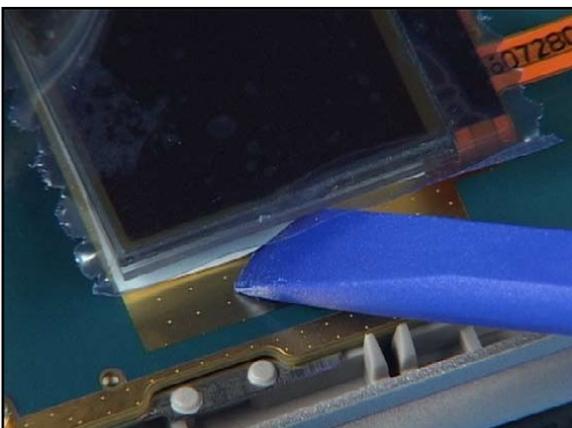
8. Cover the LCD PM with a protective film.



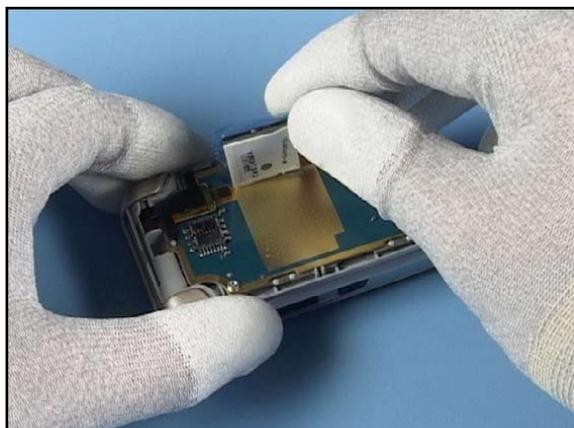
9. Carefully release and remove the CAMERA MODULE with the SS-88 Camera removal tool.



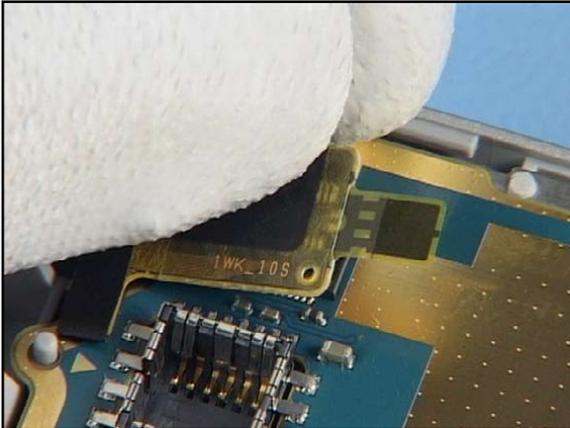
10. Disconnect the flex connector.



11. Carefully release the adhesive of the LCD PM with the SS-93.



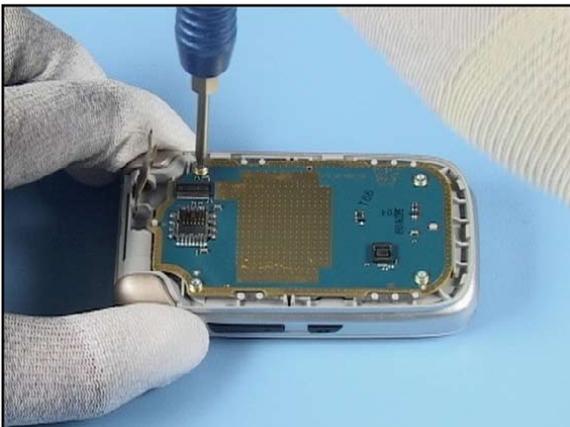
12. Remove the LCD PM.



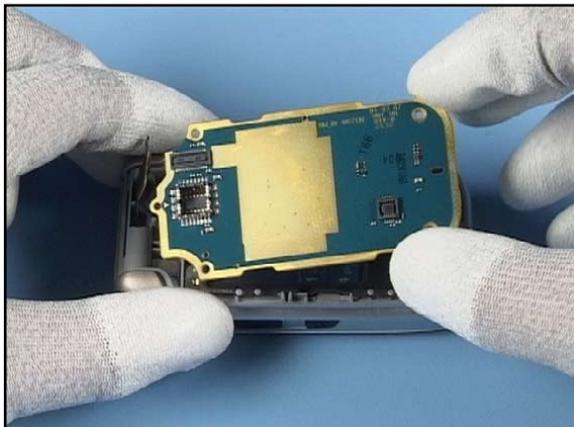
13. Disconnect the flex connector.



14. Fit the Torx Plus size 6 bit.



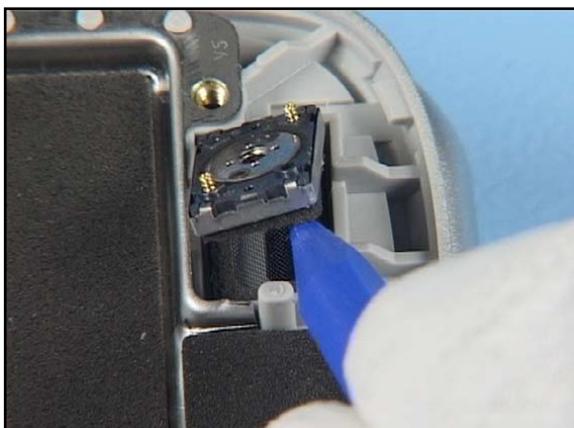
15. Unscrew the four screws and remove them.



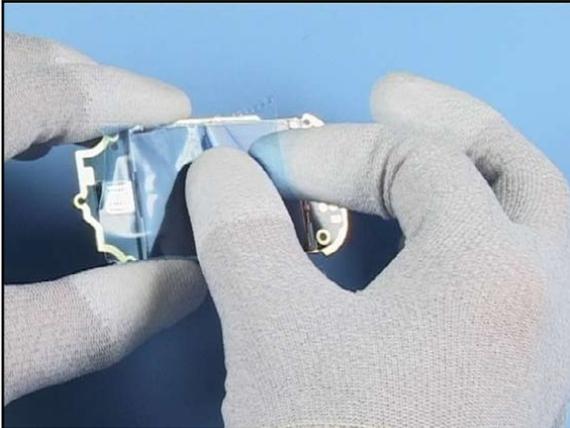
16. Lift out the PWB 1WJ.



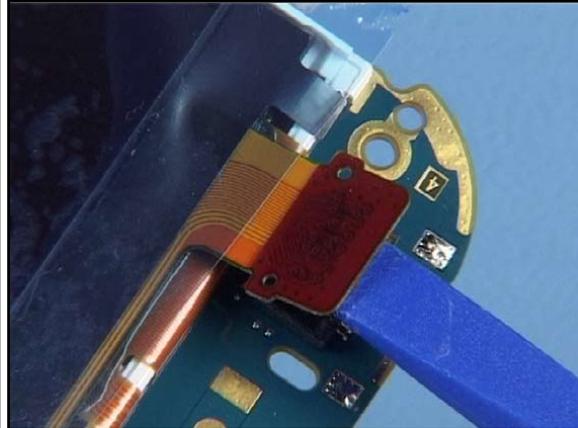
17. Cover the innerside window with a plastic film.



18. Carefully lift out the EARPIECE. Note that the Speaker Gasket will be destroyed during the removal, and must be replaced when reassemble.



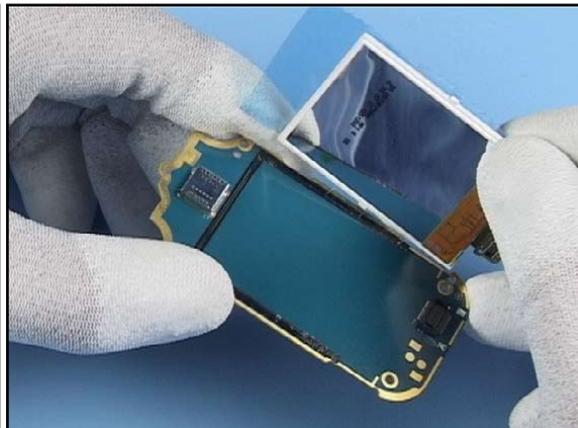
19. Cover the display with a plastic film.



20. Release the flex connector.



21. Release the LCD BACK ADHESIVE with the SS-93.



22. Carefully remove the LCD CSDN.



23. Push out the glued in LCD WINDOW.



24. Unlock the clips of the ANTENNA CAP.



25. Remove the cap as shown.



26. Bend down the hinge module with the SS-6 first. Note that the SS-6 is very delicate and can be break easily.



27. Now lock the HINGE with a torx bit size 6 or similar.



28. Now, the A-COVER UPPER ASSEMBLY can be removed easily. Mind the flex foil. The Hinge can be pulled out after the spring expanding carefully if needed.



29. The disassembly procedure is now completed.

## 8. UPPER BLOCK ASSEMBLY



1. Assembly



2. Place the A-COVER UPPER ASSEMBLY. After locking the HINGE is shown.



3. Mind the flex foil.



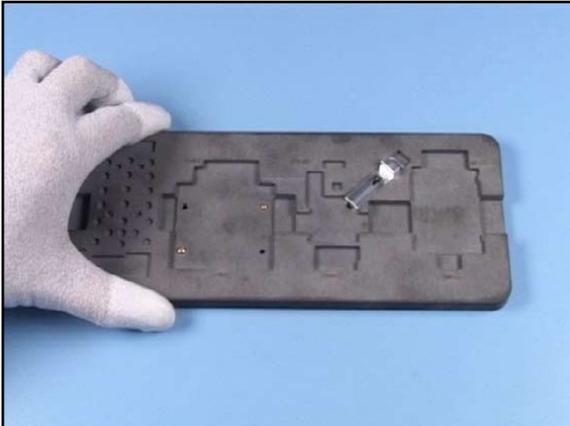
4. Now expand the HINGE MODULE by removing the tool.



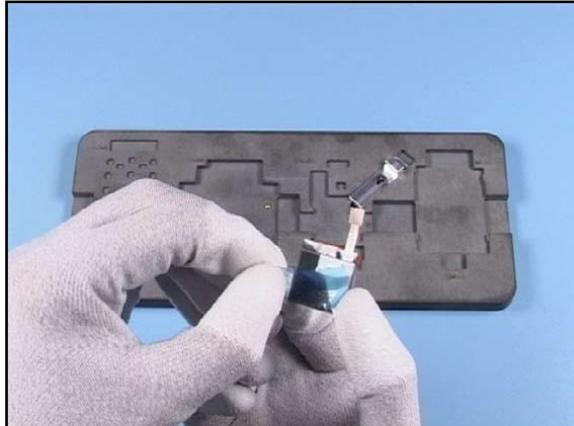
5. Ensure that the hinge expands completely before going on.



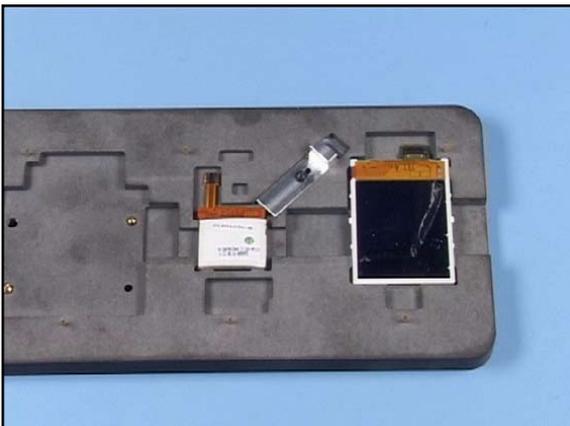
6. Place the ANTENNA CAP and click it into its place.



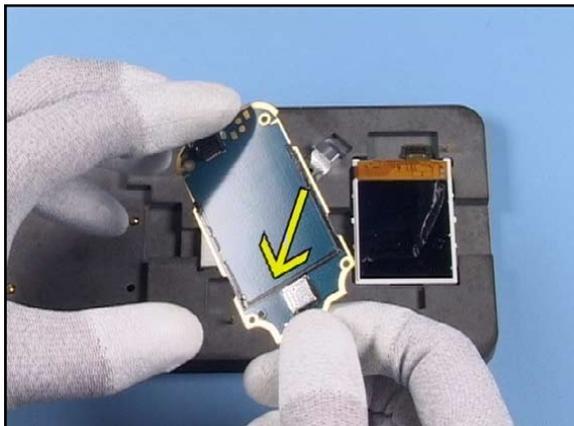
7. Use the SS-104 jig for positioning the displays and gasket correctly.



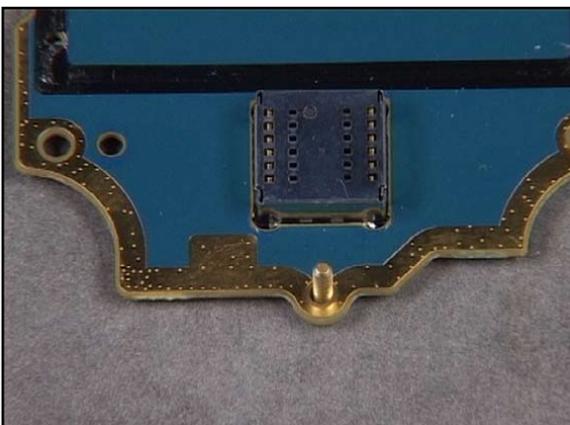
8. Peel up the protective films from the displays.



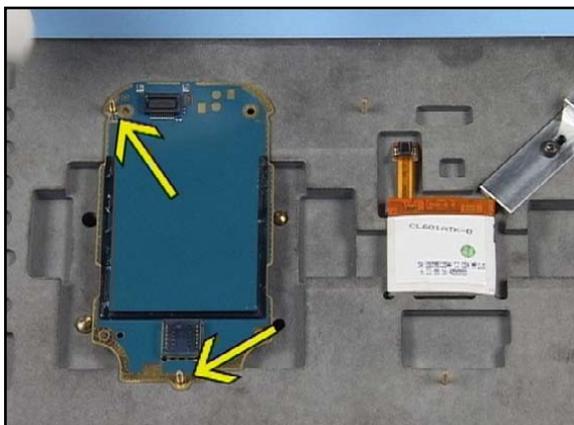
9. Place the displays into their compartments as shown.



