



# Trouble Shooting Guide, Mechanical

Applicable for K700i/ K700c

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# 1 Explanations

## 1.1 Service functions in the software

The service menu will be accessed with the following key combination. Use the joystick.

⇒ \* ⇐ ⇐ \* ⇐ \*

They are as follows:

**Service info**

**Service tests**

**Text labels**

The phones software has a built in service functionality that allows you to test some of the phones functions. *(See point 2 above)* It looks like this:

**Main display**

**Camera**

**LED/illumination**

**Flash LED**

**Keyboard**

**Vibrator**

**Earphone**

**Speaker**

**Microphone**

**Real time clock**

**FM radio (You need a headset to test)**

**Total call time**

## 1.2 Misuse and other no warranty issues

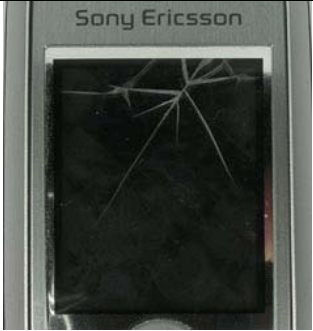


Misuse is not covered by warranty. This chapter will explain what's **not** covered by warranty. Phones that have been exposed to misuse will **not** be covered by warranty.


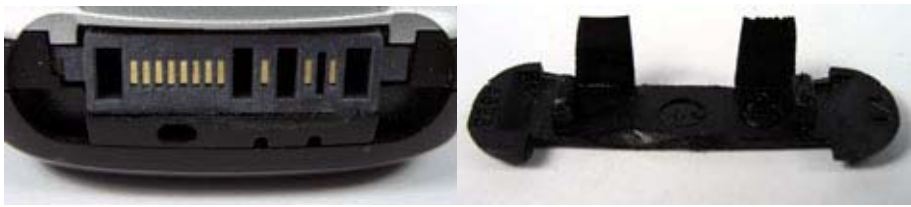
This means: if it is possible to repair the phone, the customer will have to pay for the repair. Sony Ericsson will not allow any of these phones to be claimed into the Warranty Claim System (WCMS). Some local perspectives may interfere with this. Always reference to local directives.


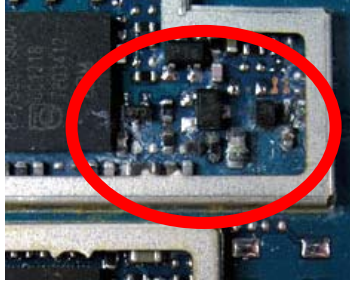
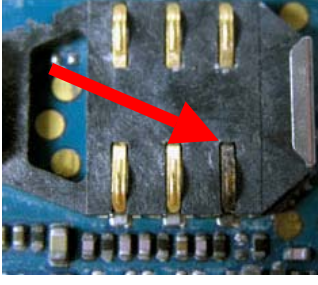
### 1.2.1 Action

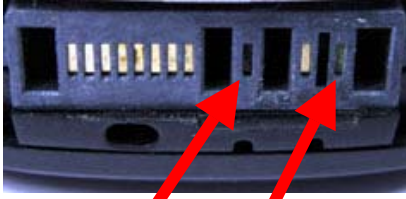

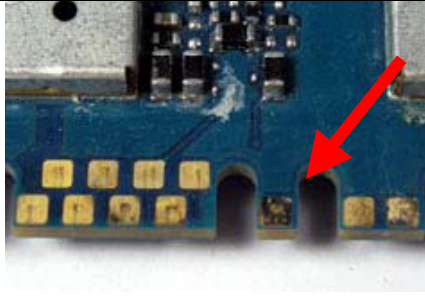
Make a general visual inspection for misuse.

Below are some **examples** of what is not covered by warranty.

		
Front window broken due to misuse.	LCD cracked due to drop.	Clear scratches

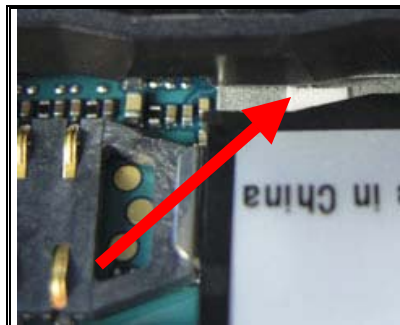
	
Mark after dropping the phone	The system connector plug is ripped off, this is not covered by warranty.

