



# Working Instructions - mechanical

Applicable for K600i, K600c, K608i & V600i

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# 1 Read this first!

After reading section 2 'Introduction' and the first page of section 3 'Repair Actions', do as follows when a mechanical part needs to be replaced:

- Search for the part name on the contents page and go to the page number where the instruction is found
- Disassemble the phone as far as needed by moving to the instructions stated as e.g. *Follow the Removal instructions of sections 3.1 – 3.6*
- Carry out the actual repair action as described
- Assemble the phone by moving to the instructions stated as e.g. *Follow the Assembly instructions of sections 3.6 – 3.1* (pls. note the reverse order)

When watching the document off-line (after downloading and extracting the ZIP-file), most of the Removal and Assembly headings are blue-coloured and underlined.

By clicking on such a heading, a Flash Player window opens, showing a video clip of the removal/assembly.

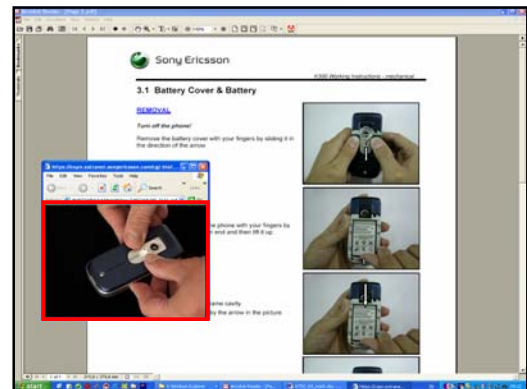
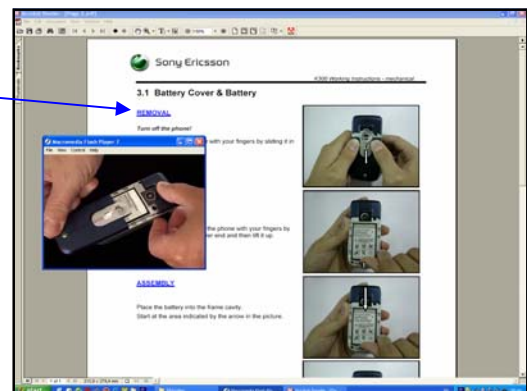
The flash movie can be controlled from the keyboard by holding down the Ctrl-key and pressing another key as follows:

- |                                |                    |
|--------------------------------|--------------------|
| - Start and Stop:              | Ctrl – Enter       |
| - Rewind to start position:    | Ctrl – R           |
| - Move one small step forward: | Ctrl – right arrow |
| - Move one small step back:    | Ctrl – left arrow  |

If your computer is set up to show Flash movies in an Internet Explorer window, the movie will most likely be full size, resulting in poor picture quality.

To shrink the video window to its proper size, drag the bottom right corner of the Internet Explorer window until the movie is shown without blurs and edges, which occurs when the movie window is approx. 12 x 9 cm (indicated by the red frame in the adjacent picture).

However, it is recommended to have your computer set up to have the Flash movies played by the Flash Player application.



NOTE! Flash Player ver. 6 or later must be installed on the computer.

The Flash Player can be downloaded free of charge from [www.macromedia.com](http://www.macromedia.com).

## 2 Introduction

### SPECIAL TOOLS

No new special tools are introduced but a few other Sony Ericsson tools are required:

- NTZ 112 459 Torque screwdriver (or equivalent) set to 20 Ncm  $\pm$  6% and 11 Ncm  $\pm$  2 Ncm
- NTZ 112 288 Torx bit no. 6 (for 20 Ncm)
- NTZ 112 1052 Phillips bit (for 11 Ncm)
- NTZ 112 521 Flexfilm assembly tool
- NTZ 112 302/2 Front opening tool



### STANDARD TOOLS

The following tools have to be locally purchased:

- Dentist hook
- Blunt pair of tweezers
- Guitar pick



### ESD EQUIPMENT

Protect the phone from ESD damages whenever it has been opened by using:

- ESD-gloves (cotton gloves)
- ESD-wristband

### ADHESIVES

Use a dentist hook or a blunt pair of tweezers to remove old adhesives.

If necessary, clean the surface with isopropyl alcohol before attaching new adhesives.

### CAUTIONS

- **Keep all contact surfaces clean, no dirt or hand grease!**
- **Be careful when using tools like the dentist hook, tweezers, opening tools, guitar pick etc. to avoid scratches or damages to the exterior and interior parts of the phone!**
- **Be careful not to damage the contact springs on parts like the microphone and vibrator!**
- **Remember to remove the protection foils on new parts such as the front case and the LCD!**
- **Never touch the display glass!**
- **Use air blow equipment to keep the front window and display module dust free!**

### 3 Repair actions

#### K600



#### K608



**V600**



**PRECAUTIONARY ACTIONS**

Press the On/Off-button to turn the phone off.



**K600 & V600**



**K608**

### 3.1 Battery Lid & Battery

#### REMOVAL

Push the two locking knobs downwards.



Gently fold up the battery lid and remove it.



Lift up the battery and remove it.



## Battery Lid & Battery *continued*

### ASSEMBLY

Put the battery in the battery compartment.



Attach the battery lid by starting at the side of the volume keys and then fold it down.



Lock the lid with the two locking knobs.



## 3.2 Rear Case sub ass'y

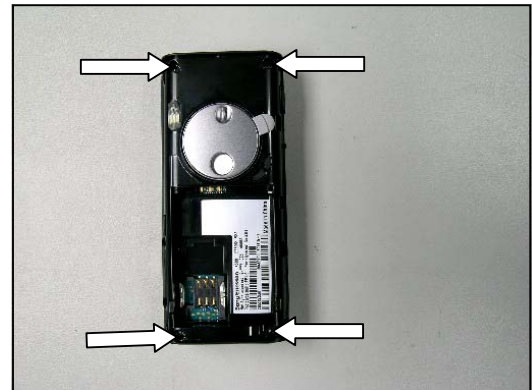
### REMOVAL

Follow the Removal Instructions of section 3.1

**This picture shows the screw positions of K600 which are the same for K608 and V600!**

Remove the four screws using torx bit no. 6.

**Removed screws cannot be used and must be scrapped!**



Insert the guitar pick between the front case and the rear case and release the rear case by sliding the guitar pick to unsnap the snap hooks.

**The USB cover might fall out during this procedure!**



Do the same thing on the opposite side of the phone!



Gently lift the rear case up and remove it.





