Working Instructions - Mechanical

Applicable for D750i, K758c, W800

Contents

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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 extract 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 actual 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 movies 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.
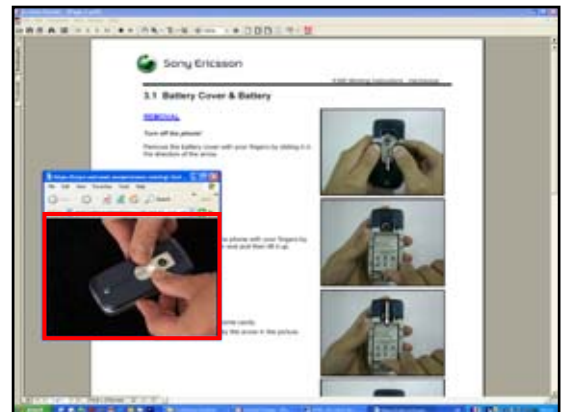
NOTE: Flash Player ver. 6 or later must be installed on the computer.

The Flash Player can be downloaded free of charge from www.macromedia.com.

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)
- NTZ 112 288   Torx bit no. 6
- NTZ 112 1052 Phillips bit
- 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.

Caution

Keep all contact surfaces clean of dirt and hand grease.

3 Repair actions

FRONT & REAR VIEWS

PRECAUTIONARY ACTIONS

Turn off the phone!

Check that there is no memory stick inside the phone!
Can be removed without gloves.

3.1 Battery Cover & Battery

REMOVAL

Remove the battery cover with your hand.

Force the battery cover to slide from its locked position towards the end of the phone.
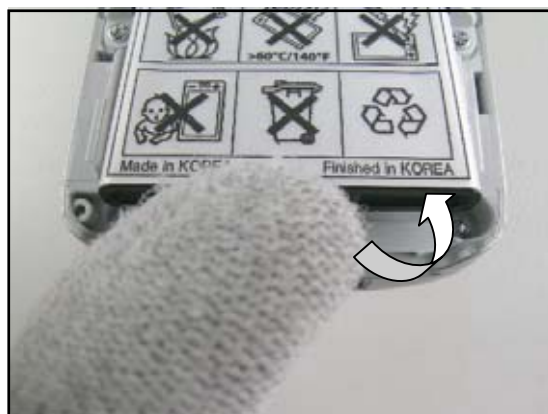
Slide down the battery cover completely and remove it.

Remove the battery from the phone with your fingers.

Lift the battery up to release it.

If not released, turning the phone around at the same time will make it become released!

Remove the battery from the phone with your fingers.

Battery Cover & Battery *continued*

ASSEMBLY

Slide the battery into the frame cavity with your fingers until it is secured in its proper position.

Start at the bottom and slide the battery cover onto the phone.

Push with your thumb on the battery cover until it is completely closed.

3.2 Antenna Cover

REMOVAL

Follow the Removal instructions of section 3.1

Remove the two screws by using bit NTZ 112 1052 (Phillips bit).

Removed screws cannot be reused and must be scrapped!

Be careful not to scratch the antenna cover and the frame with the guitar pick!
***The camera lid has to be opened before the antenna cover is removed from the frame (3, picture below)!***

Open the phone with the guitar pick by starting at pos. 1.

It will be easier to insert the guitar pick between the antenna cover and the frame if you at the same time bend the cover slightly upwards with your thumb (2).

Gently move the guitar pick along the gap both ways (4) until the antenna cover is loose on all sides.

Be careful not to scratch/damage the antenna cover with the guitar pick where the two different plastics meet (indicated by arrows)!

If necessary, open up with the guitar pick on the opposite side (5).