		
Corrosion on PCB components due to liquid damage.	Corrosion on PCB components due to liquid damage.	SIM reader damaged by liquid.

		
System connector damaged by liquid.	Components around system connector damaged by liquid.	System connector pad(s) damaged by liquid.

## 1.2.2 Water Indicator label

In the phone there is placed a label that can give you a hint to see if the phone is damage by liquid or not. This label is located near the SIM reader (Fig. 1.2.1), and it is possible to see it without disassemble the phone.



**Fig. 1.2.1**

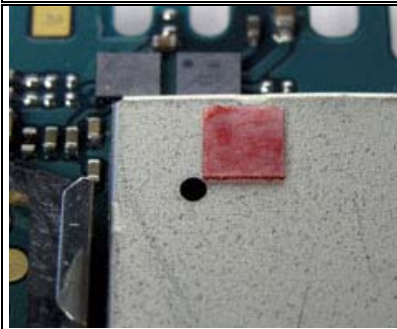
On the pictures below you will see the different between a label that has been in contact with liquid (Fig. 1.2.3) and with one that hasn't (Fig. 1.2.2).



This label has not been in contact with liquid.



**This label is not ok**



**Fig. 1.2.3**

This label has been in contact with liquid. As you can see it has turn into a red or pink label. In this case you should check the phone for liquid damage  
(See point 1.2.2).

**Note:** There must be clear marks after liquid on the PCB before rejecting the phone for repair.

### **1.2.3 Action**

Make a general visual inspection for corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged phone. Handle the unit according to local directives.

## 2 Appearance Problems

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2
- Check the front complete (Fig. 2.1), the battery cover assembly (Fig.2.2), the frame, (Fig. 2.3) and the antenna cover complete (Fig. 2.2), for damage and if, the parts fit correct. Replace faulty components if necessary.
- Check the keyboard (Fig. 2.1), the volume + camera keys (Fig. 2.4) and the internet access key (Fig. 2.5) for damage, scratches, for damage and if, the parts fit correct. Replace faulty components if necessary.
- Check the plug external antenna connector (Fig. 2.2), plug system connector, (Fig. 2.6) IRDA window (Fig. 2.7) for damage, scratches, for damage and if, the parts fit correct. Replace faulty components if necessary.

If the failure still occurs, handle the unit according to local directives.



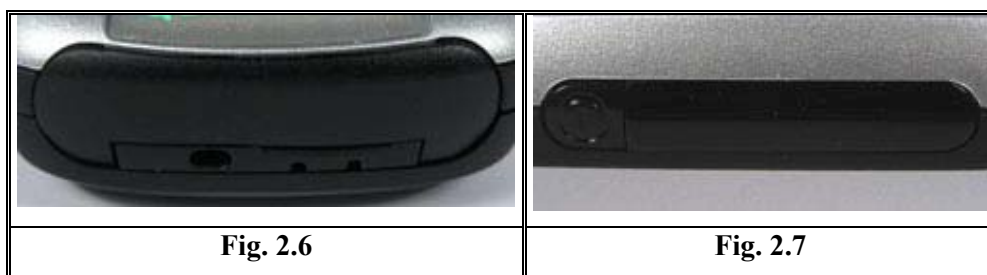
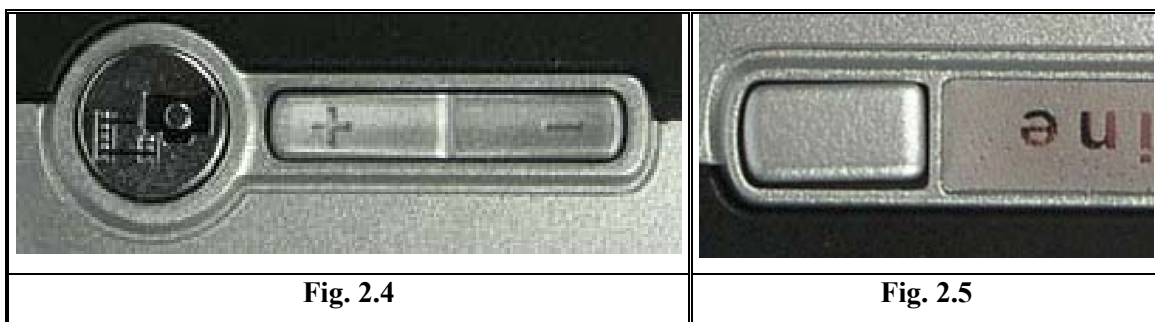
**Fig. 2.1**