## Rear case sub ass'y *continued*

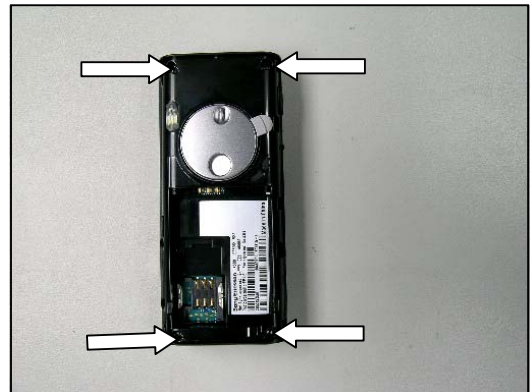
### ASSEMBLY

Position the rear case onto the front case and gently push to make them snap together.



Tighten four **new** screws using 20 Ncm torque with torx bit no. 6.

*Follow the Assembly instructions of section 3.1*



### 3.3 Front Case sub ass'y

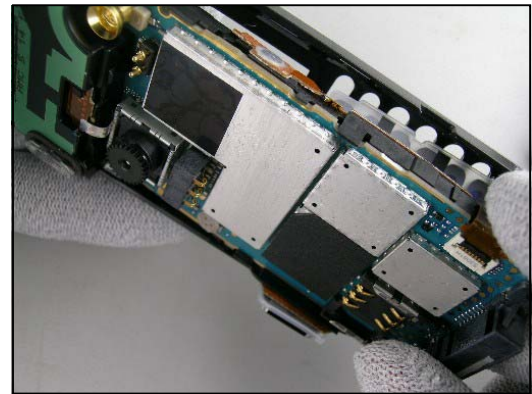
#### REMOVAL

Follow the Removal instructions of sections 3.1–3.2

Press with the Front Opening Tool on the digit '2' of the keypad to release the PCB.



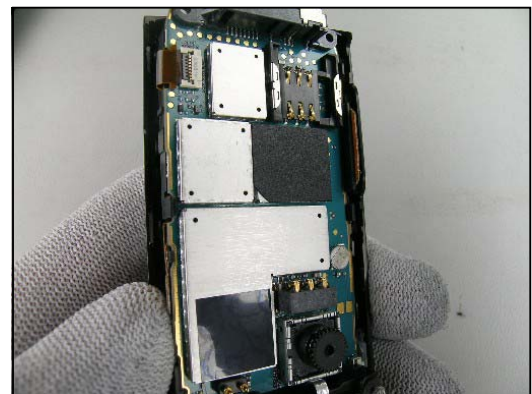
Separate the PCB from the front case.



#### ASSEMBLY

***Make sure that all components inside the front case are in their proper places!***

Place the PCB into the side with the volume key first.



Gently push the PCB onto the front case to make them snap together.

*Follow the Assembly instructions of 3.2 - 3.1*

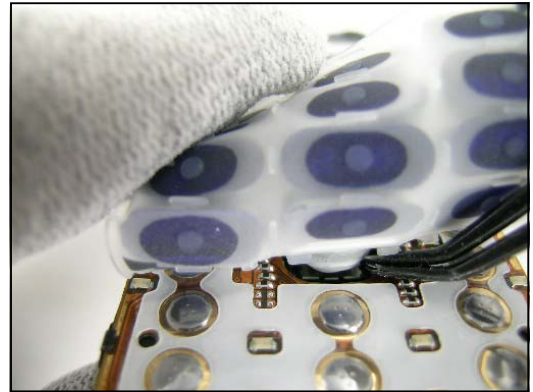


## 3.4 Keypad

### REMOVAL

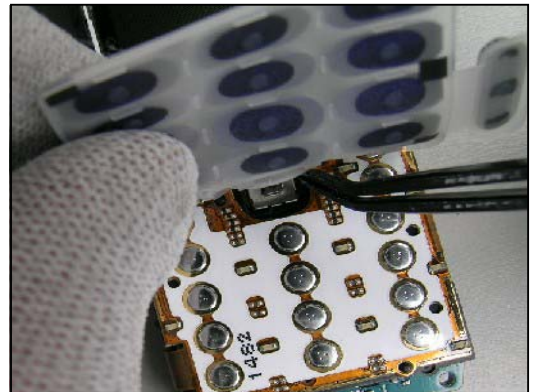
Follow the Removal instructions of sections 3.1 – 3.3

Fold up the keypad and insert the Flexfilm Assembly Tool as shown in the picture.



Release the joystick button by carefully bending upwards and then removing the keypad including the joystick button.

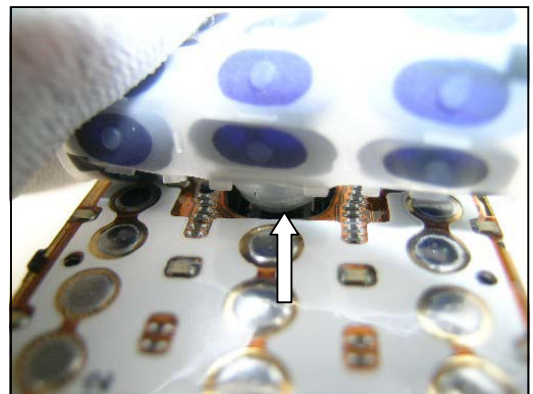
If required, remove the joystick button from the keypad.



### ASSEMBLY

If required, first attach the joystick button to the keypad. Attach the joystick button by carefully pressing it onto the joystick switch and then fold down the keypad.

Follow the Assembly instructions of sections 3.3 – 3.1



### 3.5 Key Flex ass'y

#### REMOVAL

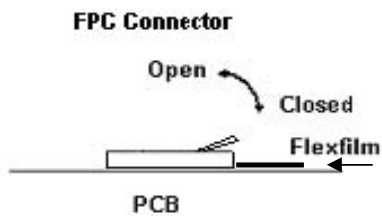
Follow the Removal instructions of sections 3.1 – 3.4

The side buttons of key flex are located as indicated by the arrows and are attached with adhesives.

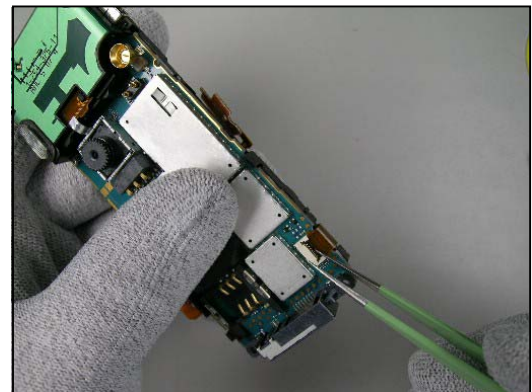
Use the dentist hook, or tweezers to release the side buttons of the key flex.