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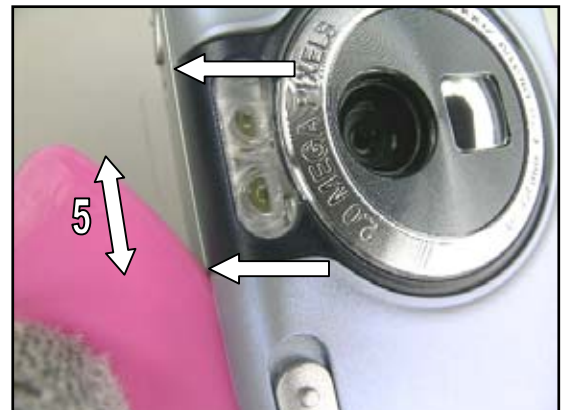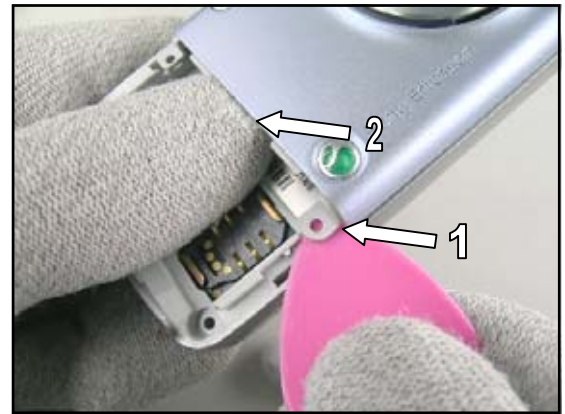
Antenna Cover *continued*

Be careful not to damage the antenna cover and the frame as they become separated!

Gently lift the cover in the loose end (6) and then slide/wiggle it forward in the arrow direction (7) until it can be removed.

ASSEMBLY

The camera lid has to be open when the antenna cover is assembled to the frame!

Place the antenna cover over the frame starting at the top and then snap them together.

Check that the antenna cover is properly assembled, i.e. no gaps along the sides!
If there still is a gap somewhere, gently press the two halfs together with your fingers!

Close the camera lid.

Apply 9 Ncm (± 2 Ncm) torque for the screws by using the bit NTZ 112 1052 (Phillips bit)!

Tighten two *new* screws through the antenna cover into the frame.

Follow the Assembly instructions of section 3.1
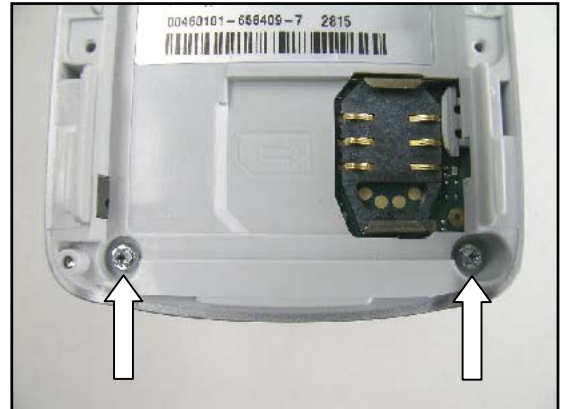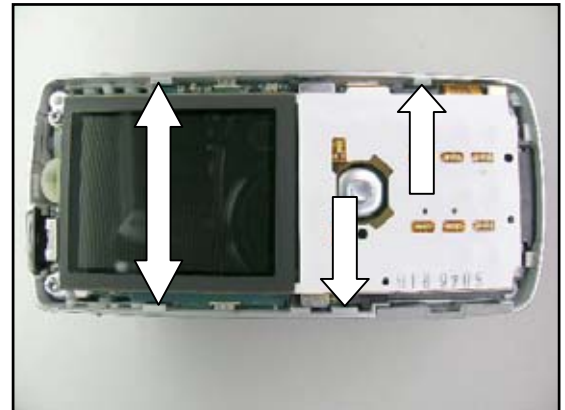
3.3 Front

REMOVAL

Follow the Removal instructions of section 3.1 – 3.2

Remove the two screws at the bottom of the phone by using NTZ 112 288 (torx bit no. 6).

Removed screws cannot be reused and must be scrapped!

Be most careful when sliding the guitar pick where the frame hooks secure the front!

Be careful not to scratch the phone with the guitar pick!

Open the phone with the guitar pick, starting at the memory card rubber lid.

Then gently move the guitar pick along the gap both ways until the front is loose on all sides.

If necessary do the same thing on the opposite side.

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Front *continued*

When separating the front from the frame you have to be most careful not to damage these parts and in particular avoid damage to the front caused by the top hook (1) of the frame!
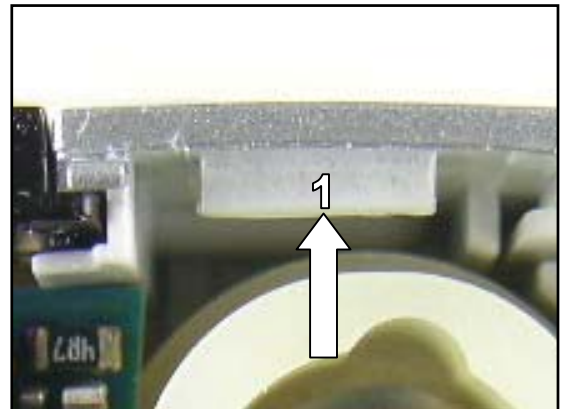
Do not bend the front to much apart from the frame to avoid damages to the front caused by the top hook!