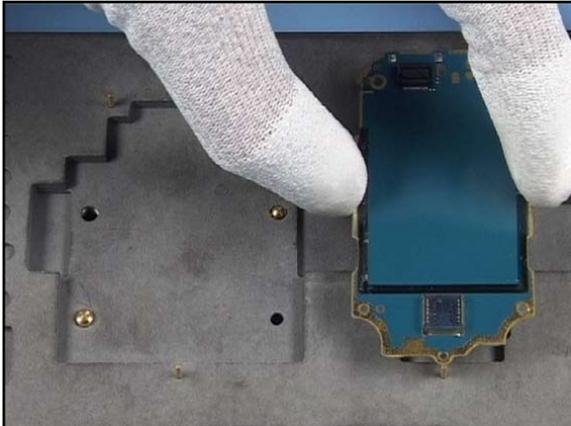
10. Fit new gaskets on the PWB 1WJ for both displays.



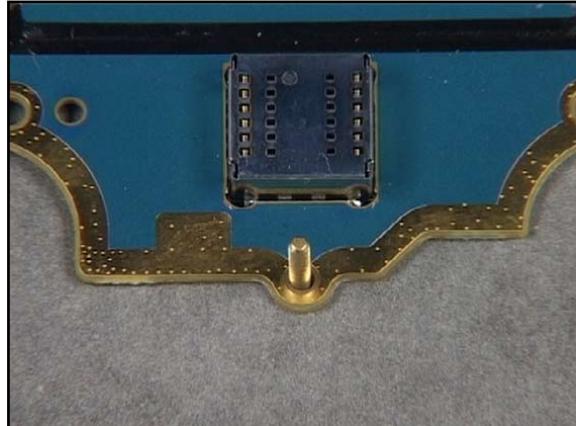
11. Now position the PWB to the guides of the jig.



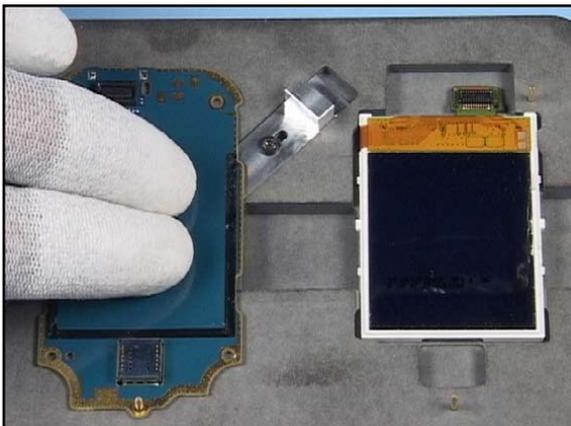
12. Both guides must be fitted correctly.



13. Place the PWB over the LCD PM first.



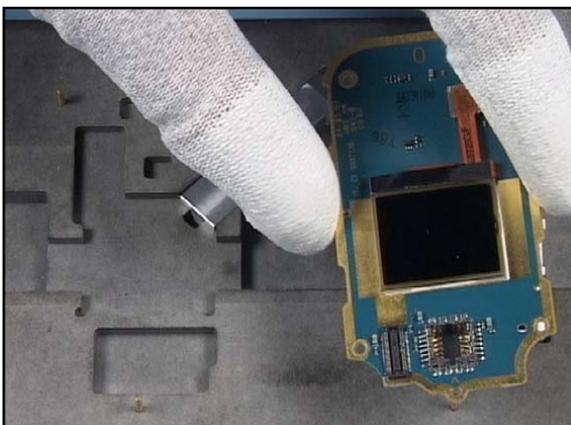
14. Mind the guides.



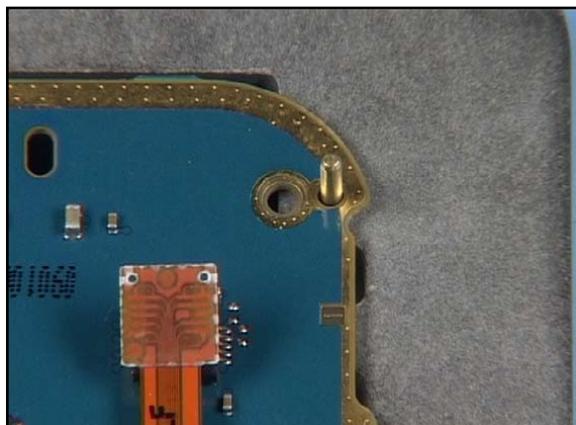
15. Push it down evenly.



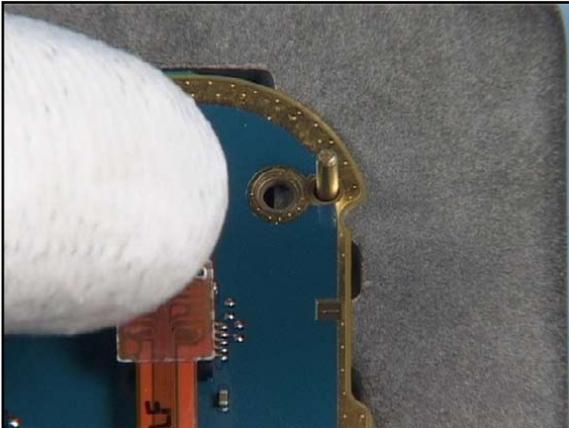
16. Release the lever and remove the PWB.



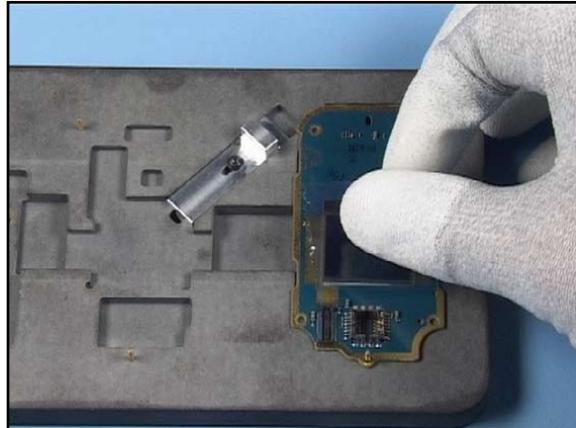
17. Position the PWB to the LCD CSTN.



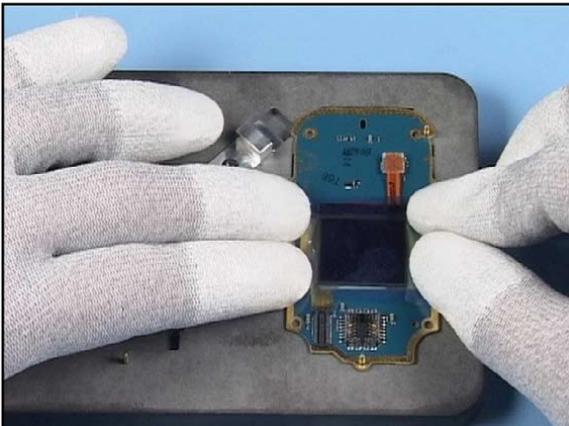
18. Again - mind the guides.



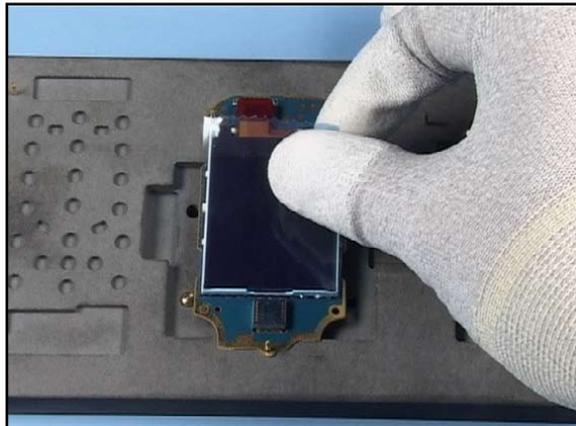
19. Close the flex connector.



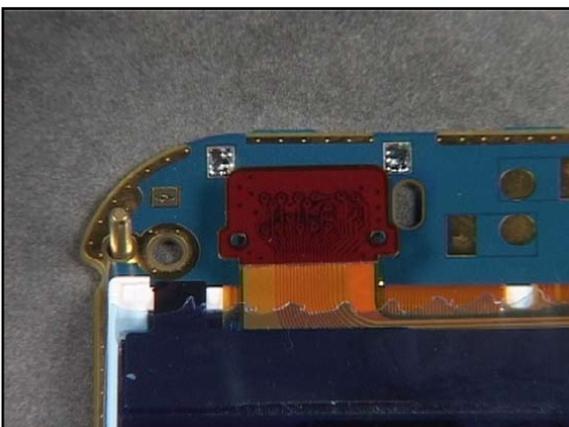
20. Cover the LCD with a protective film.



21. Smooth down the PWB evenly.



22. Cover the LCD CSTN with a protective film, too.



23. Close the flex connector.



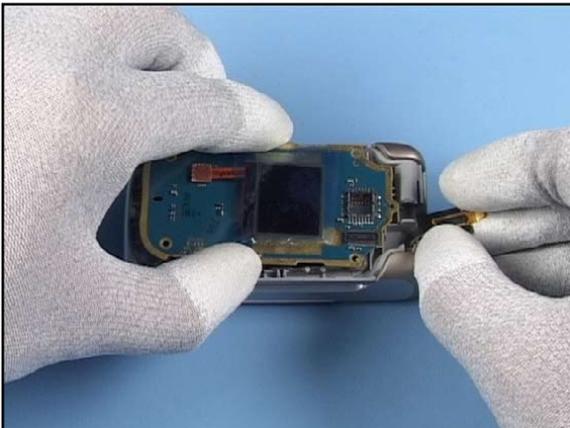
24. Insert the EARPIECE into ist recess. Note that a new speaker gasket must be fitted first.



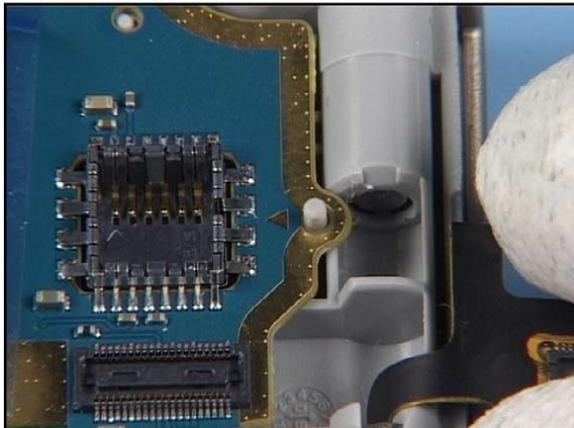
25. Push it down evenly.



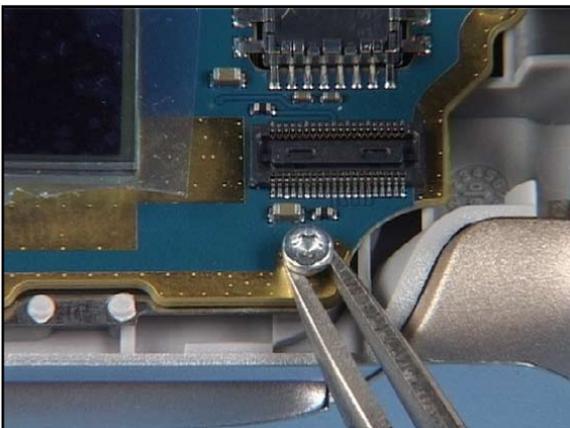
26. Remove the protective film.



27. Place the PWB into the A-COVER ASSEMBLY.



28. Mind the guides.



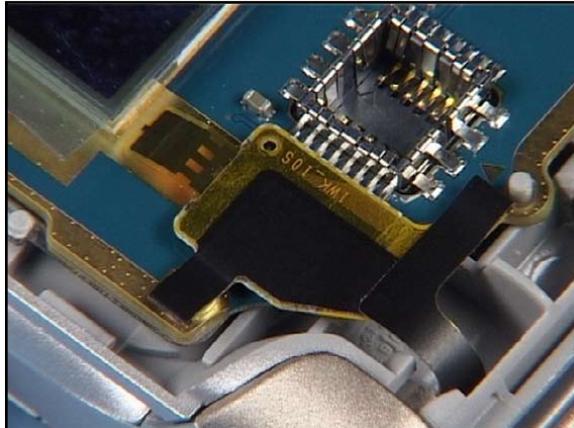
29. Insert the screws.



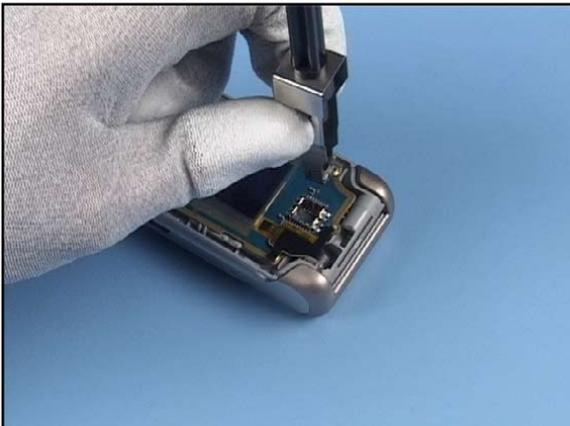
30. Set the correct torque.



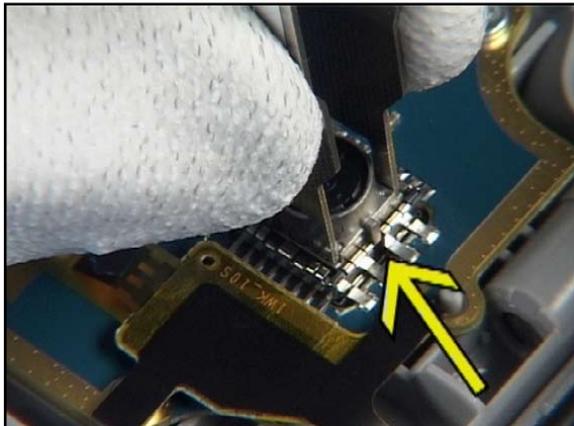
31. Tighten all screws.



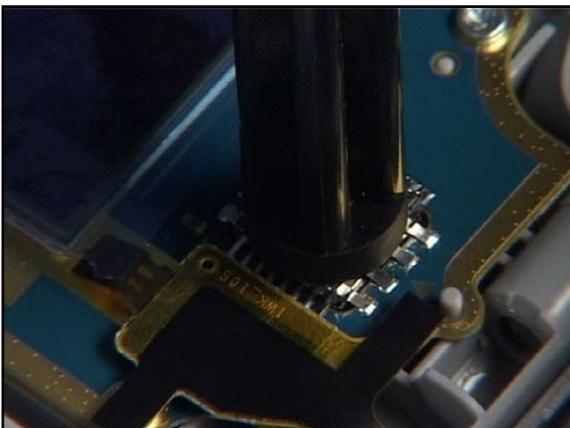
32. Close this connector.