The ZIF connector functions like this:



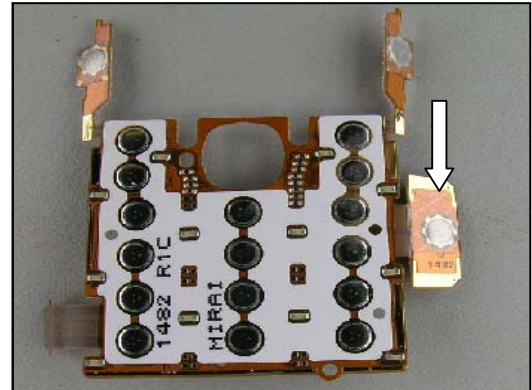
Carefully open the ZIF connector and gently remove the key flex with the tweezers.



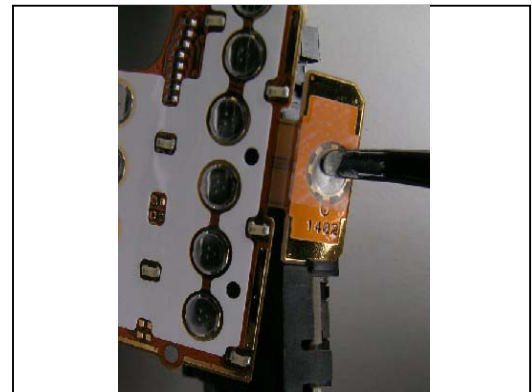
## Key Flex ass'y continued

### ASSEMBLY

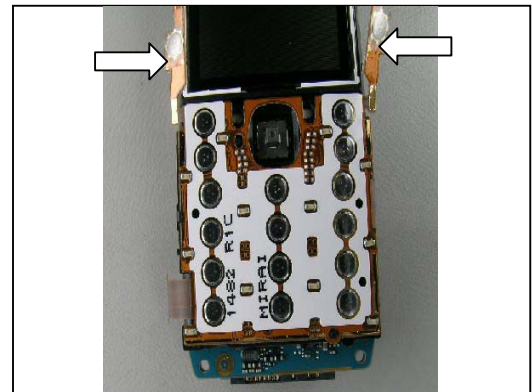
The camera key switch is located as indicated by the arrow.



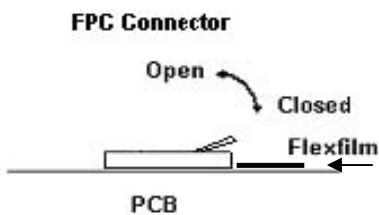
Slide the camera key switch down into the two supports of the frame.



Fold down the flex film over the frame and attach the two side keys.

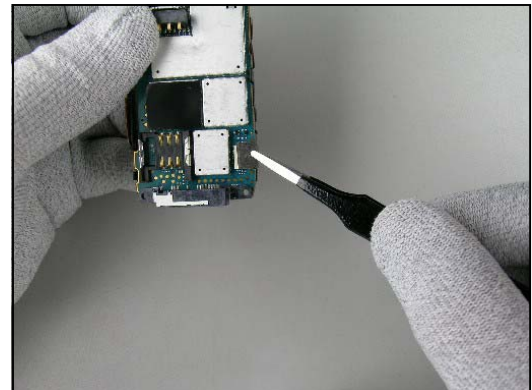


The ZIF Connector functions like this:



Use the Flexfilm Assembly Tool to connect the key flex connector to the PCB.

*Follow the Assembly instructions of sections 3.4 – 3.1*

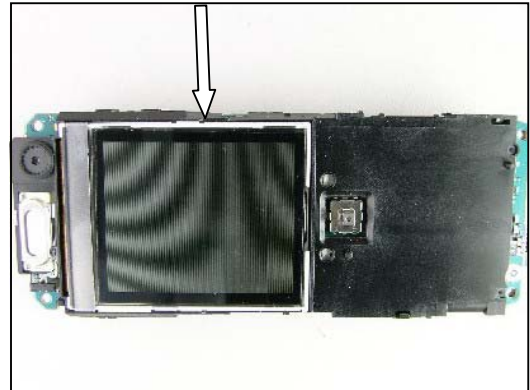


### 3.6 LCD

#### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.5

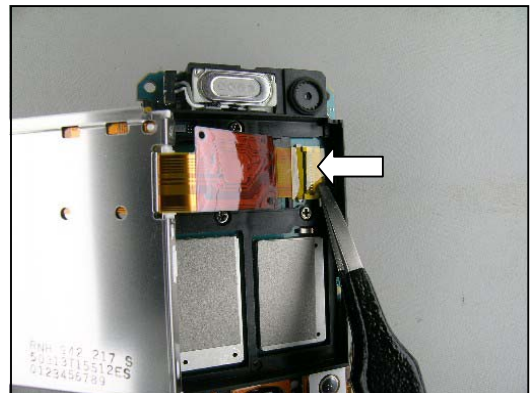
There is a gap between the LCD and the frame which is located as indicated by the arrow.



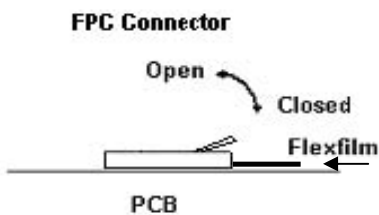
Put the dentist hook in this gap and raise the LCD from the frame and turn it upside down.



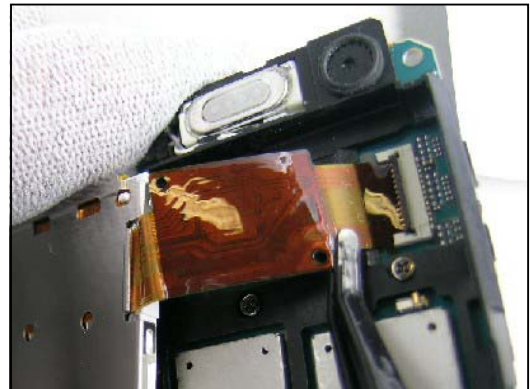
Remove the protection sheet by using tweezers.  
**The protection sheet cannot be reused!**



The ZIF connector functions like this:



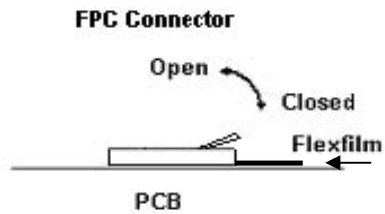
Use the Flexfilm Assembly Tool to open the ZIF connector of the LCD on the PCB and then remove the LCD.