Sometimes the keyboard will fall out when the front is removed.

Be careful not to damage the front and the frame as they become separated!
Sometimes it demands quite a lot of force to remove the front!

Wiggle the front gently side to side while pulling the front away from the frame.

Front *continued*

ASSEMBLY

Remove the inside protection (new front only)!
Do not to scratch the glass with the tweezers!
Use air blow equipment to clean the front glass
Make sure the keyboard is in its proper position!

Place the front at the top over the frame.

Press the front forward until it snaps onto the top hook.

Then fold down the front against the frame and start to snap them together.

Gently press with your fingers around the front.

Make sure that there are no gaps around the phone!
If there still is a gap somewhere, gently press the two halfs together with your fingers!

Apply 18 Ncm torque for the screws using NTZ 112 288 (torx bit no.6)!

Tighten two *new* screws in the frame cavities.

Follow the Assembly instructions of section 3.2 – 3.1
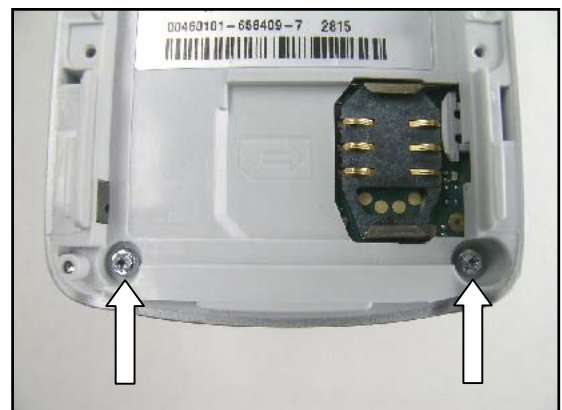
3.4 Keyboard

REMOVAL

Follow the Removal instructions of section 3.1 – 3.3

Remove the keyboard by hand or tweezers.

ASSEMBLY

Make sure the keyboard is placed in its proper position by using the guide peg on the keyboard and the guide hole on the keyfoil!

Place the keyboard onto the keyfoil.

Follow the Assembly instructions of section 3.3 – 3.1

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3.5 Plastic Carrier

REMOVAL

Follow the Removal instructions of section 3.1 – 3.4

Be careful not to damage the PBA and the plastic carrier with the opening tool!

With the front opening tool, gently release the plastic carrier (not only the metal plate) from the frame.

If necessary, do the same thing on the opposite side.
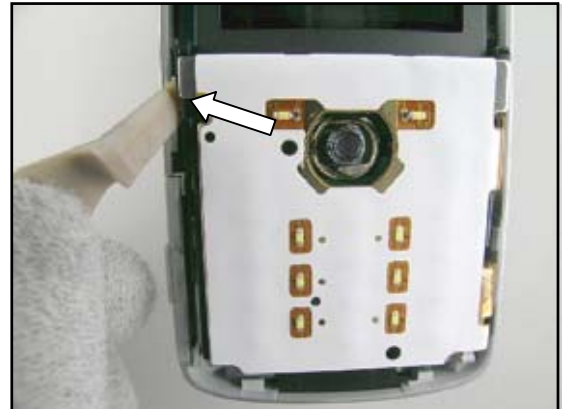
Bend/lift (1) the plastic carrier no more than 2 mm otherwise it might break and damage may occur to the board-to-board connector (2)!