**Fig. 2.2**



**Fig. 2.3**



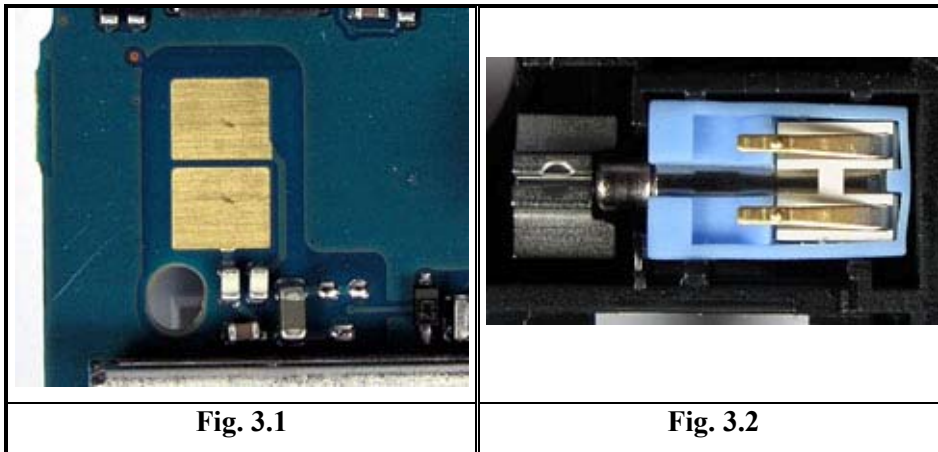
## 3 Alert Problems

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 3.1 Vibrator

- Turn on the phone. Go to the service test menu; choose “Vibrator”. Press any key to check the vibrator works properly.
- Check if the vibrator pads (Fig. 3.1) are dirty or oxidized. Clean them if necessary.
- Check if the vibrator (Fig. 3.2) is mechanical damaged, dirty or oxidized. Replace it if necessary.

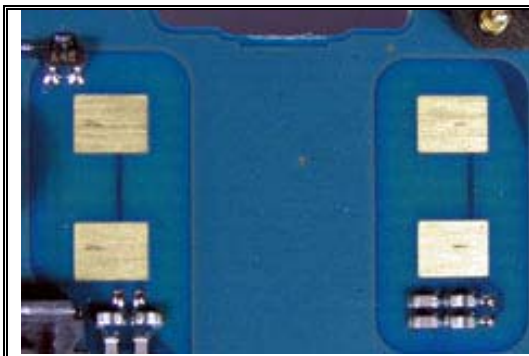
If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



### 3.2 Dual Speaker

- Turn on the phone. Go to the service test menu; choose “Speaker”. Press any key to check the polyphonic ring signal works properly.
- Check if the speaker pads (Fig. 3.3) is dirty or oxidized. Clean them if necessary.
- Check if the dual speaker (Fig. 3.4) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



**Fig. 3.3**



**Fig. 3.4**

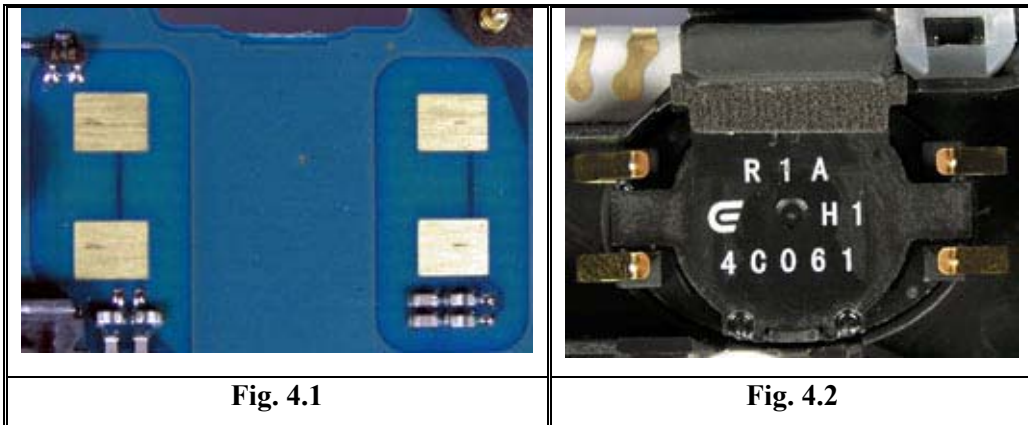
## 4 Audio Problems

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 4.1 Dual Speaker

- Turn on the phone. Go to the service test menu; choose “Earphone” press any key to check the speaker works properly.
- Check if the speaker pads (Fig. 4.1) is dirty or oxidized. Clean them if necessary.
- Check if the dual speaker (Fig. 4.2) is mechanical damaged, dirty or oxidized. Replace it if necessary.