33. Insert the CAMERA MODULE with the SS-88.



34. Note the alignment tab.



35. Push it down evenly.



36. Remove the protective film.



37. Fit a new SECONDARY GASKET to the B-COVER ASSEMBLY if not already done.



38. Place the B-COVER at the shown side first and shift it into the correct position.



39. Click all snaps into their places.



40. Note the correct positioning of the rear clips.



41. Open the unit, check the display and window for cleanness.

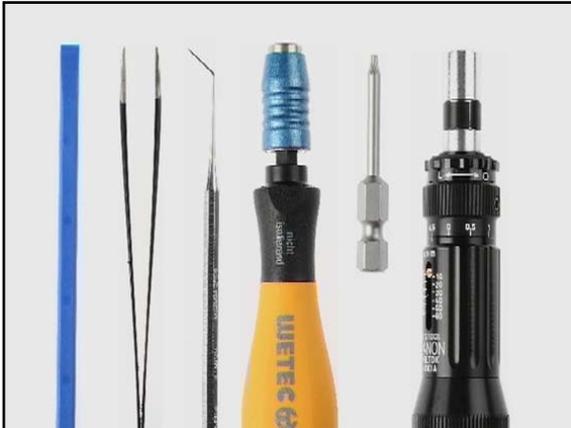


42. Fit the new LCD WINDOW, beginning at the hinge side.



43. Smooth it down evenly.

## 9. LOWER BLOCK DISASSEMBLY



1. Needed tools: The SS-93, metall tweezers, a dental pick, a bitholder, a Torx Plus size 6 bit and a torque driver.



2. Cover the windows with a protective film.



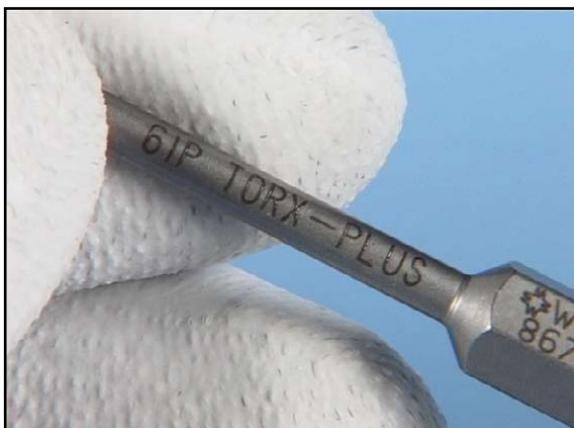
3. Unlock both latches of the ANTENNA CAP.



4. Open the assembly, release both upper clips of the ANTENNA CAP.



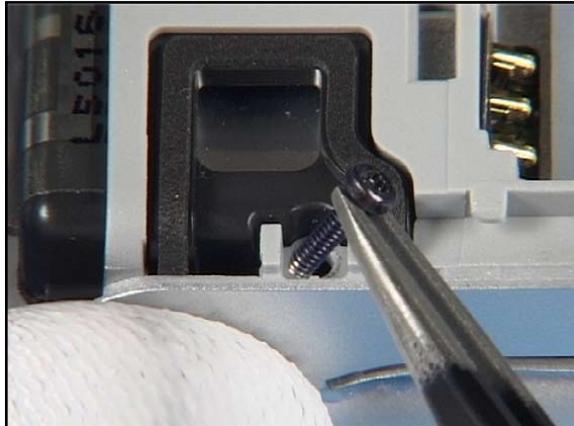
5. Now, the cap can be removed easily.



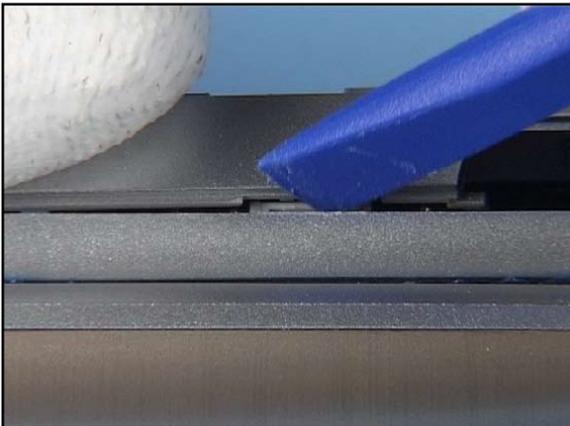
6. Fit the Torx Plus size 6 bit.



7. Unscrew the four screws.



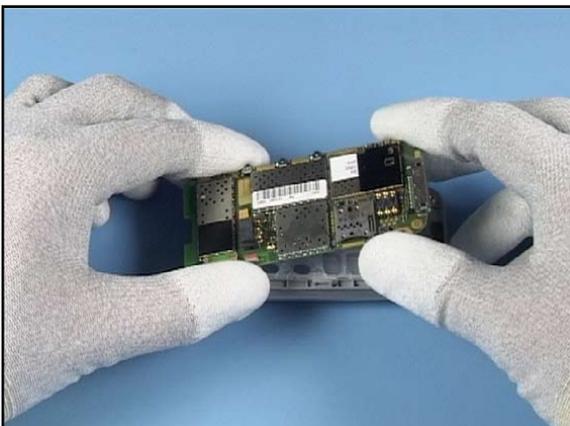
8. Remove the screws.



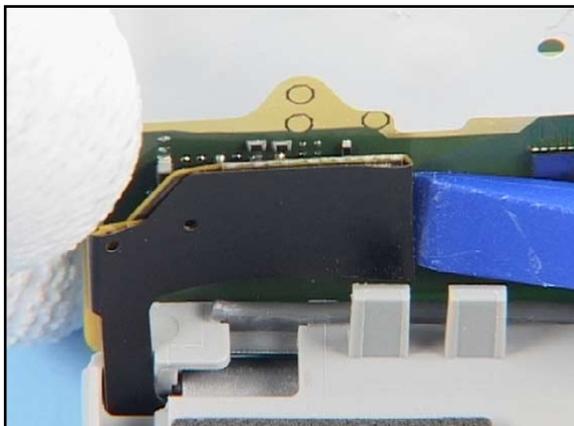
9. Gently pry open the C-COVER with the SS-93.



10. Carefully lift up the cover.



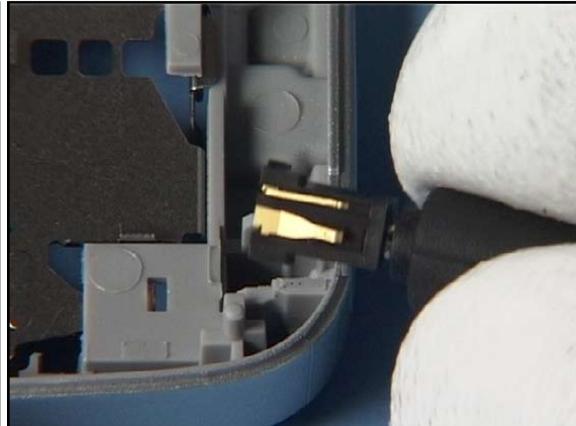
11. Lift up the ENGINE MODULE, keep in mind that the flex foil is still connected.



12. Open the connector with the SS-93.



13. Push out the KEYMAT.



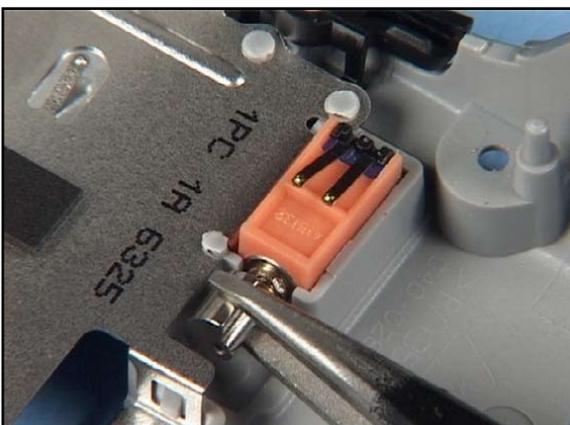
14. Remove the DC JACK with the DC PLUG.



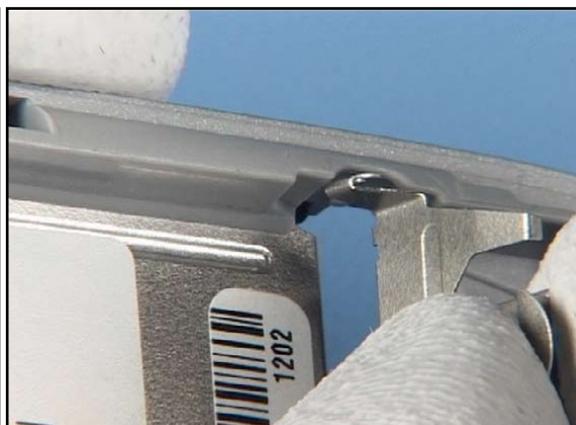
15. Ease the MICROPHONE with the dental pick.



16. Carefully bend the C-COVER as shown to release the clips holding the ANTENNA COVER.



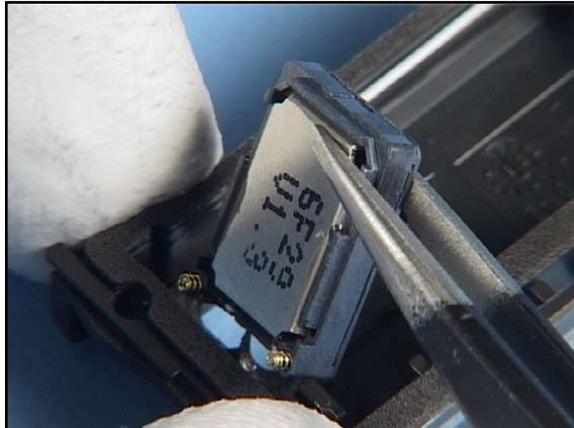
17. Lever out the VIBRA MOTOR.



18. Release one clip of the SIM LID and remove it.



19. Lever out the IHF SPEAKER with the SS-93 first.



20. Remove it with tweezers now. Bear in mind that the IHF GASKET will be destroyed during the removal and must be renewed when reassembly.

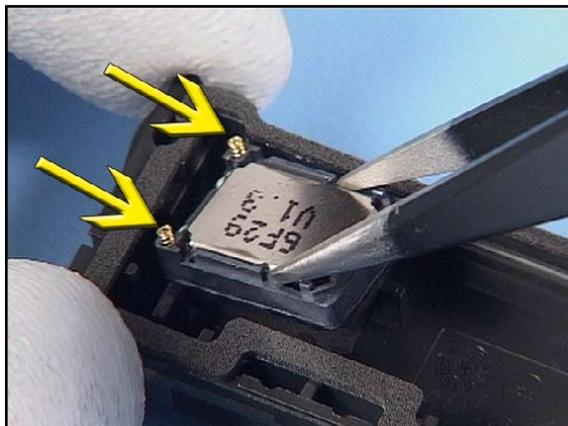


21. The disassembly procedure is now finished.

## 10. LOWER BLOCK ASSEMBLY



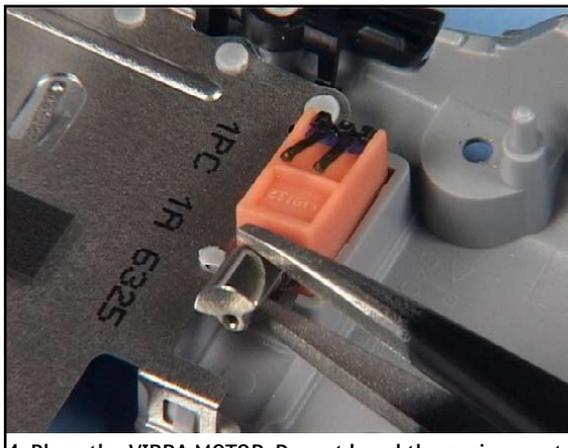
1. Assembly



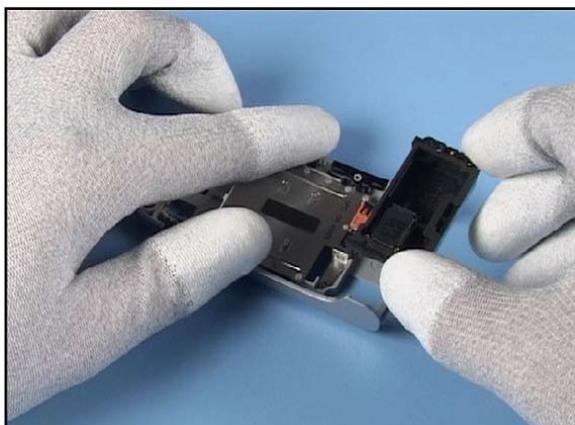
2. Fit a new IHF GASKET and place the IHF SPEAKER into the ANTENNA MODULE. Mind the correct positioning of the spring contacts. Smooth it down evenly.



3. Insert the SIM LID and close it.



4. Place the VIBRA MOTOR. Do not bend the spring contacts.



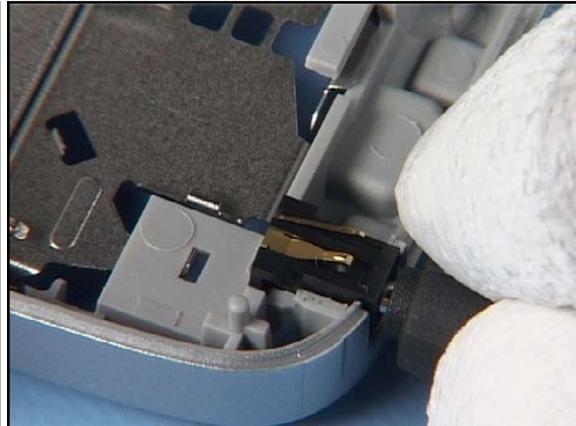
5. Click the ANTENNA MODULE into the C-COVER.



6. Ensure ist correct positioning.



7. Insert the MICROPHONE.



8. And the DC JACK.



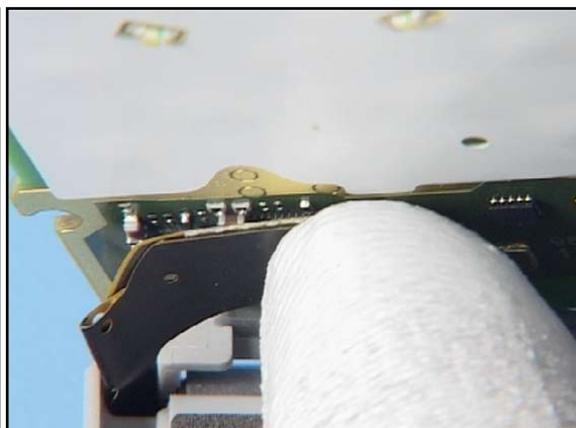
9. Place the KEYMAT.