Gently bend/lift the plastic carrier until it becomes free from the PBA using a blunt pair of tweezers (1).
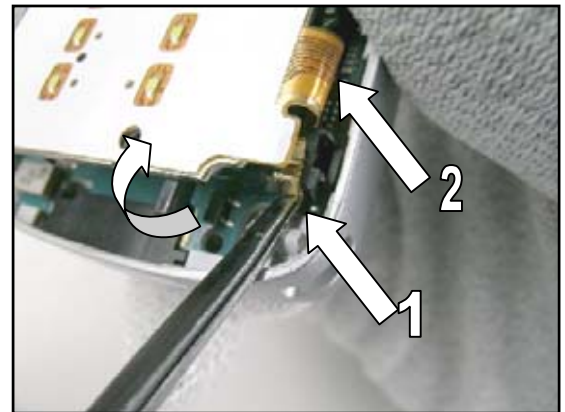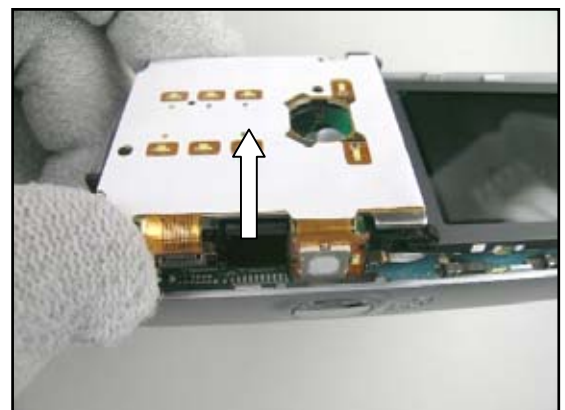
Be most careful when removing the keyfoil board-to-board connector with the flexfilm assembly tool!

Disconnect the keyfoil flexfilm board-to-board connector by using the flexfilm assembly tool.
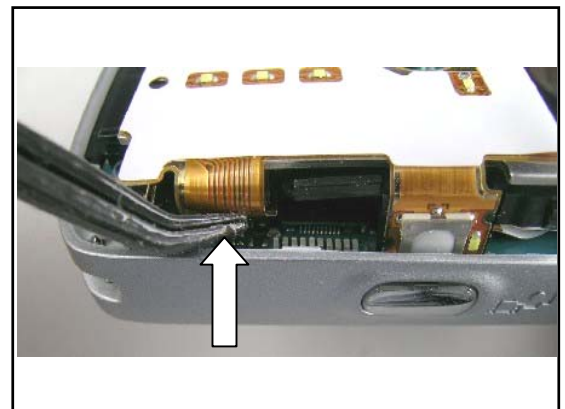
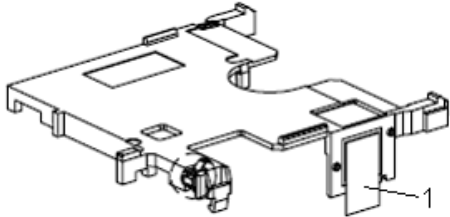**Be careful when removing the plastic carrier!**

Lift the plastic carrier straight up and away from the frame.

Plastic Carrier *continued*

ASSEMBLY

Remove the protection tape (1), (new plastic carrier only).
Otherwise assemble a new adhesive on the plastic carrier.
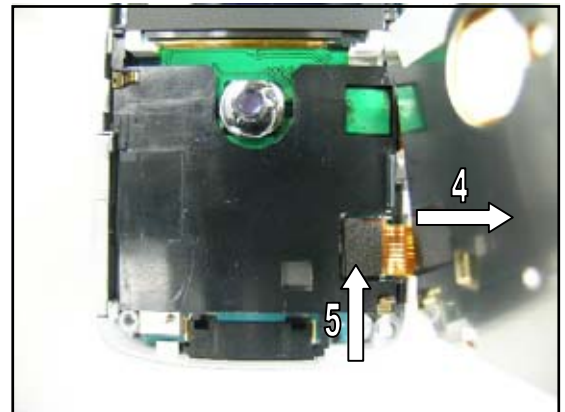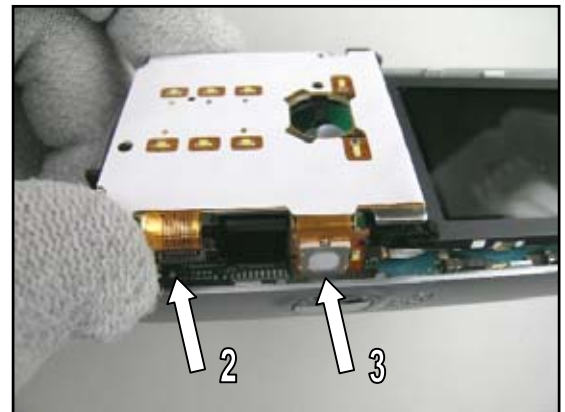Assemble the keyfoil and metalplate to the plastic carrier.