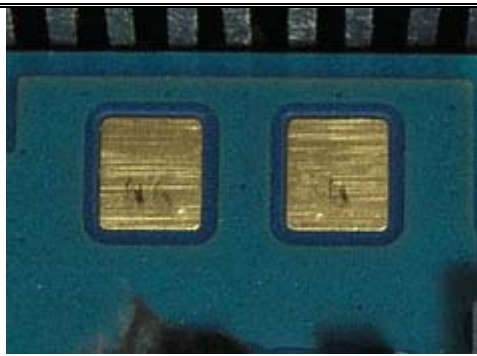
If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



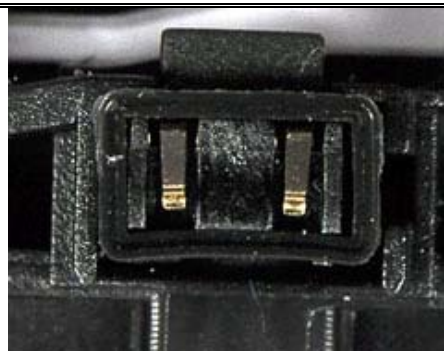
### 4.2 Microphone problems

- Turn on the phone. Go to the service test menu; choose “Microphone”. Check if the microphone works properly.
- Check if the microphone pads (Fig. 4.3) are dirty or oxidized. Clean it if necessary.
- Check if the microphone assembly (Fig. 4.4) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



**Fig. 4.3**



**Fig. 4.4**

## 5 Charging/Capacity

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 5.1 Charging

- Insert a battery with known functionality and connect a charger with known functionality to the phone. If the battery voltage is too low, the phone will charge the battery without turning on the phone (this will usually take less than 10 minutes) and when the battery voltage is high enough the phone will be able to turn on and show charging in the LCD. During trickle charging the Red Led behind the ON/OFF button is lit. When the phone goes over to normal charging, the Red Led will not indicate anything, it will be turned off.
- Check if the system connector (Fig 5.1) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.

### 5.2 Capacity

- The standby time will be reduced if, the light is turned on all the time, bluetooth is turned on, or if the infrared is turned on.

## 6 Data Communication Problems

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2
- If there is a problem with the communication through the system connector, e.g. if it is not possible to synchronizing with MS Outlook, check if the system connector (Fig. 5.1) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.