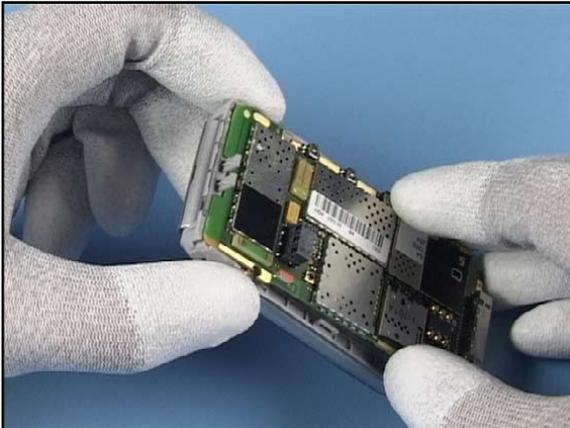
10. Mind the correct positioning.



11. Bring the ENGINE MODULE into position near the hinge.



12. Close the flex connector.



13. Position the ENGINE MODULE into the cover.



14. Now align the C-COVER above the A-COVER and push it down evenly.



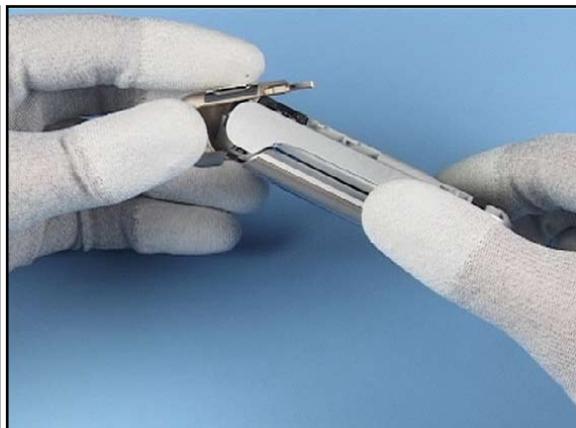
15. Insert the screws.



16. Set the correct torque.



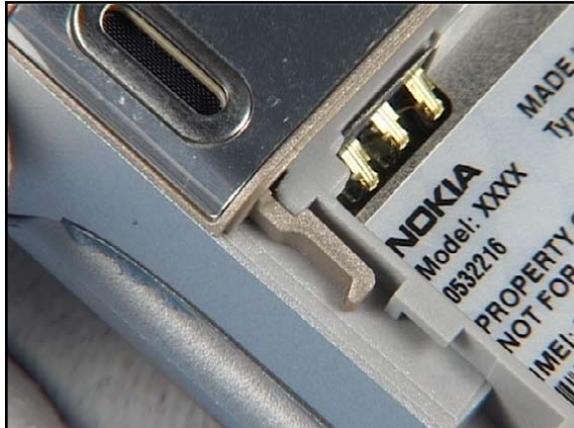
17. Apply the torque to all screws.



18. Fit the ANTENNA CAP.



19. Click the snaps into their places, beginning from the upper side of the ANTENNA CAP.

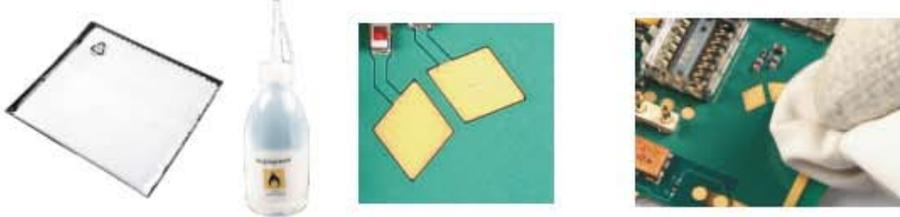
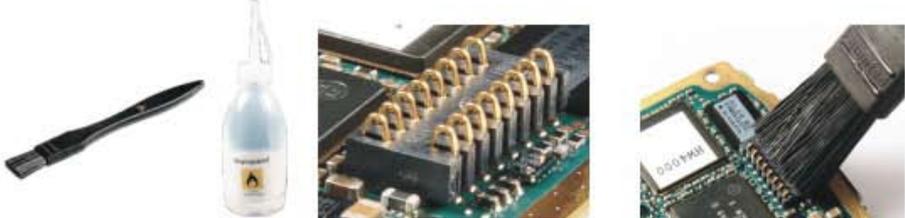


20. Note the correct positioning of the snaps before going on.

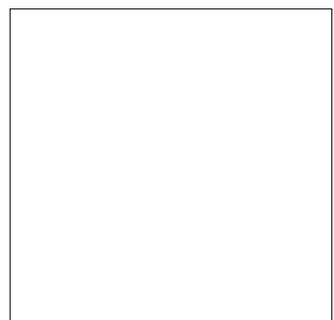
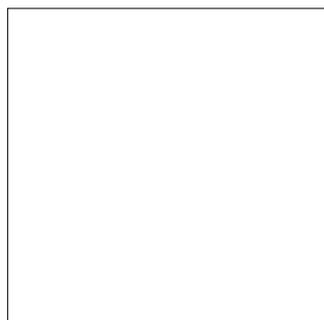
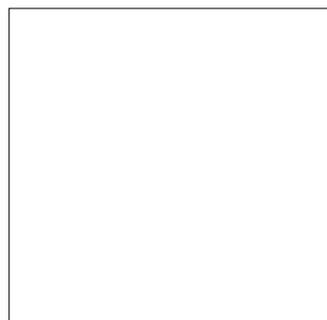
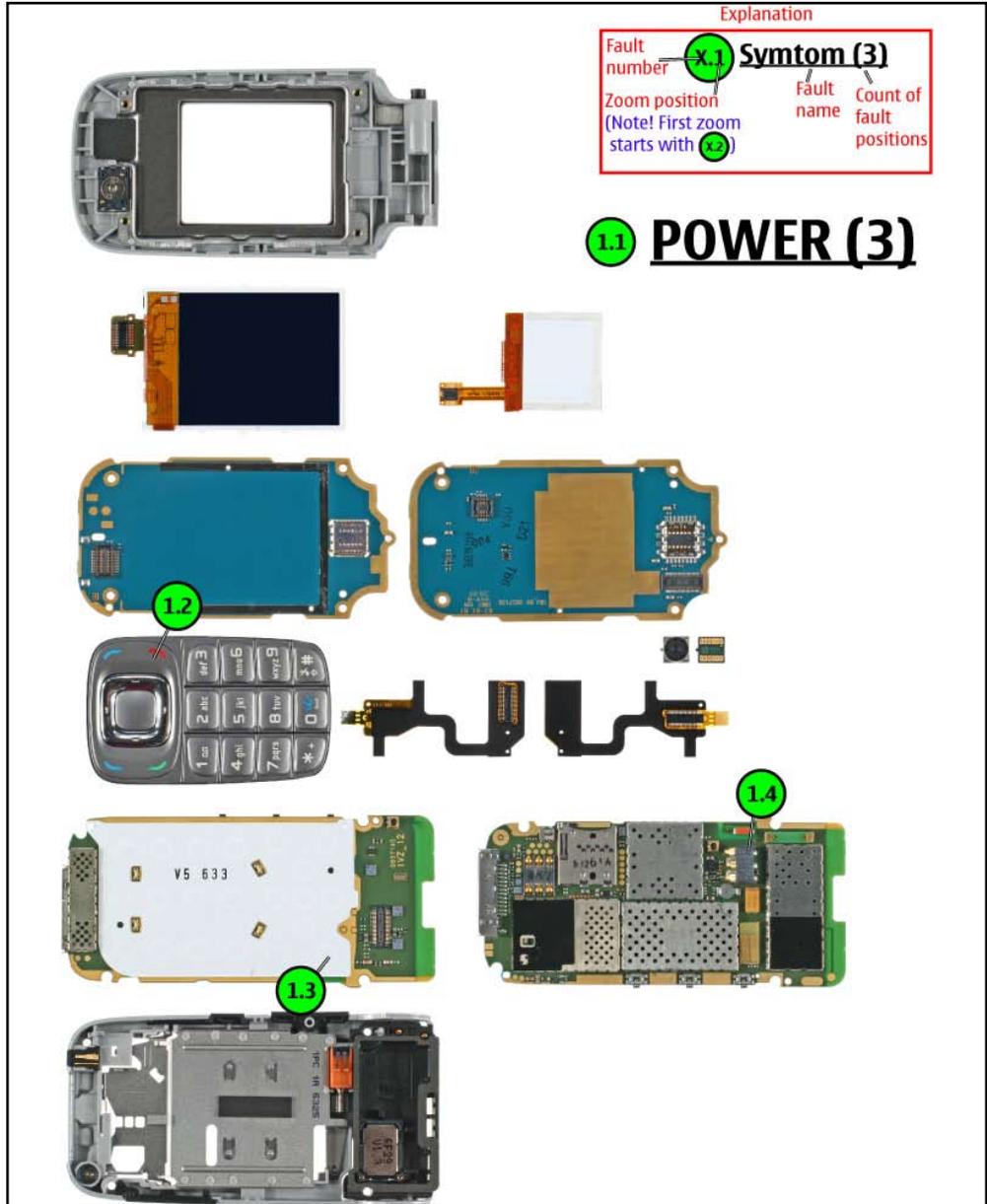
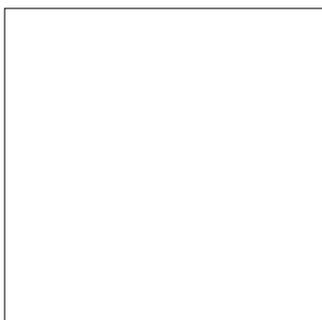
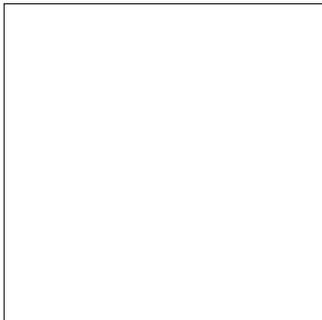
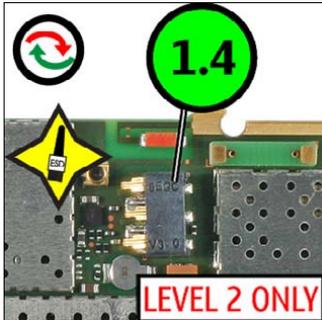
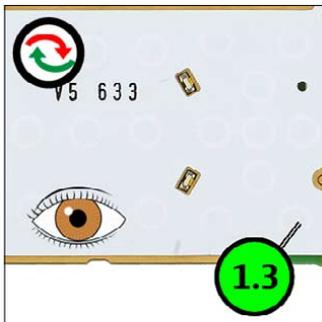


21. Complete the assembly with the BATTERY COVER.

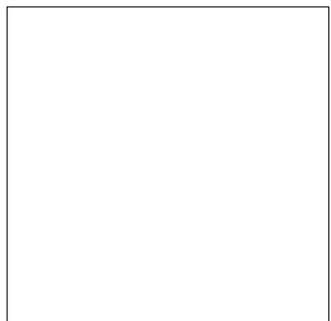
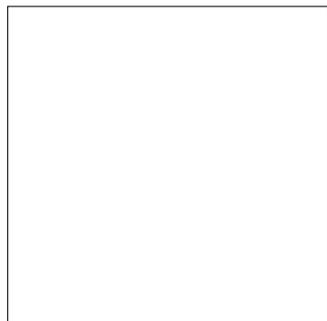
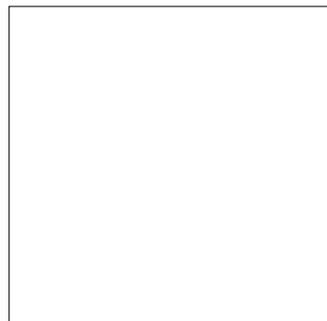
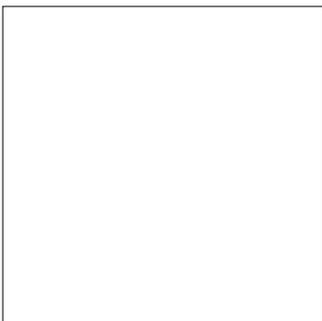
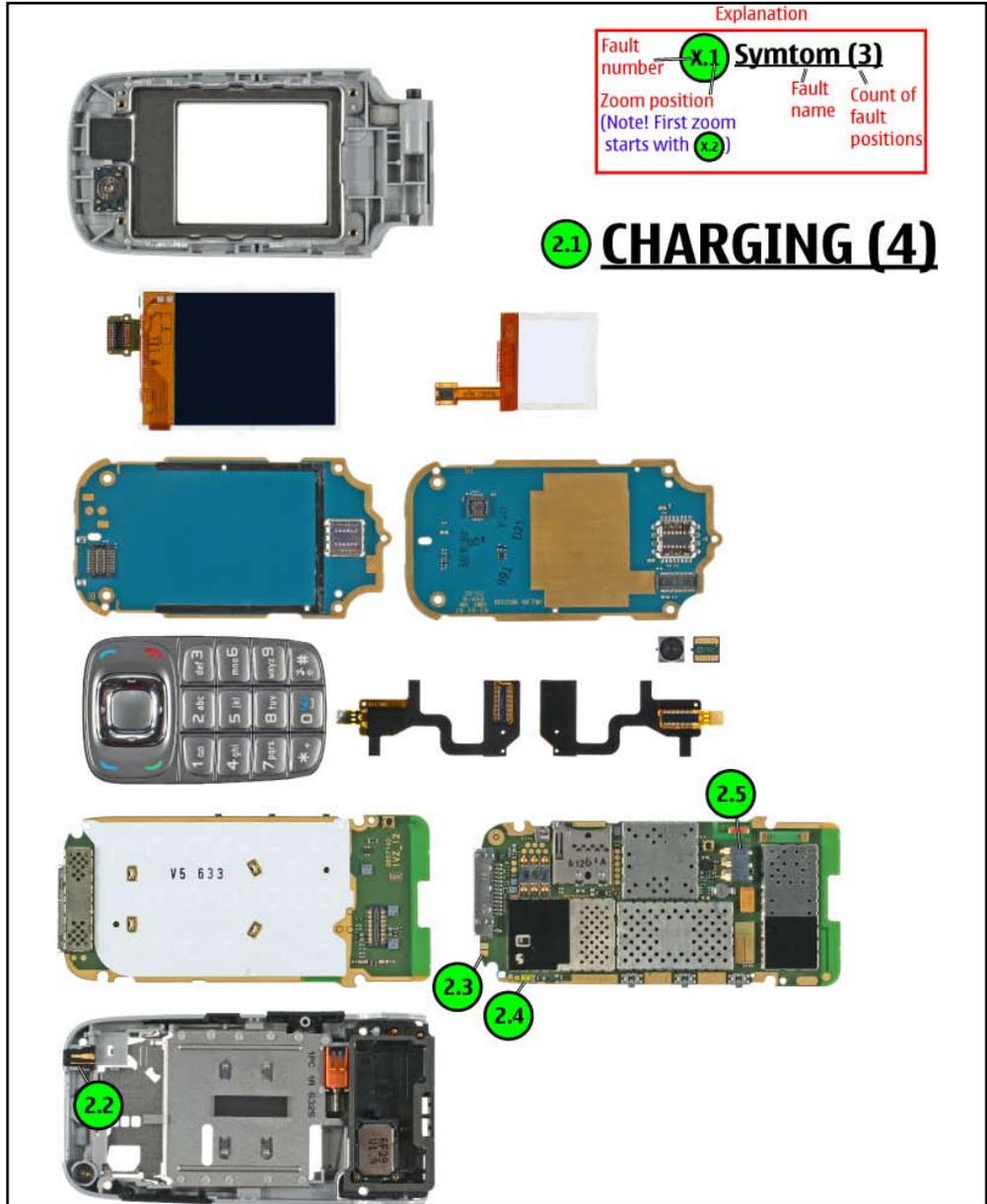
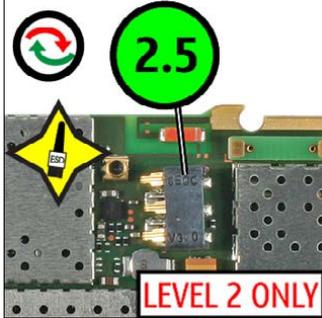
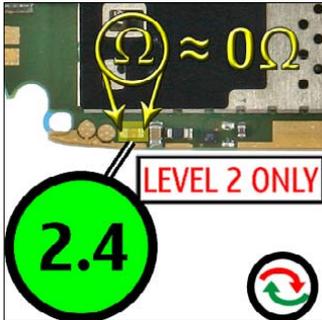
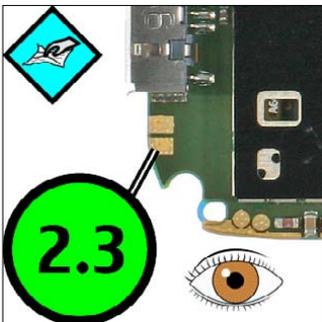
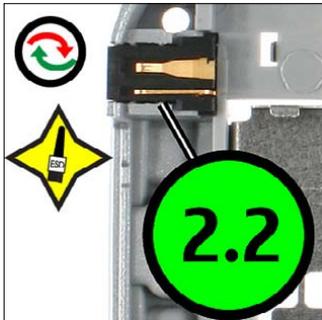
## 11.LEGEND FOR QUICK TROUBLE SHOOTER