Gently bend the keyfoil flexfilm (2) underneath the plastic carrier to prevent it from getting squeezed!
Be careful not to damage the keyfoil flexfilm (3) when sliding the plastic carrier into the frame!
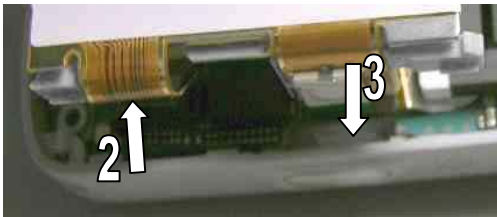
Press and snap the plastic carrier onto the frame.

Be careful not to damage the keyfoil flexfilm!
Make sure the board-to-board connector on the PBA has not become broken!

Gently flip up the keyfoil and metal plate to the right (4).

Connect the keyfoil flexfilm board-to-board connector to the PBA (5) with your fingers or with the flexfilm assembly tool.

Gently fold down the keyfoil and metal plate (6) onto the plastic carrier.

Make sure the keyfoil is correctly mounted against the two stops (7) on the plastic carrier!
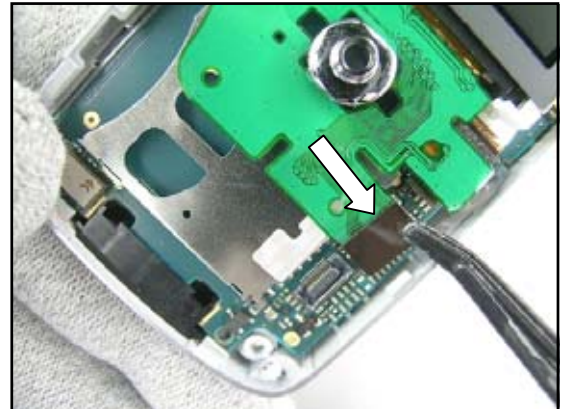
Follow the Assembly instructions of section 3.4 – 3.1
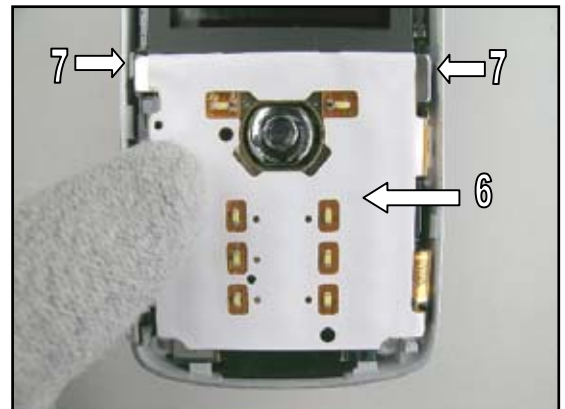
3.6 LCD

REMOVAL

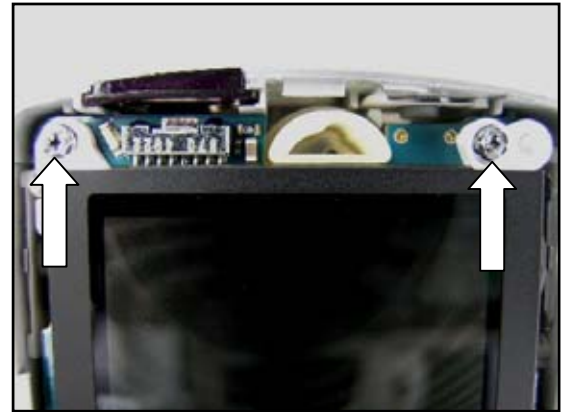*Follow the Removal instructions of section 3.1 – 3.5*

Be careful not to damage the LCD flexfilm and the board-to-board connector with the tweezers!

Disconnect the camera flexfilm board-to-board connector by lifting upwards with the flexfilm assembly tool.

Remove the two screws using bit NTZ 112 288 (torx bit no. 6) at the top of the LCD carrier.
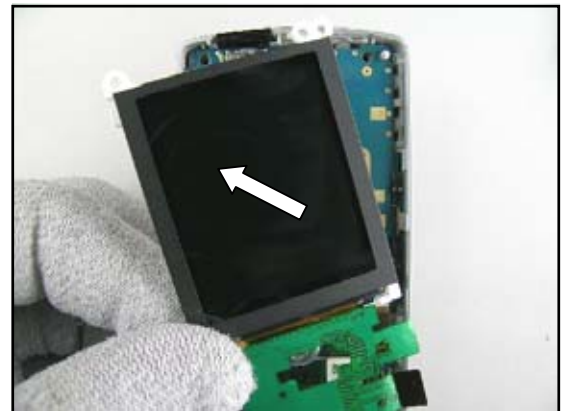
Removed screws cannot be reused and must be scrapped!