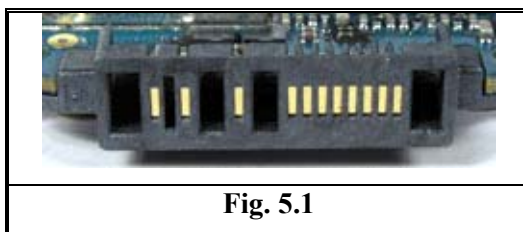


Fig. 5.1

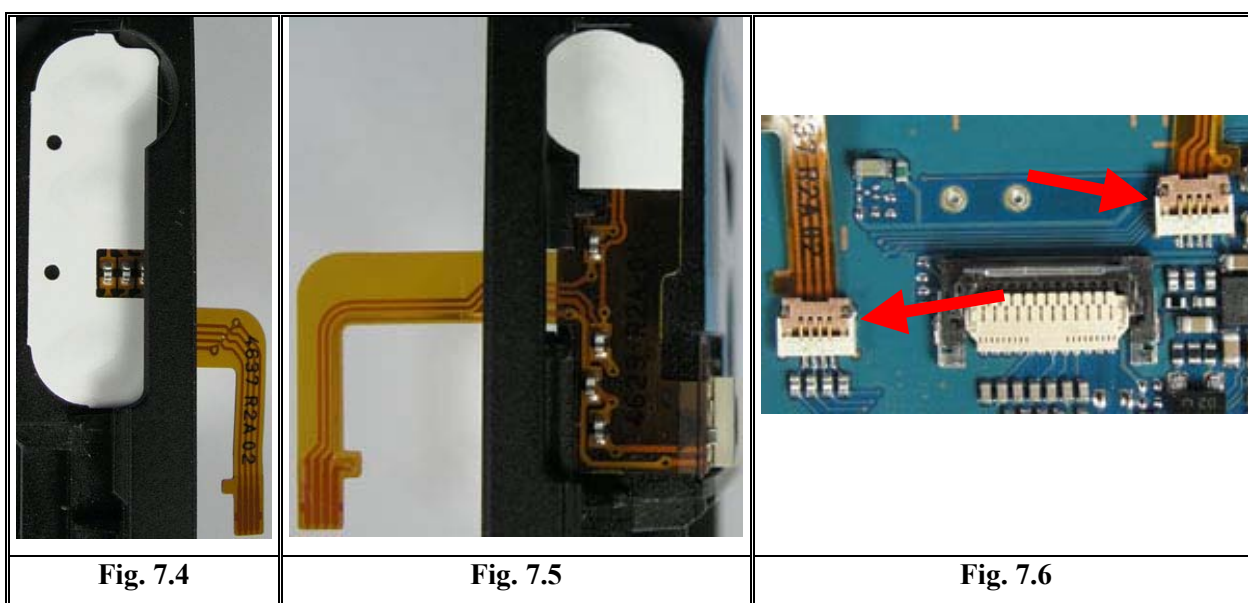
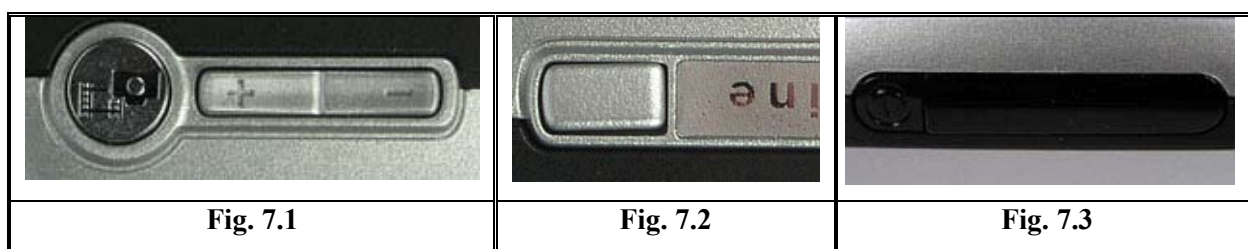
## 7 Key/Joystick problem

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 7.1 Side keys

- Turn on the phone. Go to the service test menu; choose “Keyboard”. Press all the side keys. The pressed key will be indicated in the LCD and a DTMF tone is heard.
- Check if the volume + camera keys (Fig. 7.1), the Internet access key (Fig. 7.2), and the on/off button (Fig. 7.3) are working properly and if the mechanical response feels normal. Replace the volume + camera keys, the Internet access key or the on/off key if necessary.
- Check if the flex film volume and camera key (Fig. 7.4) and camera light assembly (Fig. 7.5) are mechanical damaged or dirty. Replace the flex film volume and camera key or the camera light assembly if necessary.
- Check if the FPC Connectors 4 pin (Fig. 7.6), are closed properly and if the flex films are mounted right in the FPC connectors.

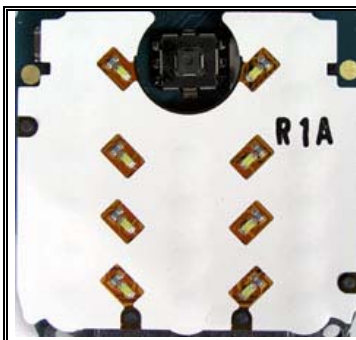
If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



## 7.2 Keyboard

- Turn on the phone. Go to the service test menu; choose “Keyboard”. Press all the keys. The pressed key will be indicated in the LCD and a DTMF tone is heard.
- Check if the mechanical response feels normal and that all the keys have been showed in the LCD.
- Check if the keyboard foil assembly (Fig. 7.7) is mechanical damaged, dirty or oxidized. Replace it if necessary.
- Check if the keyboard flex-film is fitting correct into the FPC connector (Fig. 7.8) and check if the FPC connector is closed.
- Check if the keyboard (Fig. 7.9) is mechanical damaged or dirty. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



**Fig. 7.7**



**Fig. 7.8**



**Fig. 7.9**

## 7.3 Joystick

- Turn on the phone. Go to the service test menu; choose “Keyboard”. Move the joystick in all directions (*do not forget to press it downwards*). The moved direction will be indicated in the LCD and a DTMF tone is heard.
- Check if the mechanical response feels normal and that all directions have been indicated in the LCD.
- Check if the joystick (Fig. 7.10) is mechanical damaged or dirty. Replace it if necessary.