## LCD continued

### ASSEMBLY

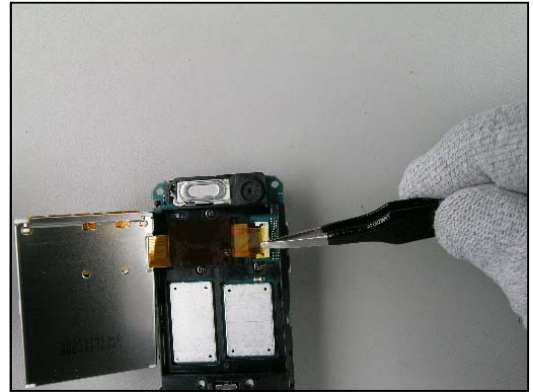
The ZIF connector functions like this:



Gently slide the flex film into the ZIF connector and close the ZIF Connector using the Flexfilm Assembly Tool.



Attach a **new** protection sheet using the Flexfilm Assembly Tool.



Turn the LCD and press it gently into its frame.

*Follow the Assembly instructions of sections 3.5 – 3.1*

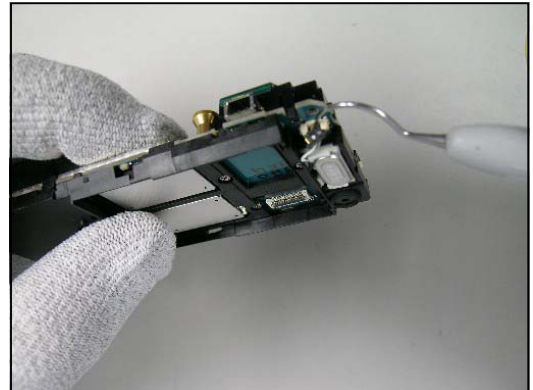


## 3.7 Receiver

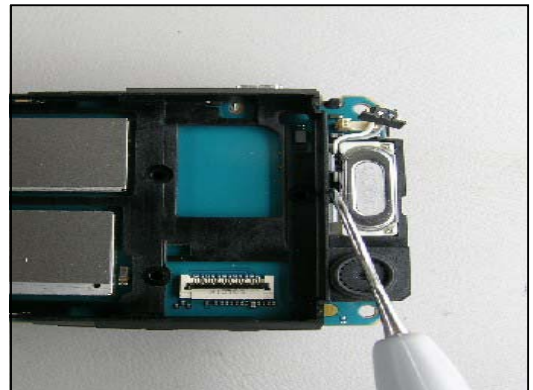
### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.6

Disconnect the receiver connector by using the dentist hook.

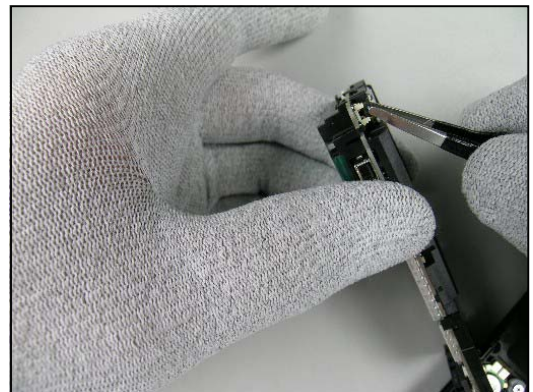


Place the dentist hook as shown in the picture and remove the receiver.



### ASSEMBLY

Connect the receiver connector to the PCB.



Gently press the receiver into the frame cavity.

Follow the Assembly instructions of sections 3.6 – 3.1





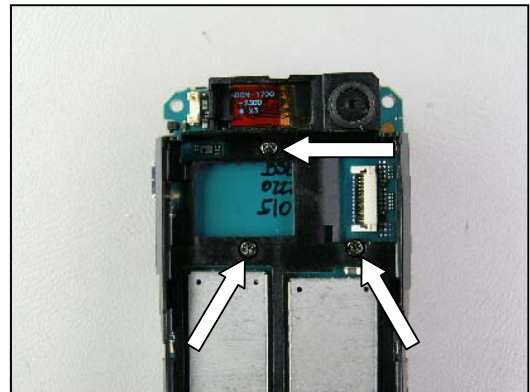
### 3.8 Frame & Camera Front

#### REMOVAL

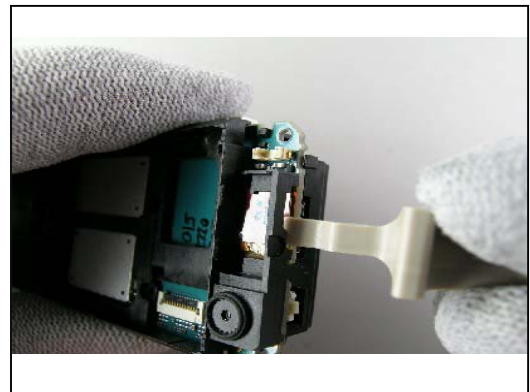
Follow the Removal instructions of sections 3.1 – 3.7

Remove the three screws using the Phillips bit.

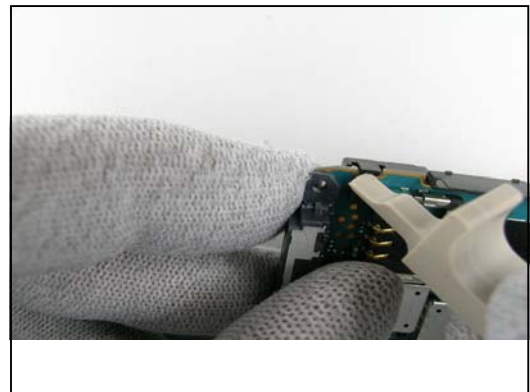
**Removed screws cannot be reused and must be scrapped!**



Insert the Front Opening Tool into the gap between the BTB connector of the camera front and the PCB.  
Disconnect the BTB connector by pushing the Front Opening Tool upwards.



Release the frame by unsnapping four snap hooks, where this picture shows the 1<sup>st</sup> snap hook.

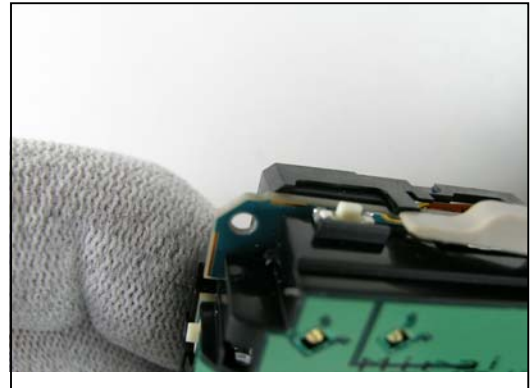


2<sup>nd</sup> snap hook.



## Frame & Camera Front *continued*

3<sup>rd</sup> snap hook.