When handling the LCD, be careful not to touch the display glass at any time!

Be careful not to damage the LCD flexfilm with the tweezers!

Gently lift the LCD with your fingers or with the flexfilm assembly tool.
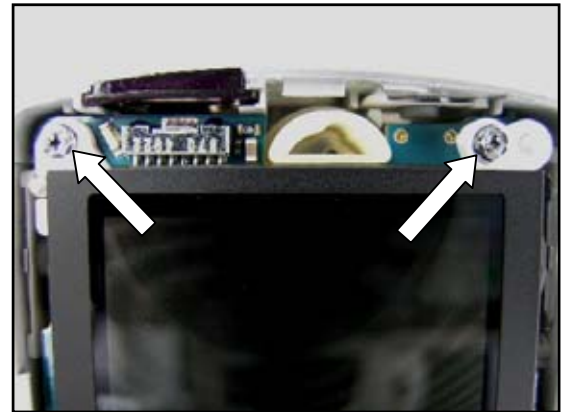
LCD *continued*

ASSEMBLY

Remove the LCD protection foil (new LCD only)!

Gently place the LCD with your fingers to its proper position by using the frame guide peg (1).

**Apply 18 Ncm torque for the screws using NTZ 112 288 (torx bit no. 6)!**

Tighten two *new* screws into the frame cavities.

Be careful not to damage the LCD flexfilm!
Make sure the board-to-board connector on the PBA has not become broken!

Connect the camera flexfilm board-to-board connector to the PBA with your fingers or with the flexfilm assembly tool.

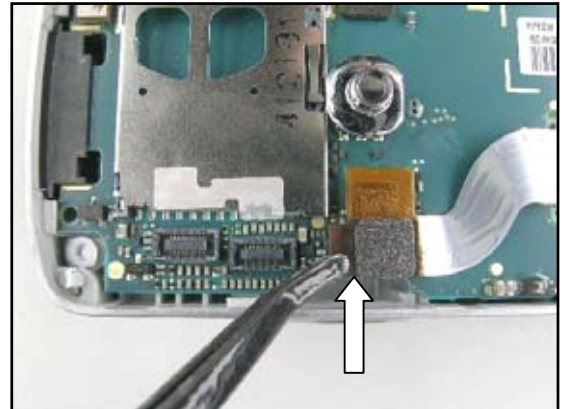*Follow the Assembly instructions of section 3.5 – 3.1*
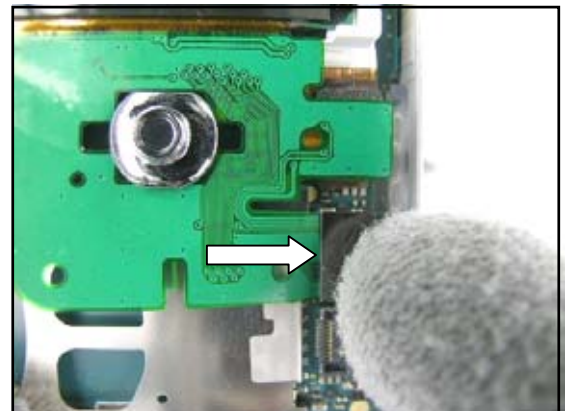
3.7 PBA

REMOVAL

Follow the Removal instructions of section 3.1 – 3.6

Be careful not to damage the camera flexfilm and the board-to-board connector with the tweezers!

Disconnect the camera flexfilm board-to-board connector by lifting upwards with the flexfilm assembly tool.
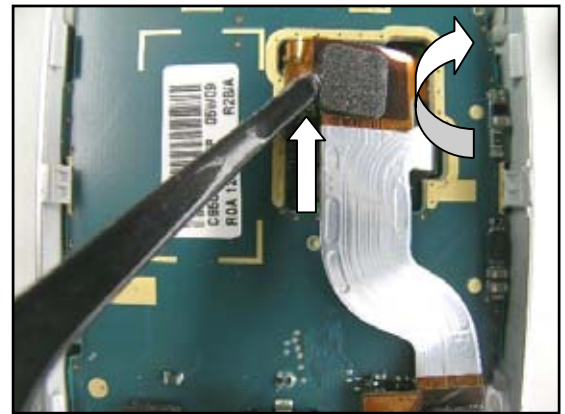

Be careful not to damage the camera flexfilm and the board-to-board connector with the tweezers!