**Note:** When replacing the joystick remember to replace the joystick gasket as well.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



**Fig. 7.10**

## 8 LCD/Illumination

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 8.1 LCD

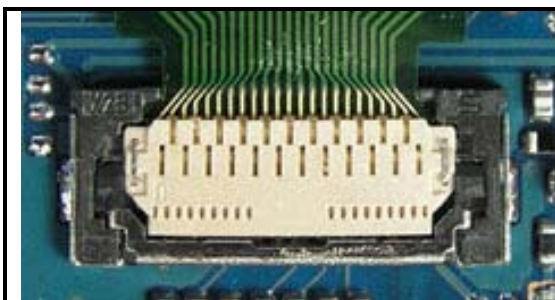
- Turn on the phone. Go to service test menu; choose “Display”. You should see a colour pattern.
- Check if the display assembly works properly and if there are missing lines or discolours. Replace it if necessary.
- Check if the LCD flex-film is fitting correct into the FPC connector (Fig. 8.1) and check if the FPC connector is closed.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.

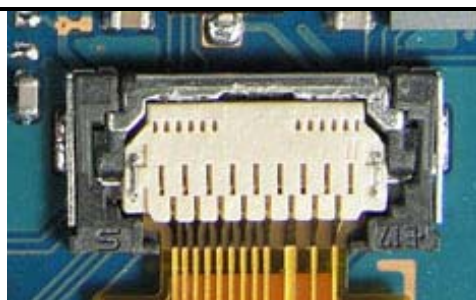
### 8.2 Illumination

- Turn on the phone. Go to service test menu; choose “LED/Illumination”. The illumination should start blinking ~1Hz.
- Check if the display assembly is lighting up properly. Replace the display if necessary.
- Check if the keyboard flex-film is fitting correct into the FPC connector (Fig. 8.2) and check if the FPC connector is closed.
- Check if the entire 8 key LED's (Fig. 8.3) is lighting in the same strength. Replace the keyboard foil assembly if necessary.

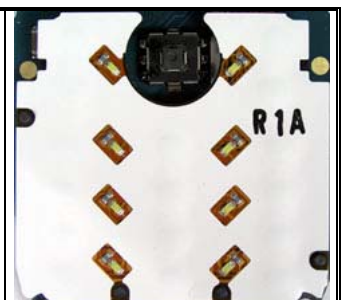
If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



**Fig. 8.1**



**Fig. 8.2**

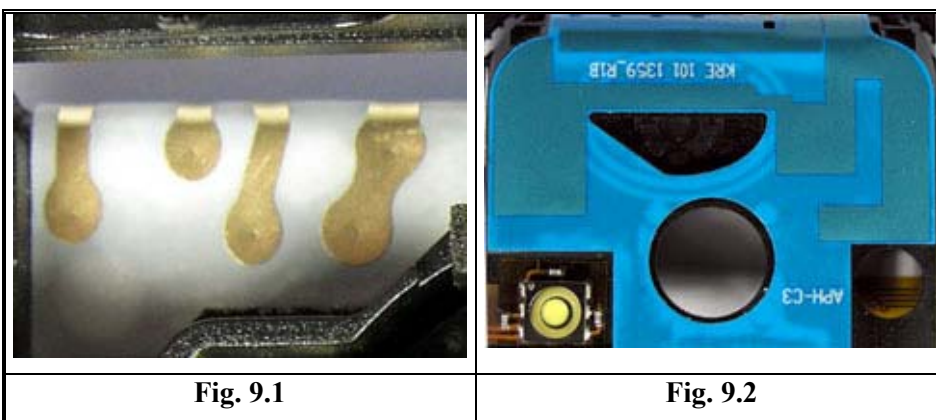


**Fig. 8.3**

## 9 Network

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2
- Insert a correct working SIM-card in the phone and turn it on. Check if the phone gets service and if the signal strength indicator shows a correct value at the display. Compare the value with a working phone.
- Check if the antenna flex (Fig. 9.1-9.2) is mechanical damaged, dirty or oxidized. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



## 10 On/Off

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2

### 10.1 Battery

- Insert a battery with known functionality and connect a charger with known functionality to the phone. If the battery voltage is too low the phone will charge the battery without turning on the phone (this will usually take less than 10 minutes) and when the battery voltage is high enough the phone will be able to turn on and show charging in the LCD. During trickle charging the Red Led behind the ON/OFF button is lid. When the phone goes over to normal charging, the Red Led will not indicate anything, it will be turned off.
- Check if the battery pads (Fig. 10.1) are mechanical damaged, dirty or oxidized. Replace the battery if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.