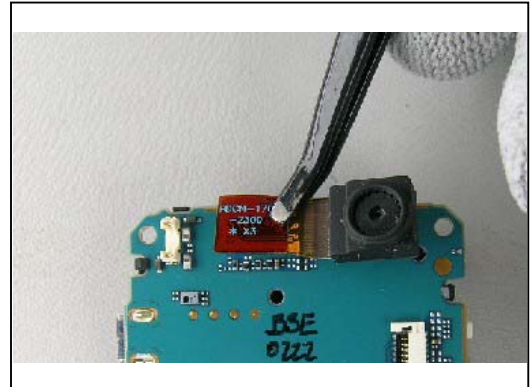
4<sup>th</sup> snap hook.

Remove the frame and release the camera front from the frame.



### ASSEMBLY

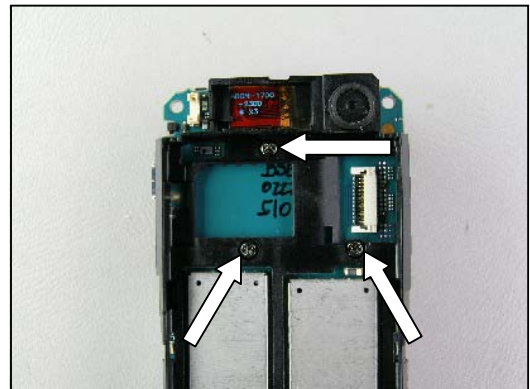
Use the Flex Film Assembly Tool or your fingers to connect the BTB connector of the camera front.



Place the frame on the PCB and make sure that the camera front is in correct position on the frame.  
Use your fingers to snap the frame to the PCB.

Tighten three **new** screws using 11 Ncm torque with the Phillips bit.

*Follow the Assembly instructions of sections 3.7 – 3.1*

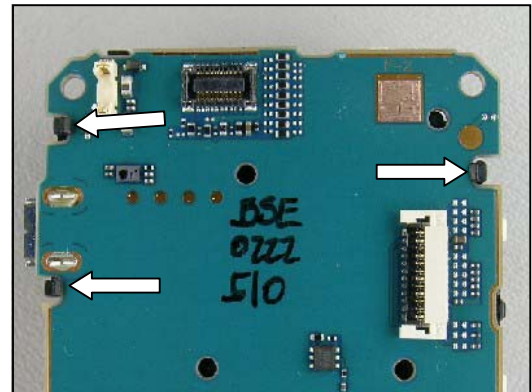


### 3.9 Antenna Frame ass'y

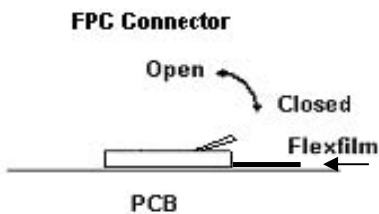
#### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.8

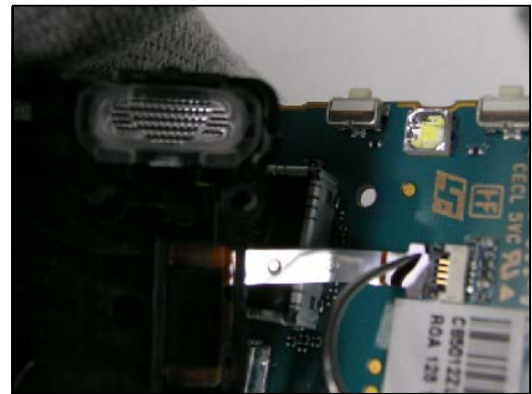
Release the antenna frame by unsnapping the three snap hooks and then turn the antenna frame upside down.



The ZIF connector functions like this:

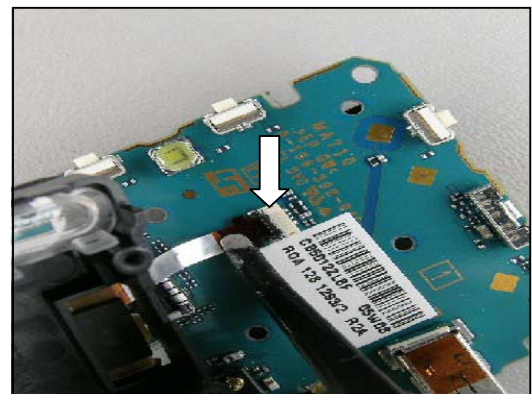


Use a dentist hook to open the ZIF connector and remove the antenna frame.

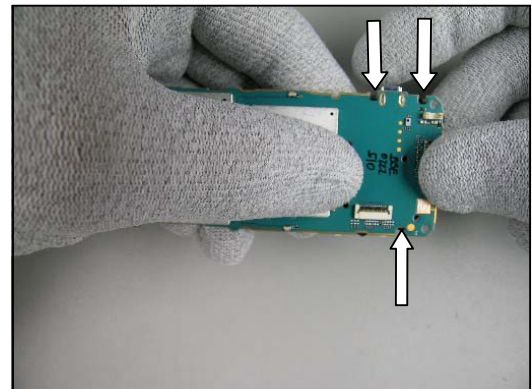


#### ASSEMBLY

Open the ZIF connector, insert the flex film and close the connector using the Flexfilm Assembly Tool.



Turn the antenna frame to its normal position and use your fingers to snap the three hooks of the antenna frame to the PCB.



Follow the Assembly instructions of sections 3.8 – 3.1

## 3.10 Flash Light

### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.9

If the flash light packing is damaged, remove the packing from the flash light using tweezers.

***The packing cannot be reused.***

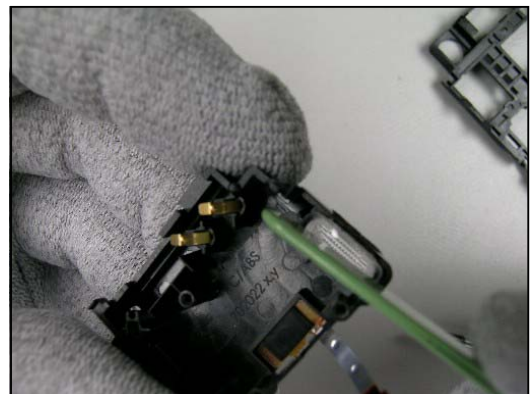
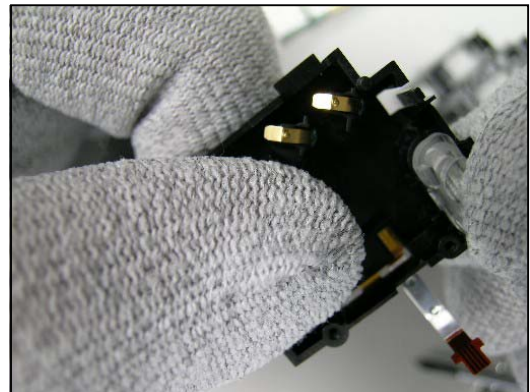
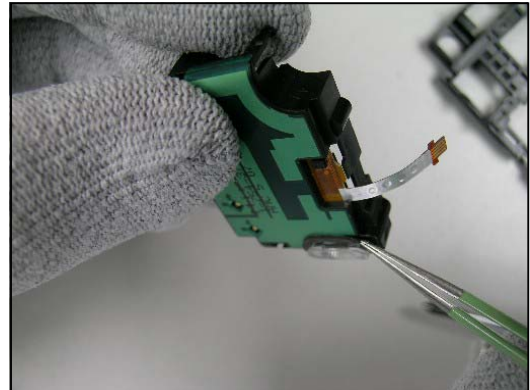
Slightly press on the edge of the antenna frame and simultaneously press on the top of flash light to remove it.