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.	
	Check the mechanical condition of the component (bent, broken or missing).
	Only marked components can be replaced. If additionally " <b>=CHANGE ASSY</b> " appears, then change the whole assembly (e.g. A4=D-COVER ASSEMBLY).
	<b>Cloth usage:</b> Check pads or contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary. 
	Measure component for electrical functionality and change, if needed. (Level 2 only) 
	<b>ESD Brush usage:</b> Check contacts for optical and mechanical condition particularly regarding to corrosion. Clean it if necessary. 
	<p>Explanation</p> <div style="border: 1px solid red; padding: 5px;"> <p><b>1.1 Syntom (3)</b></p> <p>Zoom position (Note! First zoom starts with <b>1.2</b>)</p> <p>Fault name</p> <p>Count of fault positions</p> </div>

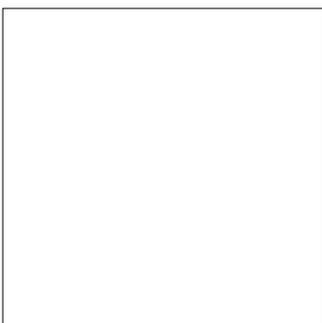
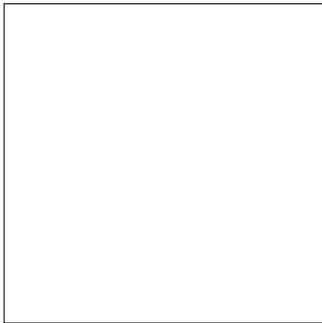
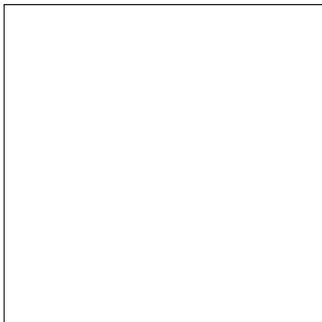
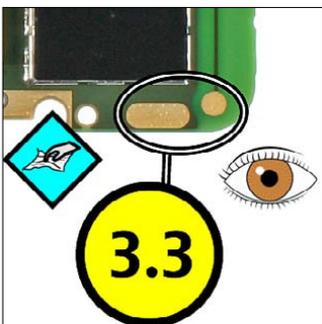
**12. QUICK TROUBLE SHOOTER - POWER ON**



### 13. QUICK TROUBLE SHOOTER - CHARGING



**14. QUICK TROUBLE SHOOTER - NO SERVICE**

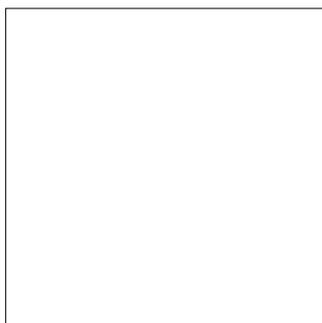
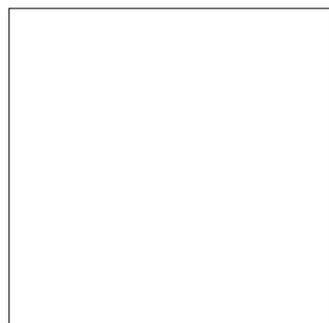


Explanation

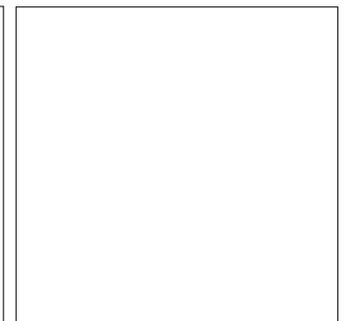
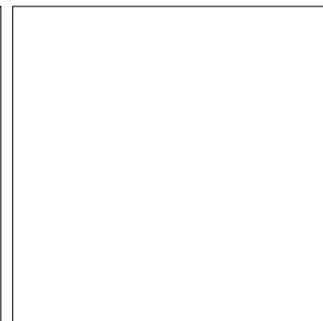
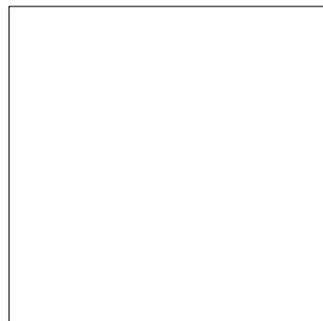
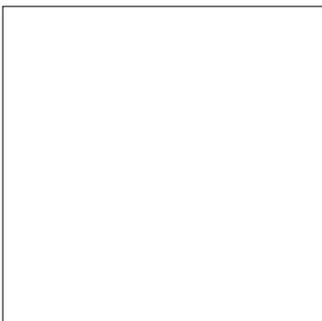
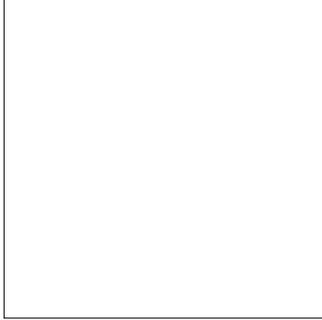
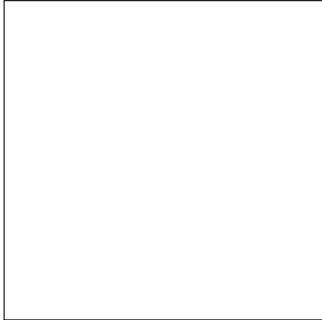
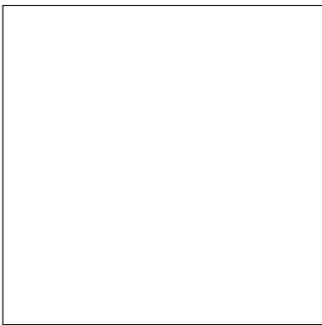
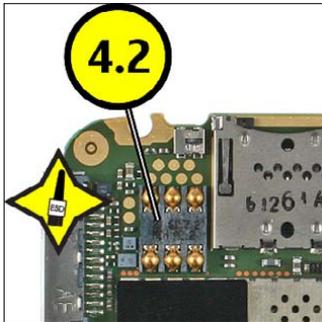
Fault number	<b>X.1</b>	<b>Symtom (3)</b>
Zoom position (Note! First zoom starts with X2)	<b>X2</b>	
		Fault name
		Count of fault positions

3.1

NO SERVICE (2)



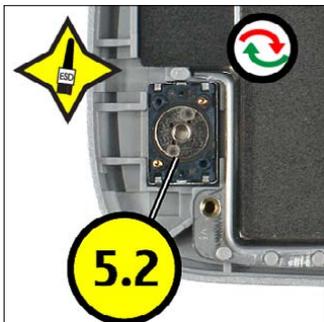
## 15. QUICK TROUBLE SHOOTER - SIM



**16. QUICK TROUBLE SHOOTER - EARPIECE**

Explanation

Fault number	x.1	<b>Symtom (3)</b>
Zoom position (Note! First zoom starts with x.2)	x.2	
		Fault name
		Count of fault positions



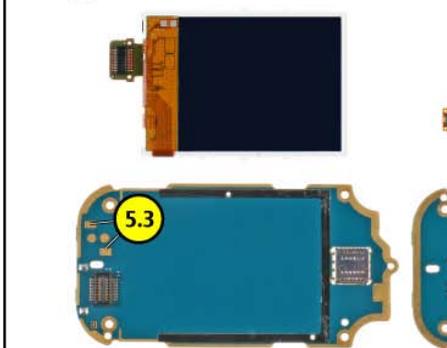
5.2



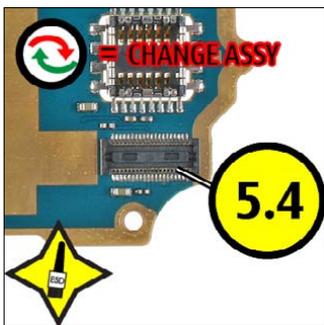
5.2



5.3



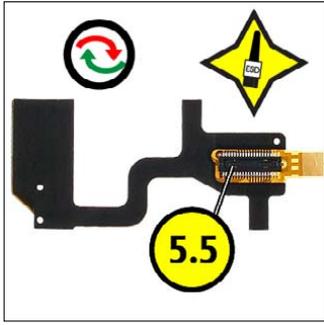
5.3



5.4



5.4



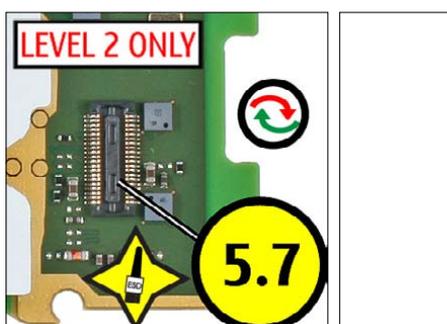
5.5



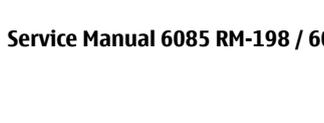
5.5



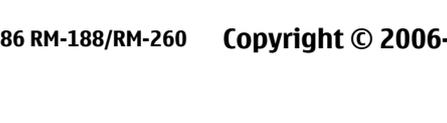
5.6



5.6

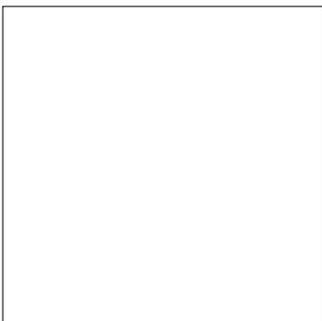
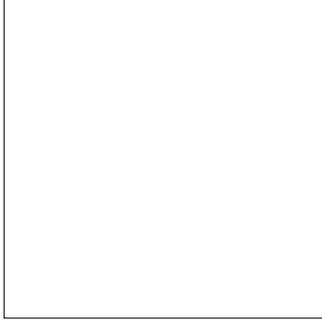
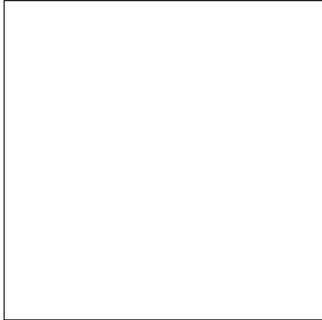
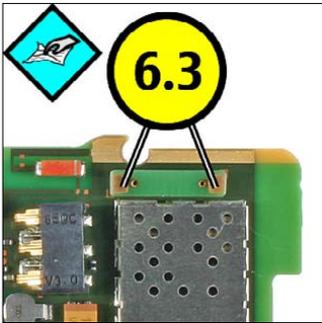
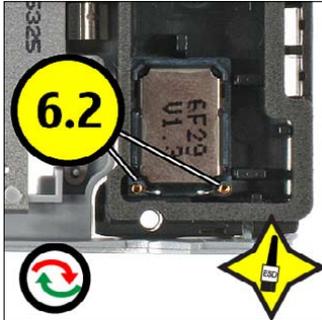