### 10.2 On/Off key

- Insert a fully charged battery and turn the phone on. If it fails;
- Check if the Power on/off button (Fig. 10.2) is mechanical damaged or dirty. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



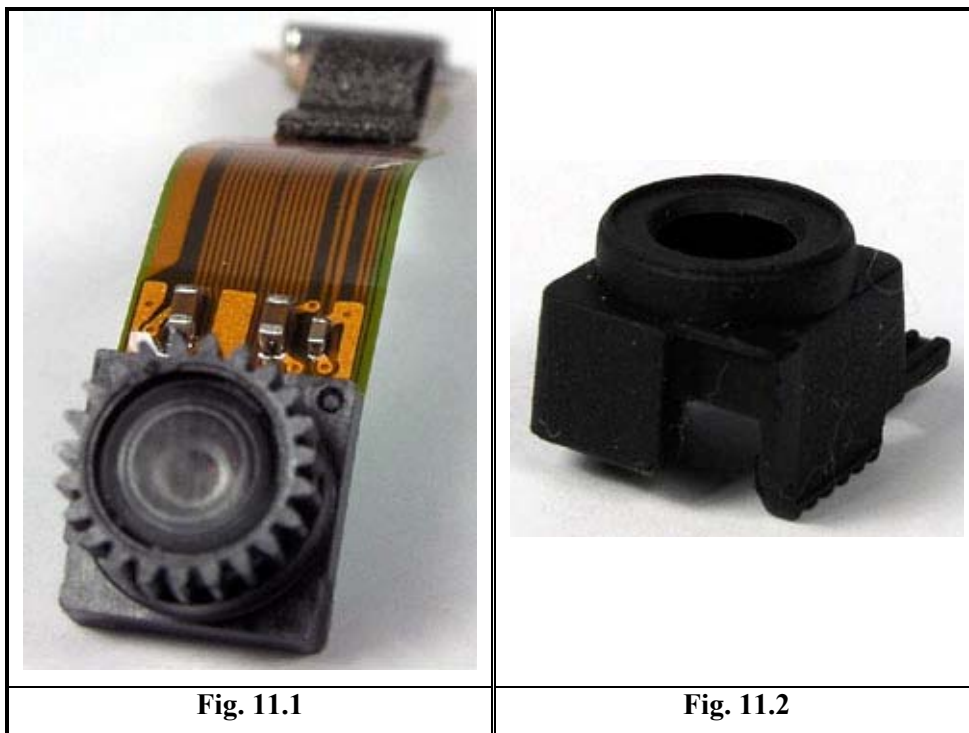
## 11 Other

### 11.1 Camera Problems

- Make a general visual inspection for misuse, corrosion or oxidation from liquid damage according to point 1.2
- Turn on the phone. Go to the service test menu; choose “Camera”. The viewfinder will be visible in the LCD.
- Check if the camera VGA part for mobile phone (Fig. 11.1) is working properly; verify the viewfinder functionality in the LCD. Check if there are black spots and if the picture is in focus. Replace the camera module if necessary.

**Note:** When replacing the camera VGA part for mobile phone, check if the conductive gasket camera (Fig. 11.2) is damaged in any way. Replace it if necessary.

If the fault still occurs, try to update the phone to the latest available software version. If this doesn't solve the problem, handle the unit according to the local directives.



## 12 Software Problems

- If there are problems with the response of the keypad commands, or spelling errors in the menu, if they are not related to mechanical damage, make a master reset and flash the phone with the latest software from EMMA II.
- Checking the software revision can be done in the Service info, see chapter *Service functions in the software*.  
Choose: Service info / SW information.  
The Software revision and date will be shown in the display.

**Note:** Do a SW upgrade before sending the unit to a higher level. Do **not** scrap a phone that hasn't been upgraded.

If the failure still occurs, handle the unit according to the local directives.

## 13 Revision History

Rev.	Date	Changes / Comments
A.	2004-05-27	Initial Release