### ASSEMBLY

Put the flash light into the antenna frame and gently push the flash light until it snaps into the antenna frame.

If a new packing is required, attach a new one by using tweezers.

Follow the Assembly instructions of sections 3.9 – 3.1



### 3.11 Camera Grommet

#### REMOVAL

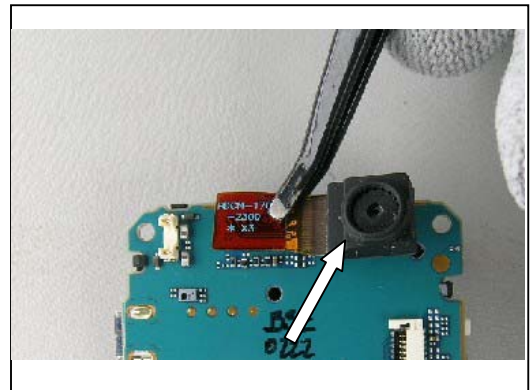
Follow the Removal instructions of sections 3.1 – 3.8

Use your fingers to remove the camera grommet without touching the camera lens.

#### ASSEMBLY

Use your fingers to put the camera grommet onto the camera.

Follow the Assembly instructions of sections 3.8 – 3.1



### 3.12 Videophone Key

#### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.3

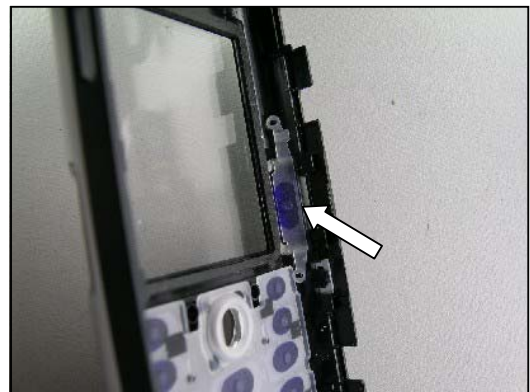
Remove the videophone key by using tweezers.

#### ASSEMBLY

Use your fingers or tweezers to attach the videophone key inside the front case.

Make sure that the videophone key is in its proper position.

Follow the Assembly instructions of sections 3.3 – 3.1



### 3.13 Volume Key

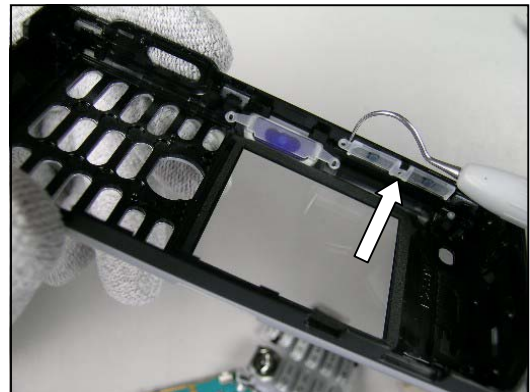
#### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.3

Remove the volume key by using the dentist hook or tweezers.

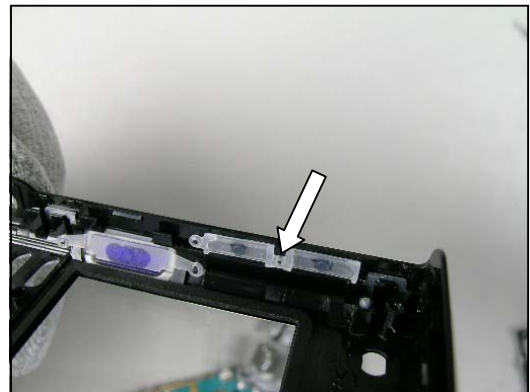
#### ASSEMBLY

Use your fingers or tweezers to attach the volume key inside the front case.



Make sure that the volume key is in its proper position.

Follow the Assembly instructions of sections 3.3 – 3.1



### 3.14 Internet Key

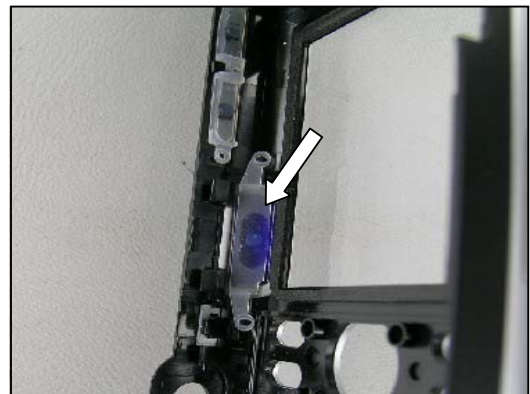
#### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.3

Remove the Internet key by using tweezers.

#### ASSEMBLY

Use your fingers or tweezers to attach the Internet key inside the front case.



Make sure that the internet key is in its proper position.

Follow the Assembly instructions of sections 3.3 – 3.1



### 3.15 Microphone

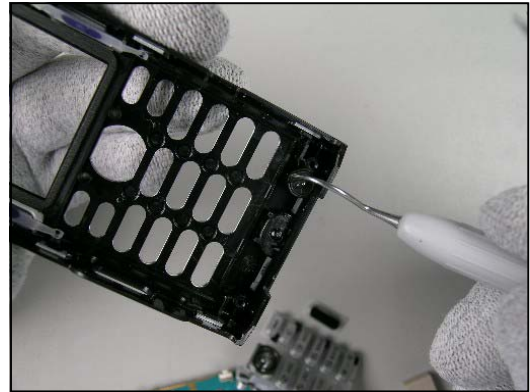
#### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.3  
Remove the microphone with a dentist hook.

#### ASSEMBLY

Place a microphone into the frame cavity.  
Press the microphone gently to the bottom of the cavity.