5.7



5.7

**17. QUICK TROUBLE SHOOTER - IHF SPEAKER**

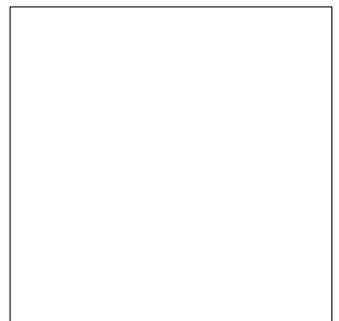
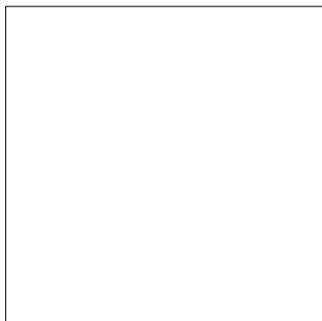
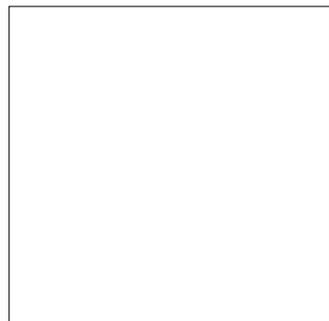


Explanation

Fault number	X.1	<b>Symtom (3)</b>
Zoom position (Note! First zoom starts with	X.2)	
	Fault name	Count of fault positions

**6.1 IHF SPEAKER (2)**

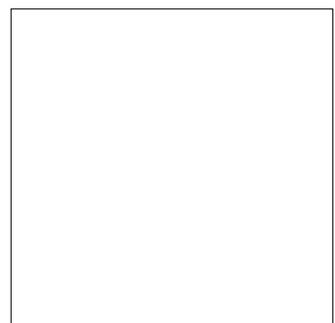
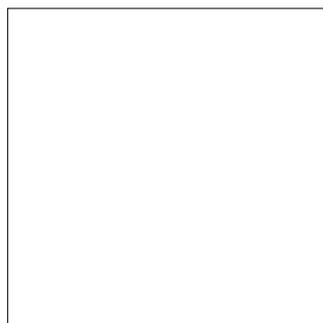
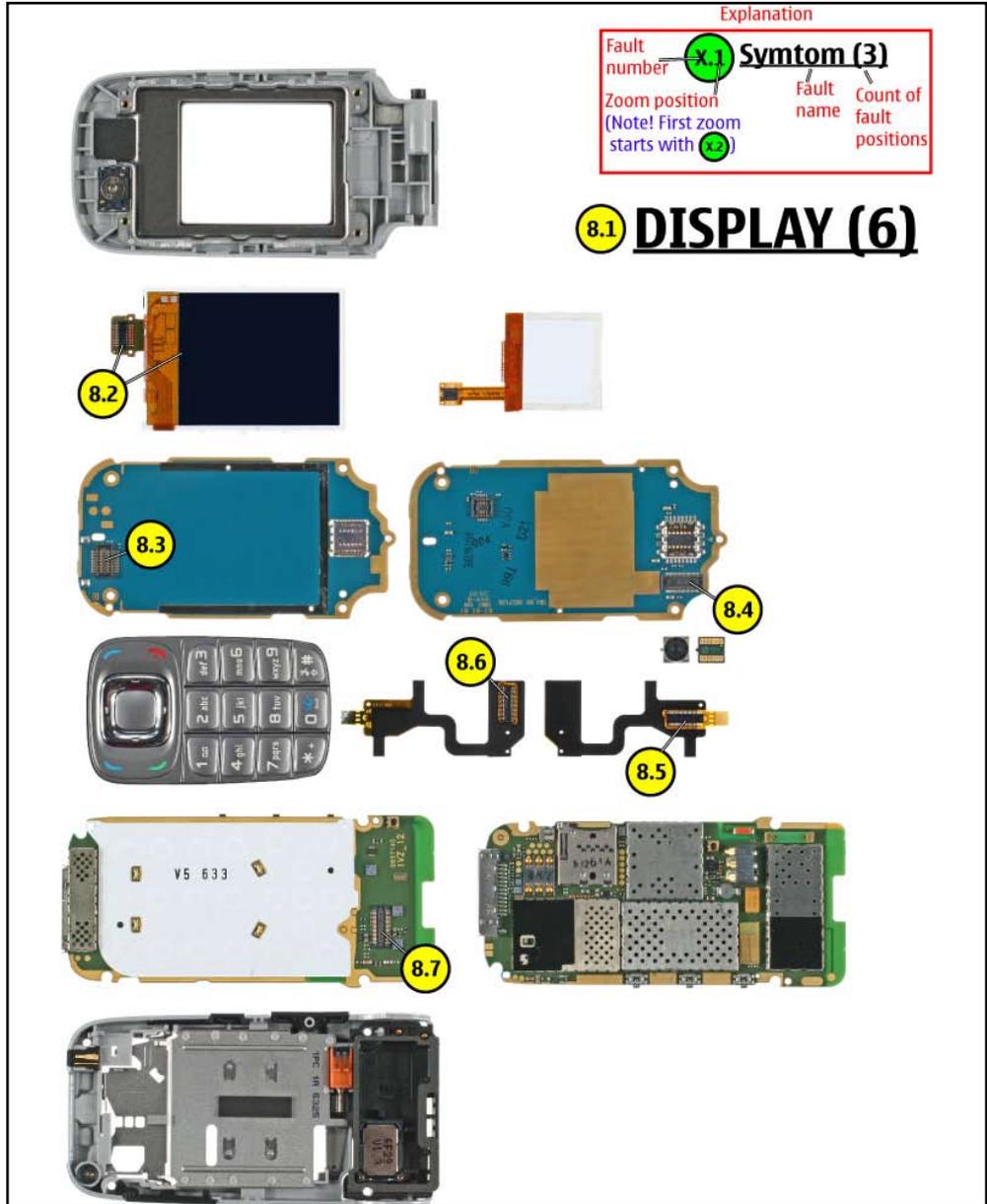
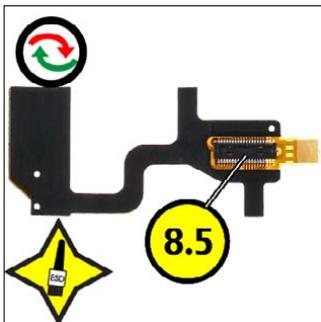
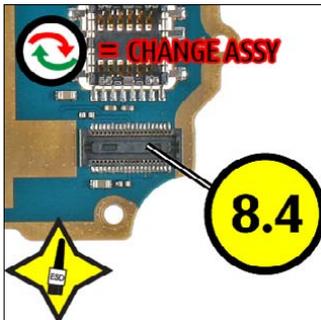
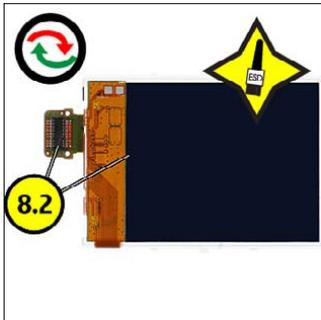
**6.2**



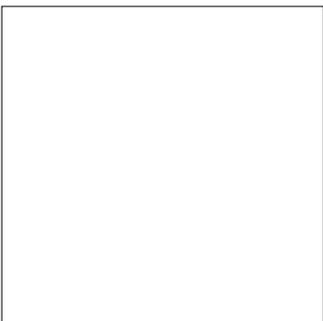
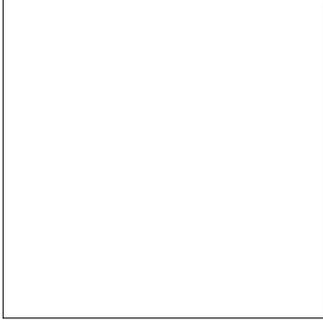
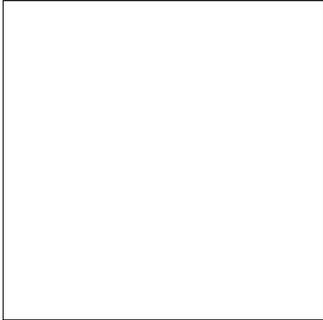
**18. QUICK TROUBLE SHOOTER - DISPLAY SMALL**

		Explanation	
Fault number	Zoom position (Note! First zoom starts with X.2)	Symtom (3)	
		Fault name	Count of fault positions
	X.1	<b>LCD PM 69X68 (6)</b>	6
	X.2		
	X.3		
	X.4		
	X.5		
	X.6		

**19. QUICK TROUBLE SHOOTER - DISPLAY**



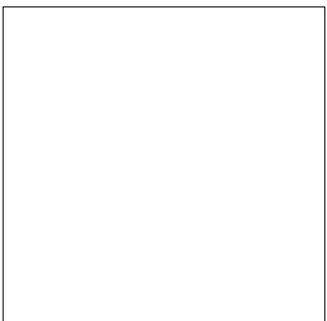
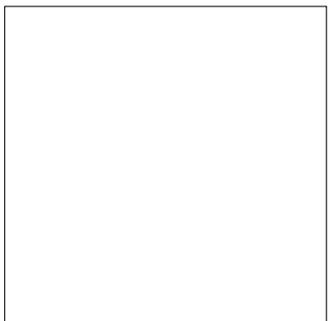
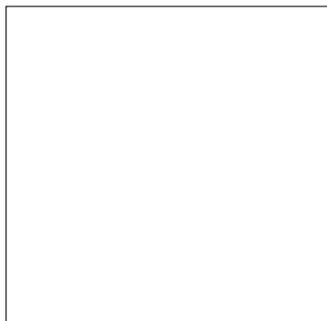
**20. QUICK TROUBLE SHOOTER - MICROPHONE**



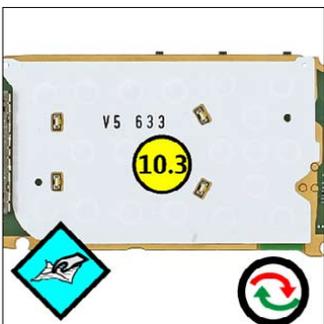
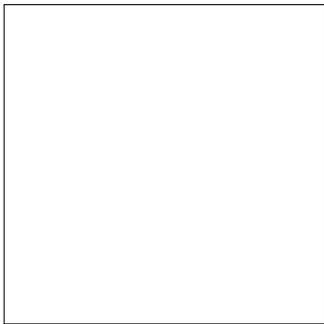
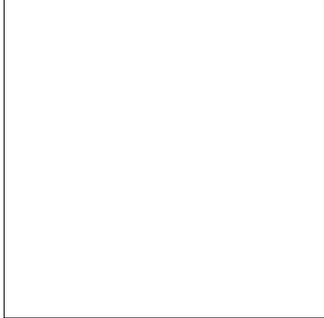
Explanation

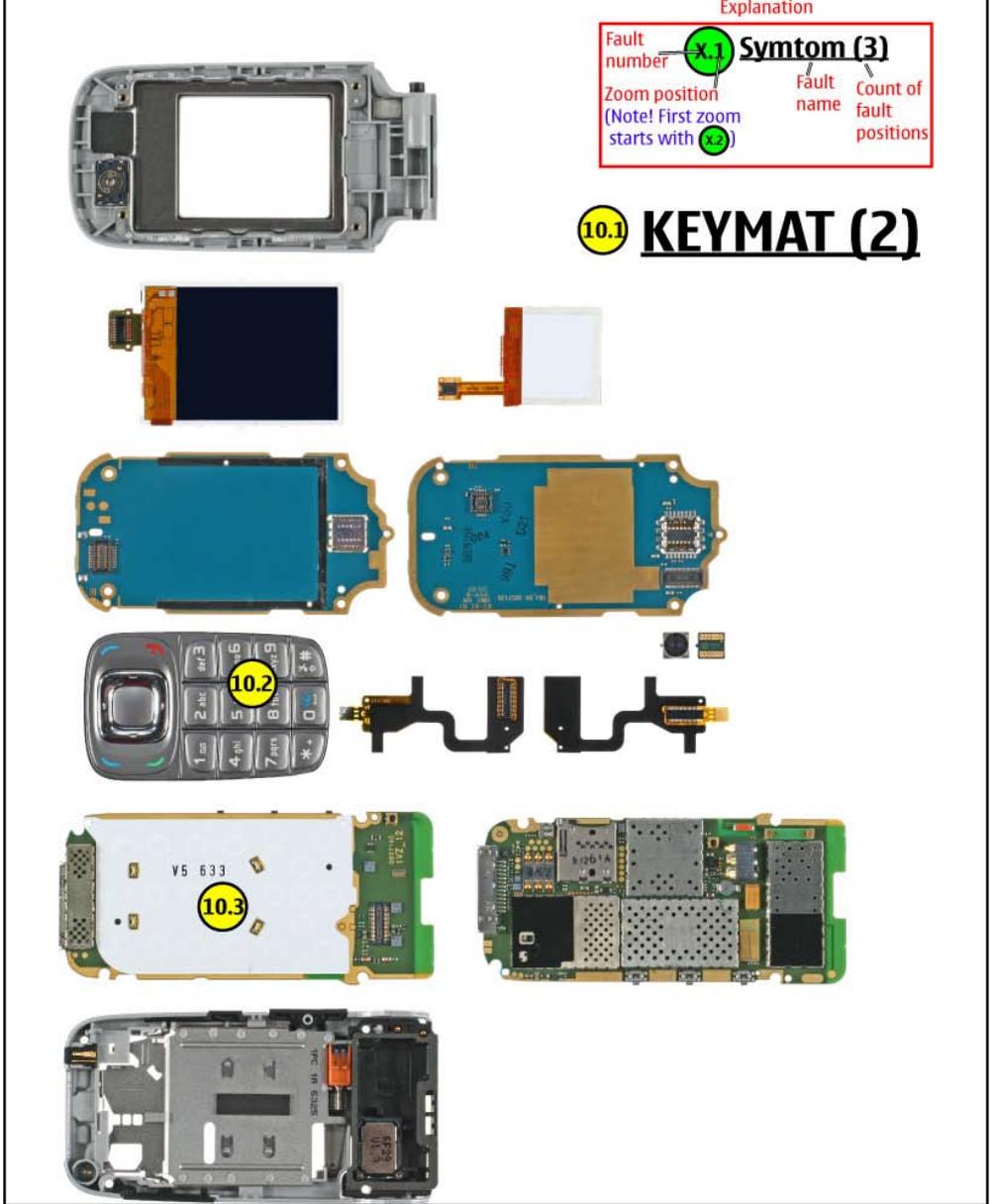
Fault number	9.3	<b>Symtom (3)</b>	Fault name	Count of fault positions
Zoom position (Note! First zoom starts with 9.2)	9.2			