Follow the Assembly instructions of sections 3.3 – 3.1



### 3.16 Camera, rear

#### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.2

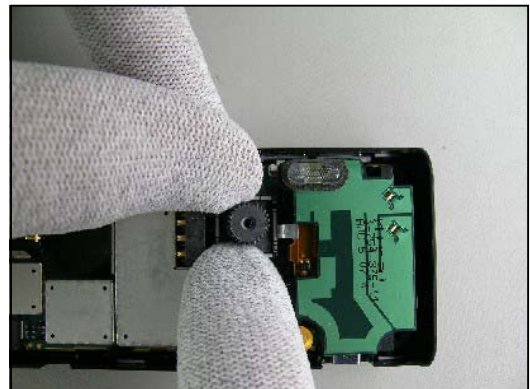
Remove the camera with a dentist hook or with your fingers by lifting it straight up.



#### ASSEMBLY

Position the camera so that the guiding pin on the camera goes into the guiding hole of the socket on the PCB.  
Use your fingers to mount the camera.

Follow the Assembly instructions of sections 3.2 – 3.1



## 3.17 Liquid Intrusion Indicator

### REMOVAL & ASSEMBLY

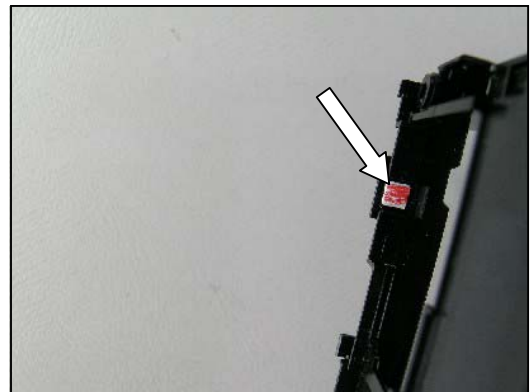
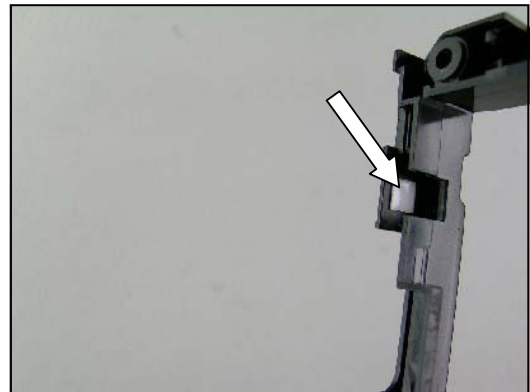
*Follow the Removal instructions of sections 3.1 – 3.2*

Notice the liquid intrusion indicator position on the frame.  
Remove the liquid intrusion indicator with a dentist hook.  
Clean the frame surface with isopropyl alcohol before  
attaching the new indicator.

***Never reuse a liquid intrusion indicator.***

This picture shows a water activated liquid intrusion  
indicator.

*Follow the Assembly instructions of sections 3.2 – 3.1*



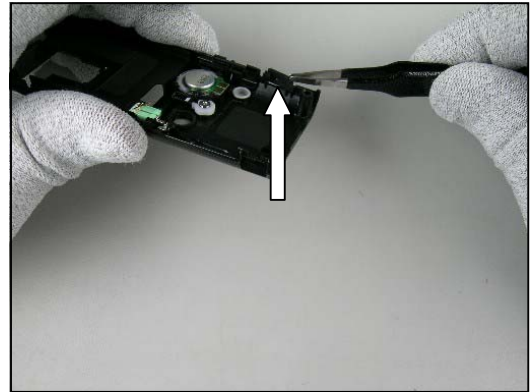


### 3.18 Cover USB

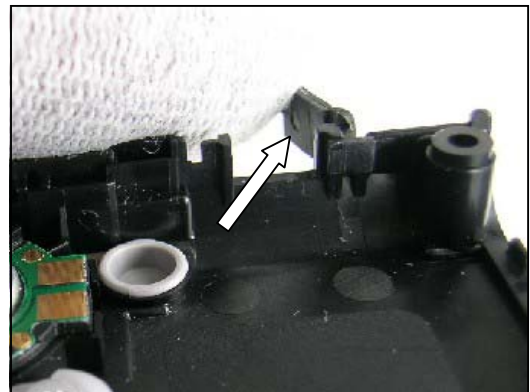
#### REMOVAL & ASSEMBLY

Follow the Removal instructions of sections 3.1 – 3.2

Remove and mount the USB cover by using tweezers,

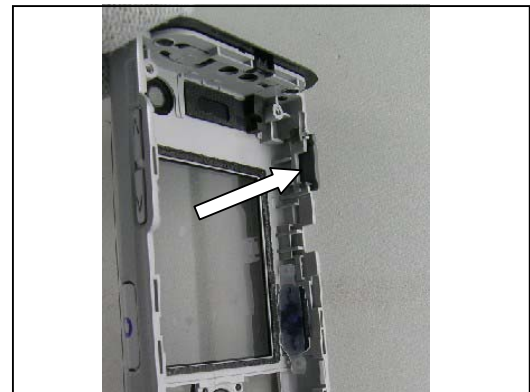


in the **rear** case for K600 and K608,



and in the **front** case for V600.

Follow the Assembly instructions of sections 3.2 – 3.1



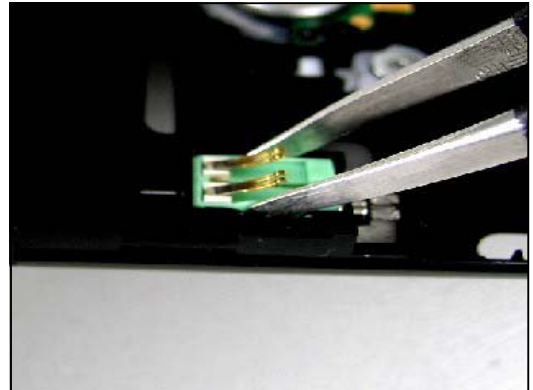
## 3.19 Vibrator ass'y

### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.2

#### **Do not lift the vibrator by the flywheel!**

Raise the vibrator from its position with the dentist hook and then gently lift it upwards to remove.



### ASSEMBLY

#### **Do not press on the vibrator's flywheel!**

Put the vibrator in the cavity and gently press it into the bottom of the cavity by using tweezers.

Follow the Assembly instructions of sections 3.2 – 3.1



## 3.20 Loudspeaker

### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.2

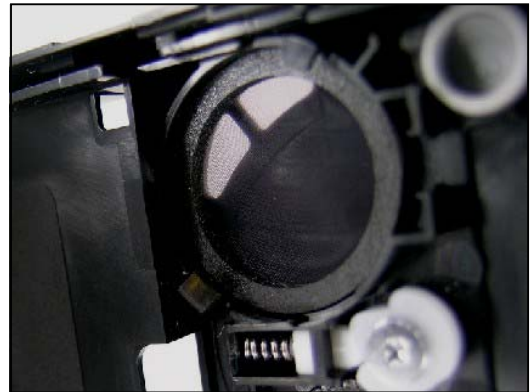
Put the dentist hook underneath the loudspeaker and remove it by gently lifting upwards.