**9.1 MICROPHONE (2)**



## 21. QUICK TROUBLE SHOOTER - KEYMAT

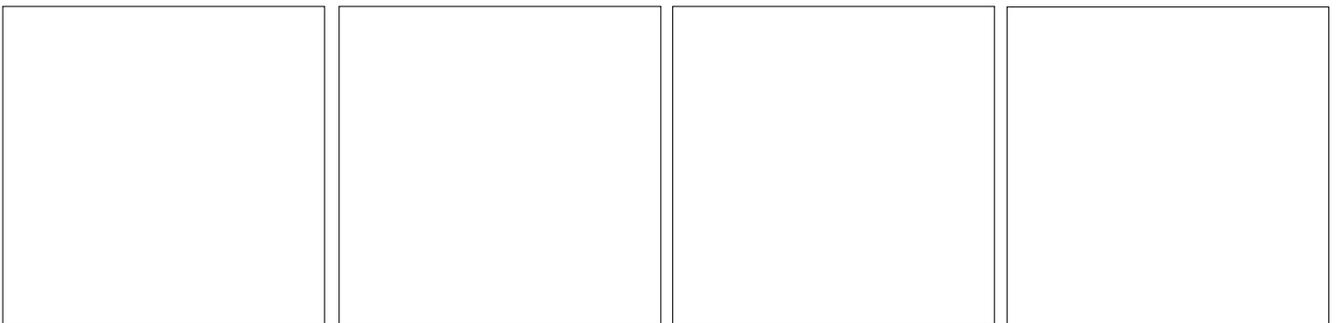







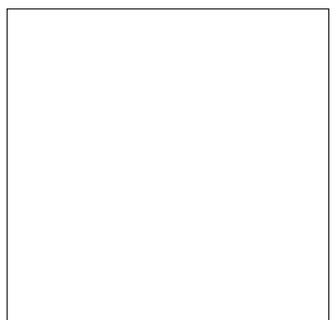
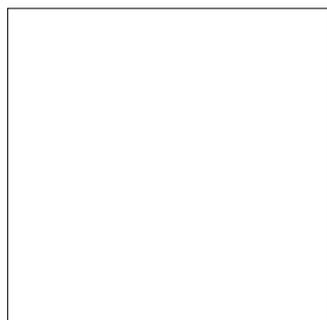
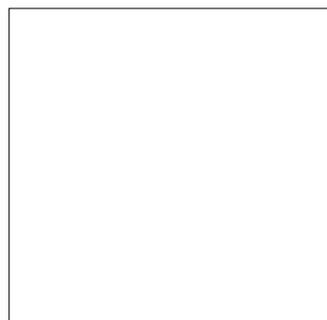
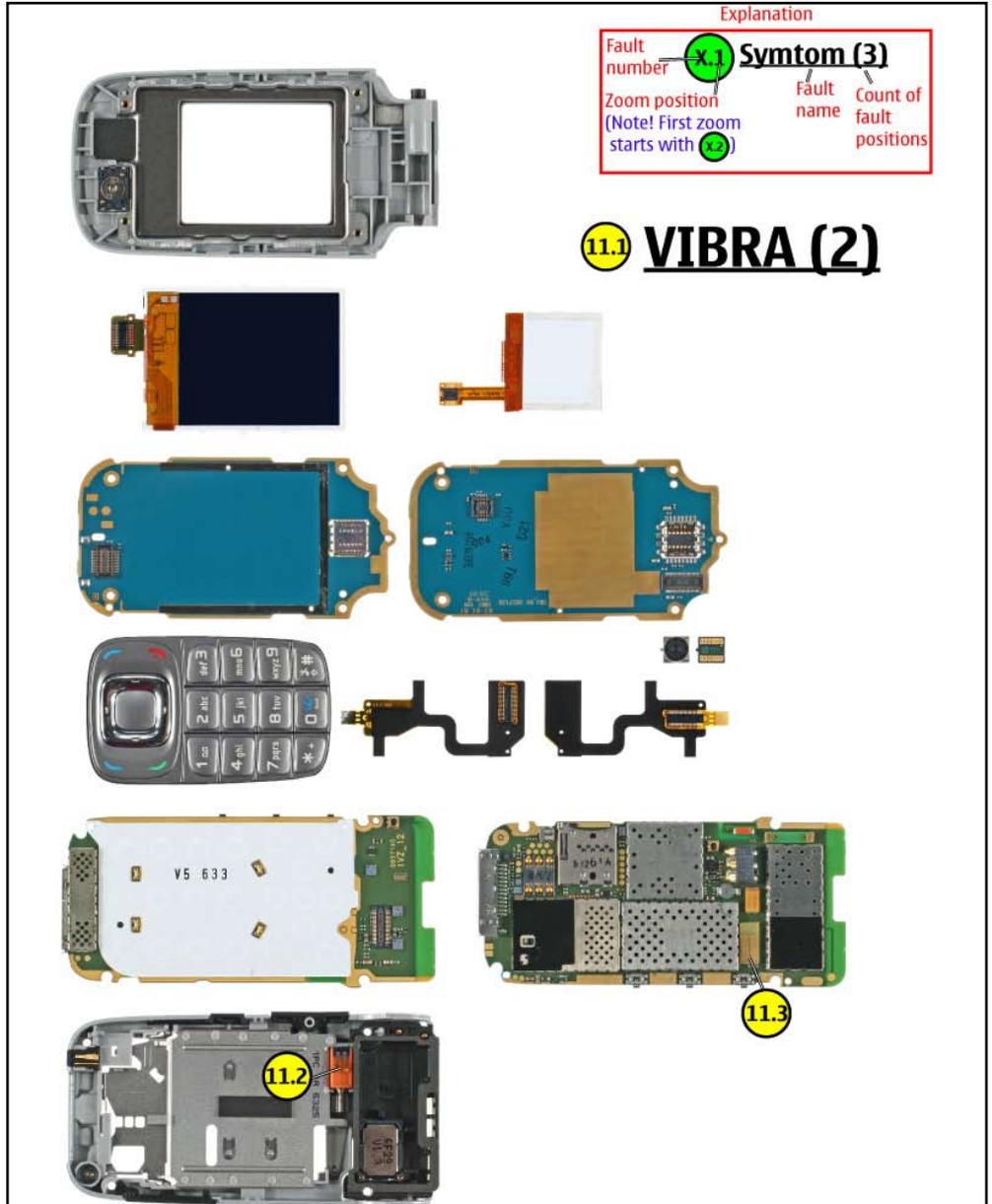
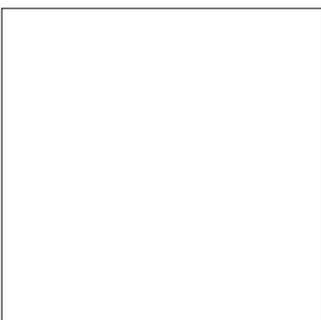
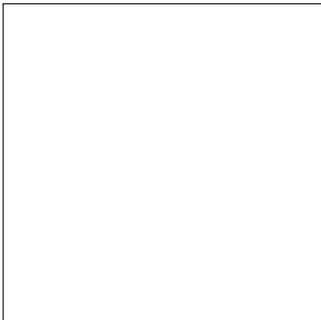
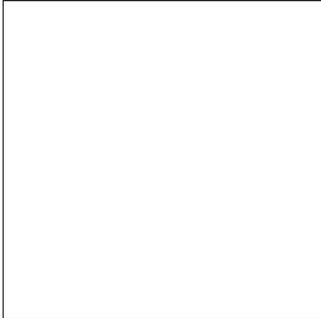
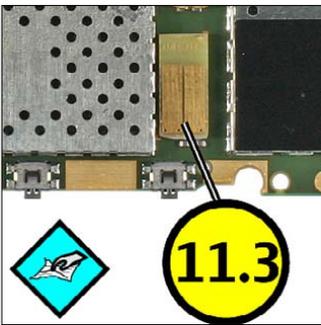
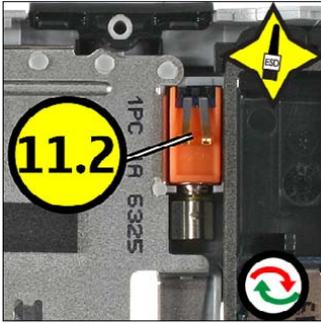
Explanation

Fault number	x.1	<b>Symtom (3)</b>
Zoom position (Note! First zoom starts with x.2)	x.2	Fault name
		Count of fault positions

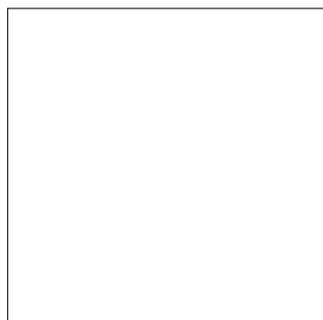
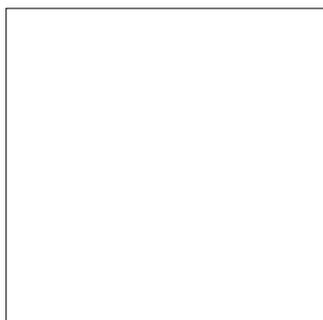
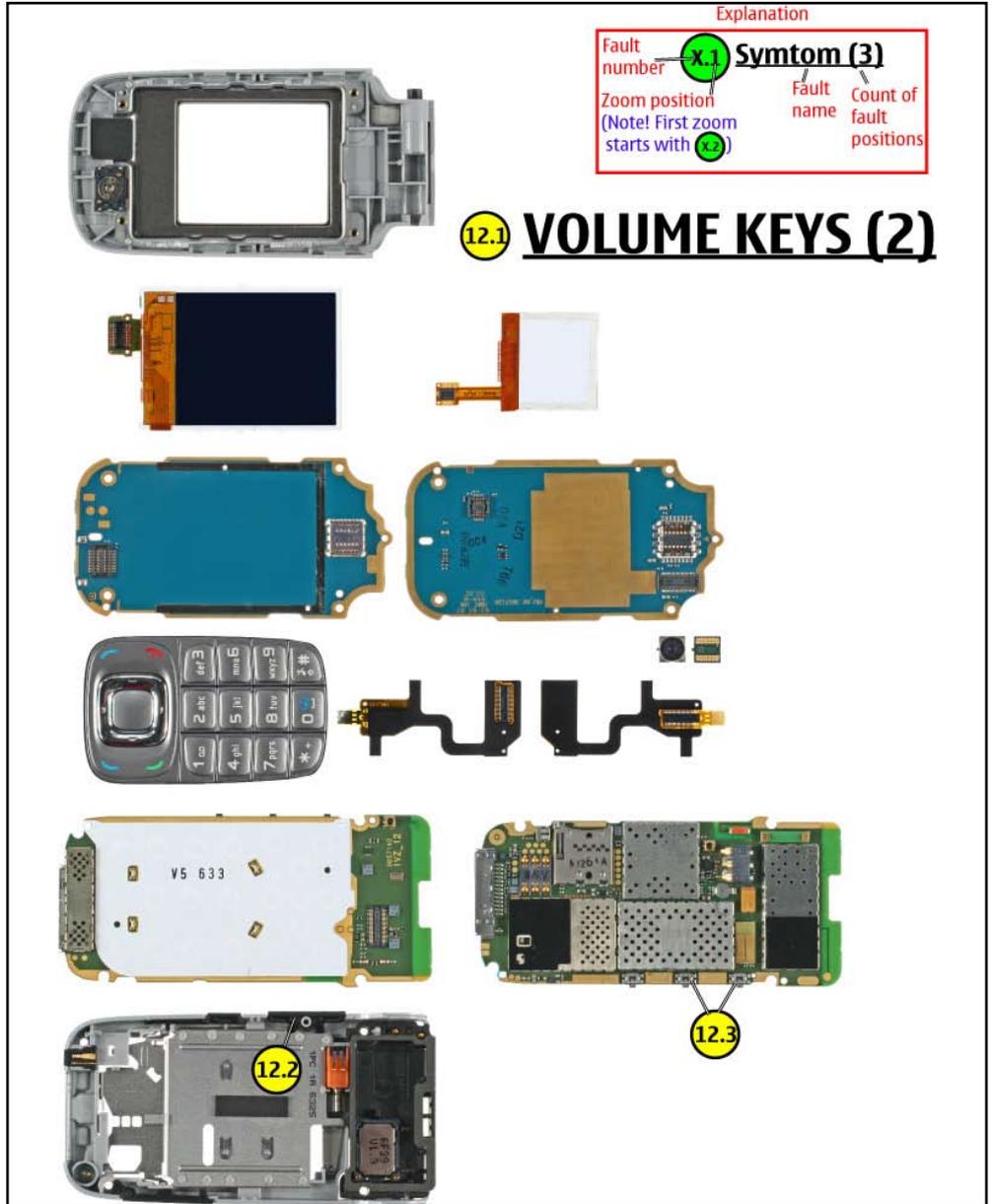
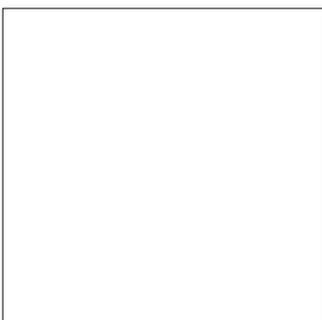
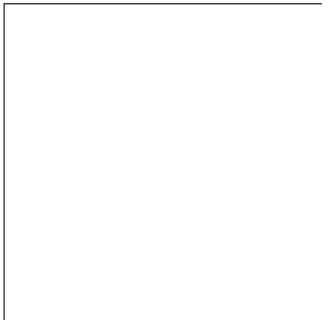
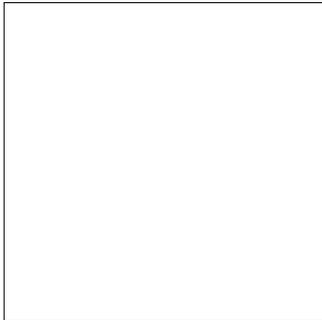
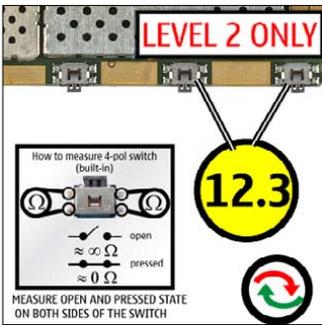
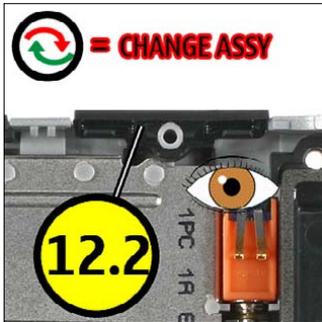
10.1 KEYMAT (2)



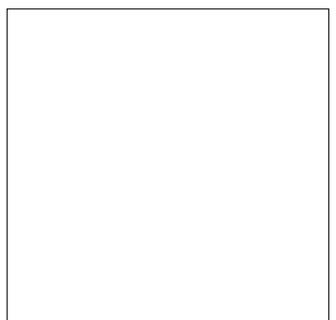
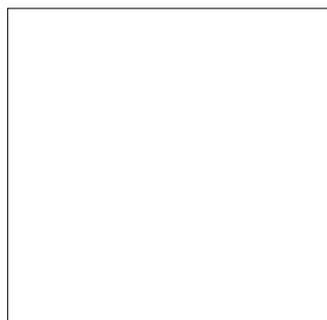
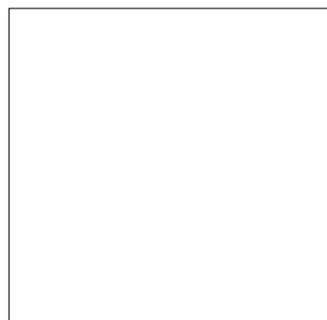
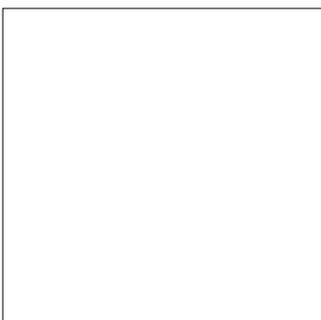
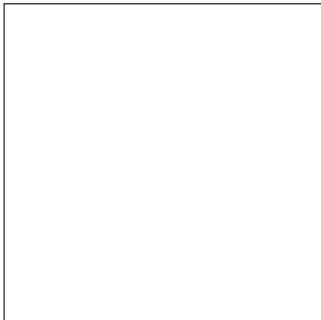
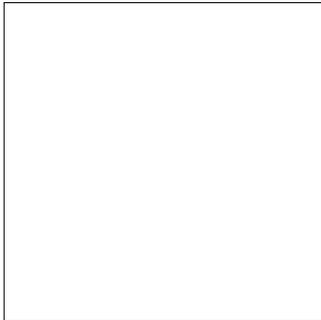
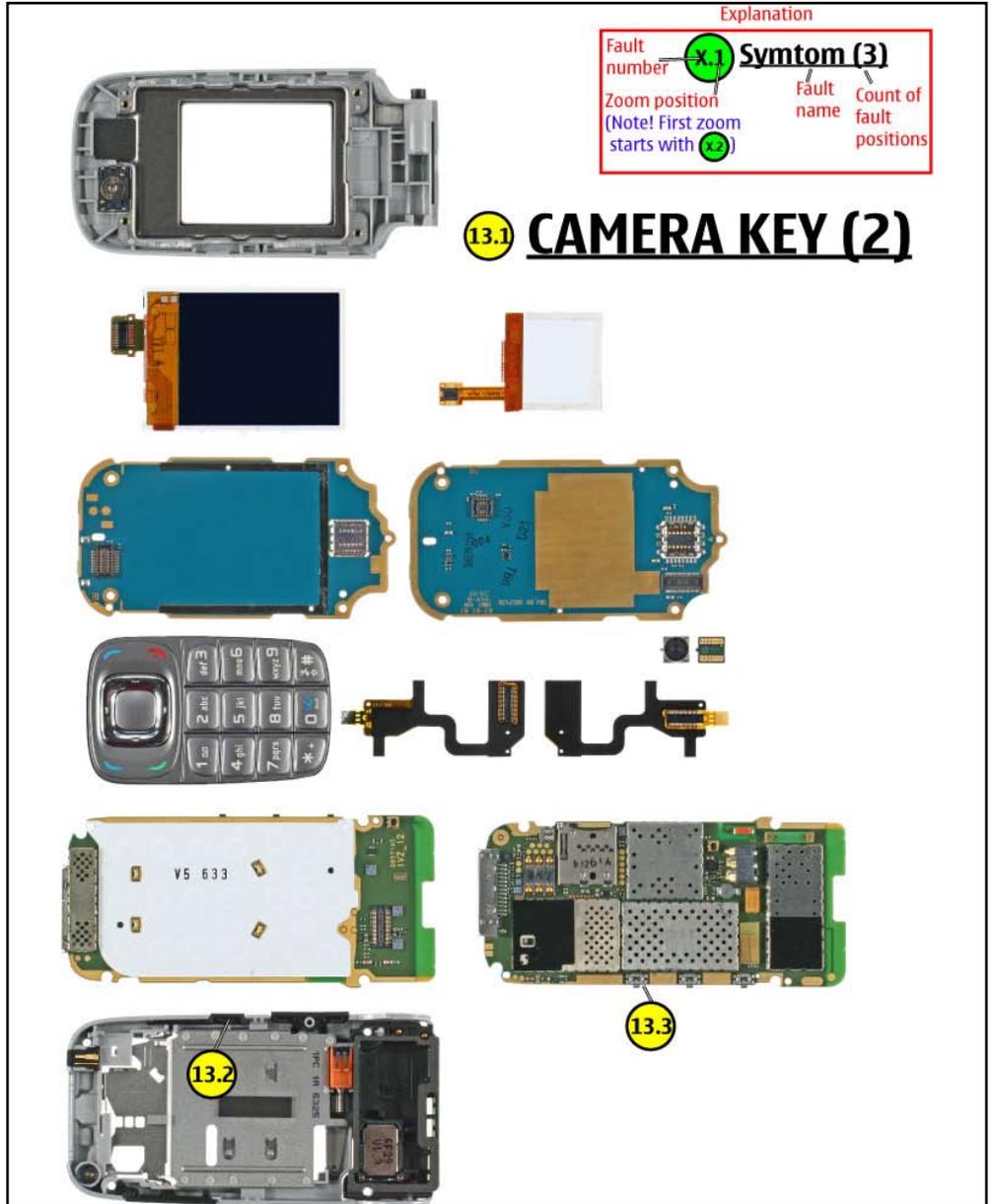
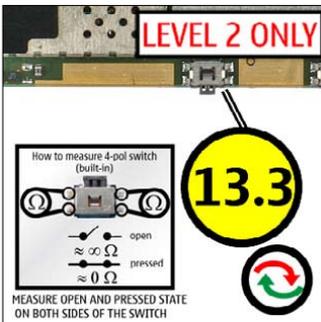
## 22. QUICK TROUBLE SHOOTER - VIBRA



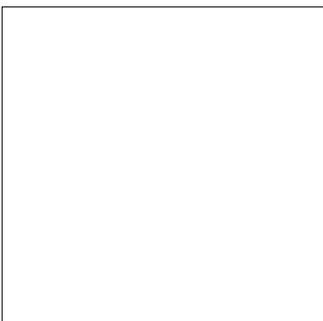
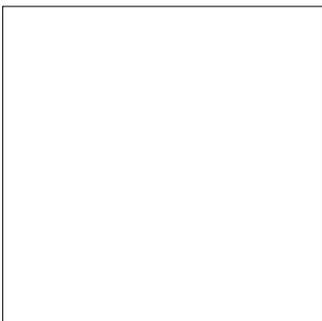
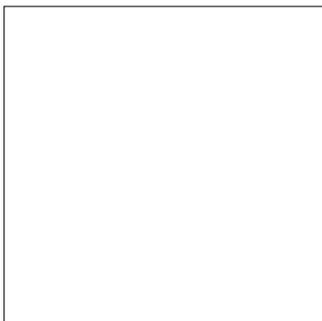
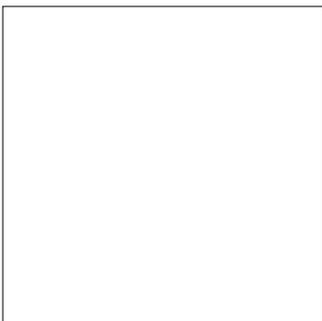
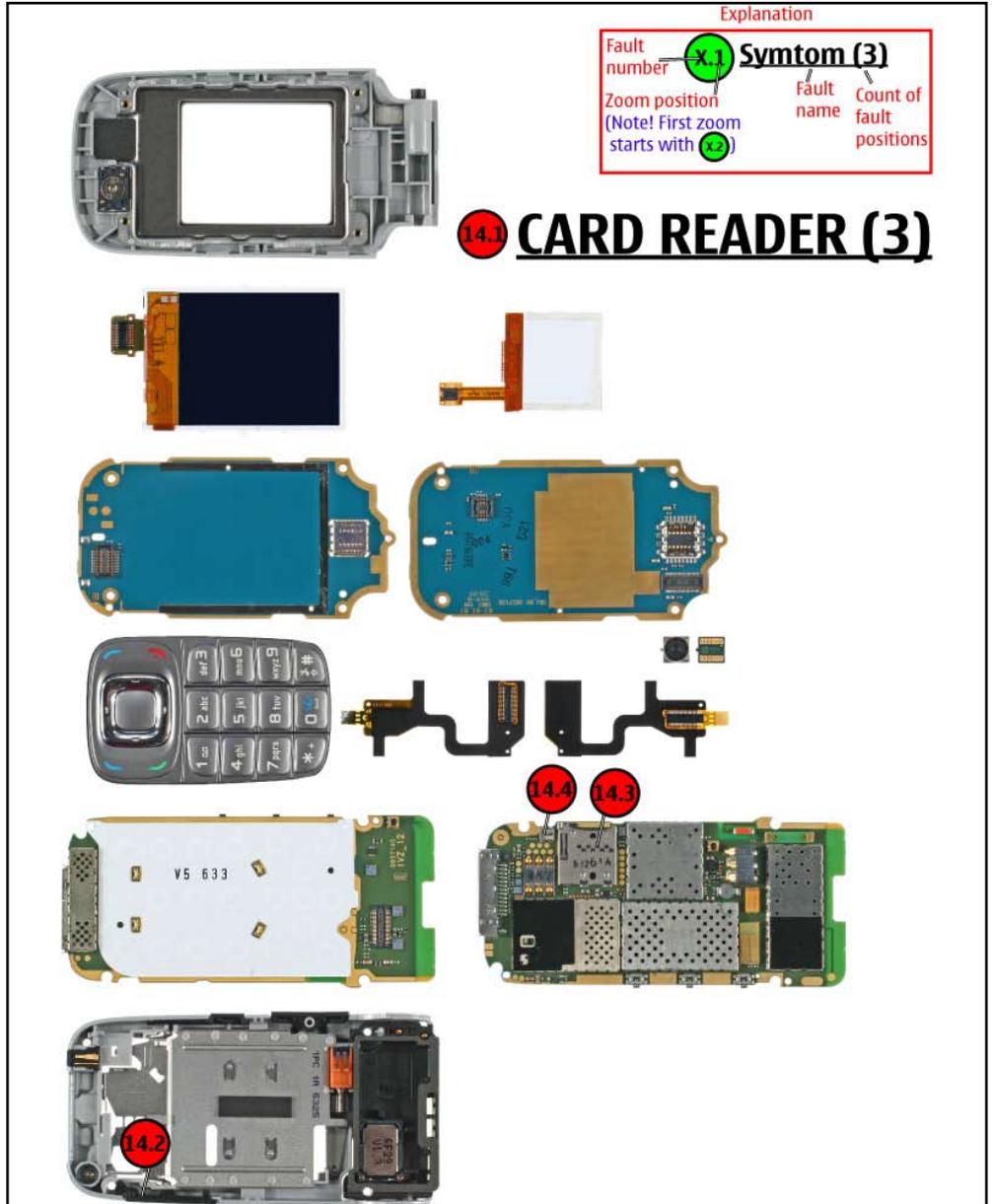
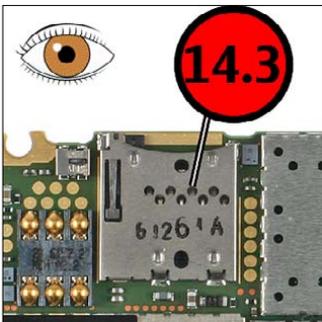
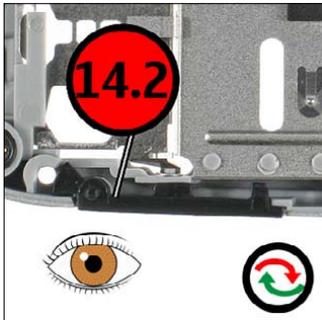
## 23. QUICK TROUBLE SHOOTER - VOLUME KEYS



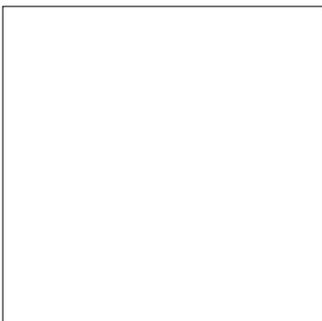
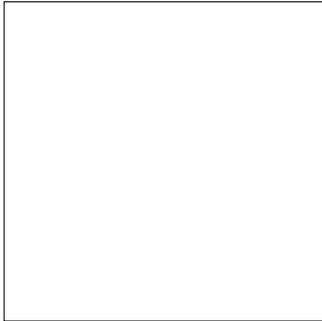
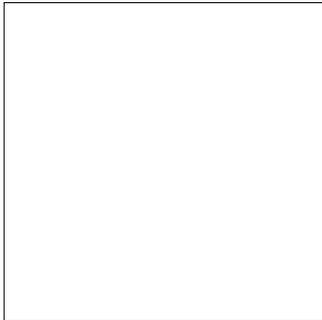
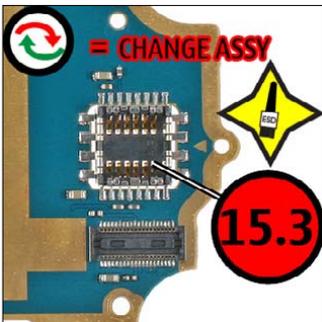
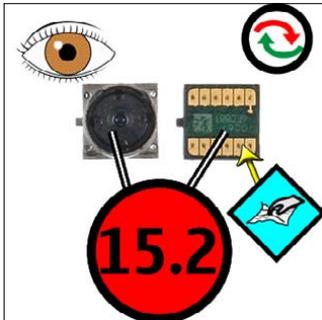
## 24. QUICK TROUBLE SHOOTER - CAMERA KEY



## 25. QUICK TROUBLE SHOOTER - MEMORY CARD READER



## 26. QUICK TROUBLE SHOOTER - CAMERA



Explanation

Fault number	x.1	<b>Symtom (3)</b>
Zoom position (Note! First zoom starts with x.2)	x.2	
		Fault name
		Count of fault positions

**15.1 CAMERA (2)**