Clean the surface with isopropyl alcohol.



### ASSEMBLY

Always attach a **new** speaker cushion in the cavity.



Put the loudspeaker into the cavity and use your fingers to gently press on the loudspeaker to secure that it becomes fixed.

Follow the Assembly instructions of sections 3.2 – 3.1



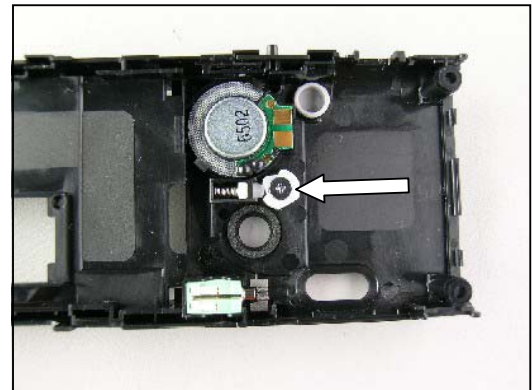
## 3.21 Cover & Bearing, camera rear

### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.2

To replace just the cover:

Loosen the screw in the middle using the Phillips bit and remove the cover from the opposite side



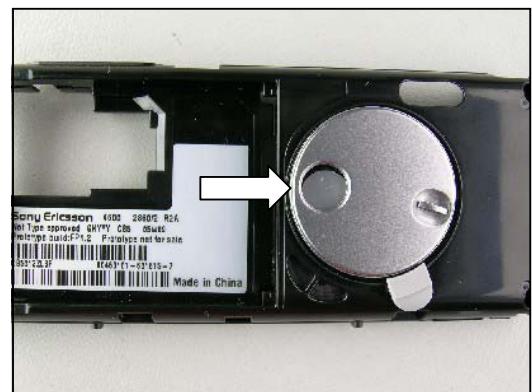
To replace just the bearing:

Remove the screw and then the bearing by using tweezers.



### ASSEMBLY

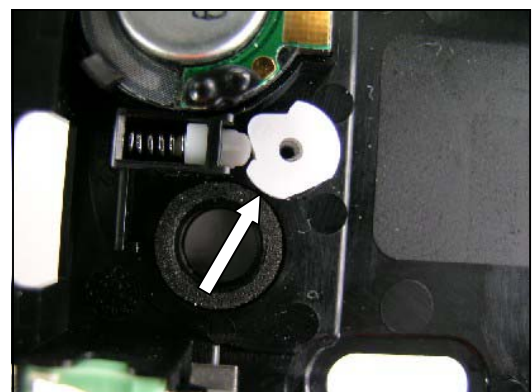
Put the new or existing cover in the position shown in the picture.



If just the cover was replaced or removed, there should be no need to adjust the position of the bearing.

If the bearing was replaced or removed, it should be mounted in the position shown in the picture.

Tighten the screw using 11 Ncm torque with the Phillips bit.



Follow the Assembly instructions of sections 3.2 – 3.1

## 3.22 Magnet

### REMOVAL

Follow the Removal instructions of sections 3.1 – 3.2 & 3.21

Remove the magnet by using the dentist hook or tweezers.

***Magnets cannot be reused and must be scrapped!***

### ASSEMBLY

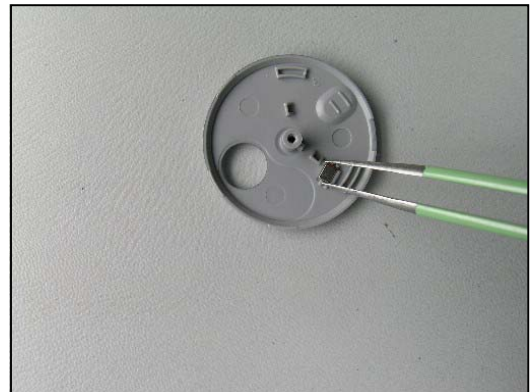
Clean the cover surface with isopropyl alcohol.

The magnet has a red line on one side, which is shown by the arrow.

Position the magnet with the red line facing upwards and away from the aperture of the camera cover.

Press gently with the tweezers on the magnet for a few seconds to secure that the magnet has become fixed.

Follow the Assembly instructions of sections 3.21 & 3.2 – 3.1



### 3.23 Cap RF (external antenna)

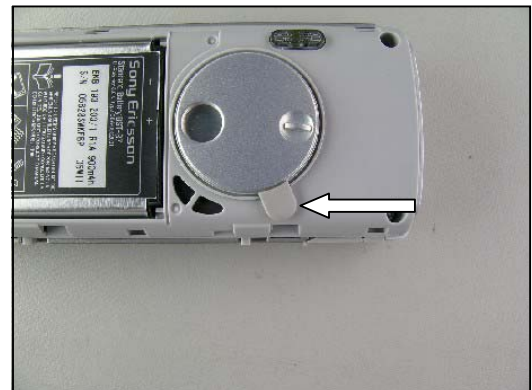
#### REMOVAL & ASSEMBLY

Remove the cap with the dentist hook.  
Mount the new cap with your fingers.

This picture shows where the cap RF is located on K600.



This picture shows where the cap RF is located on K608.



This picture shows where the cap RF is located on V600.



## 3.24 Co-brand inlay

### REMOVAL & ASSEMBLY

Gently remove the co-brand label with the dentist hook.

***Do not reuse a co-brand label.***

Clean the surface of the cavity with isopropyl alcohol.

Attach the new label by using tweezers or with your fingers and keep the pressure on the label for a few seconds to secure that it has become fixed.



## 4 Label

### TOOLS

- Hot air flow solder station
- Blunt pair of tweezers
- Zebra printer and computer

### INSTRUCTION

This instruction should be used when exchanging an old label or assembling a new one.

**Note the position of the label before removal!  
One label only is allowed on the frame!**

- Read the old label and/or write the information into the "Labelmake" program.
- Heat up the label with a hot air flow solder station, if needed.
- Carefully remove the label and make sure that all residues are gone.  
If necessary, clean the surface with isopropyl alcohol.  
Do not scratch the frame.
- Check that the right label format is loaded in the Zebra printer.
- Write a new label by using the program "Labelmake".  
Check that the printing is ok.
- Take the new label and place it onto the frame as in the picture.  
Make sure the label is placed in its proper position.







## 5 Revision History

<b>Rev.</b>	<b>Date</b>	<b>Changes / Comments</b>
A	2005-06-29	Initial release