Disconnect the camera flexfilm board-to-board connector by lifting upwards with the flexfilm assembly tool.
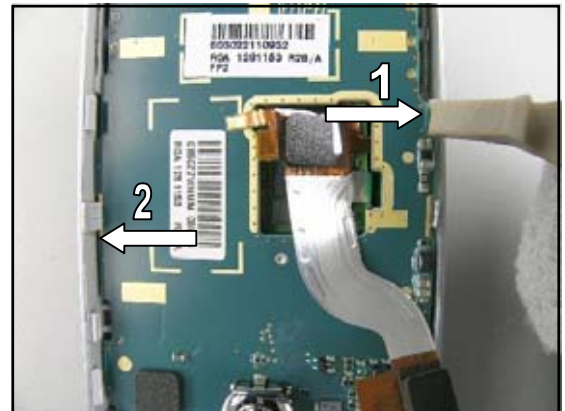

Use the front opening tool to separate the PBA from the frame.

Two frame snap fit hooks, located in the middle section, are to be released.

Place the opening tool between the PBA and the frame and turn the tool until the PBA is released.
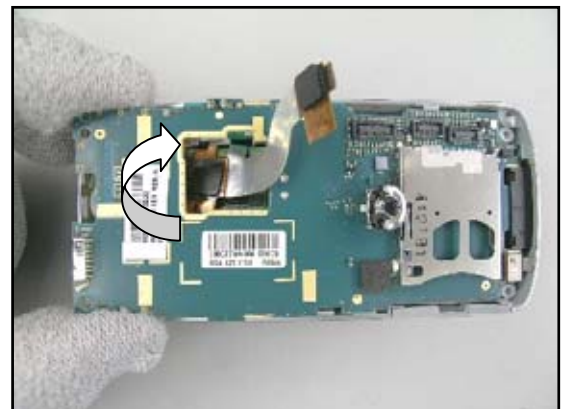
Place the front opening tool as shown (1).

Do the same thing on the opposite side (2).

**Do not bend the PBA too much upwards!**

To remove the PBA, lift the top of the PBA up and away from the frame as high as it takes until it can be easily moved.

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PBA *continued*

With the PBA in the raised position, wiggle the board side to side while pulling it away from the system connector.

The system connector may become loose when the PBA is removed!
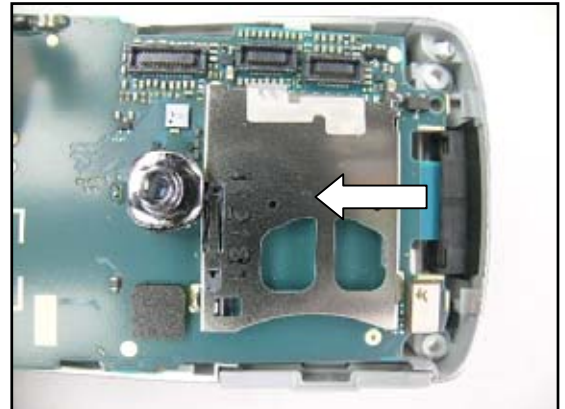
Be careful not to damage the camera flexfilm!

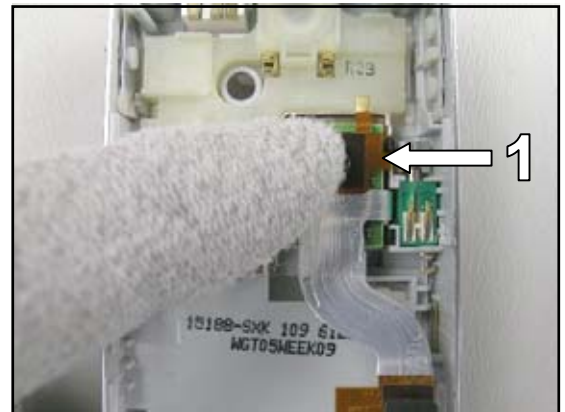Gently slide the camera flexfilm trough the hole of the PBA.

ASSEMBLY

Be careful not to damage the camera flexfilm!
Make sure the board-to-board connector on the camera has not become broken!

Gently fold the flexfilm to the left (1).

Connect the upper camera flexfilm board-to-board connector to the camera with your fingers or with the flexfilm assembly tool.
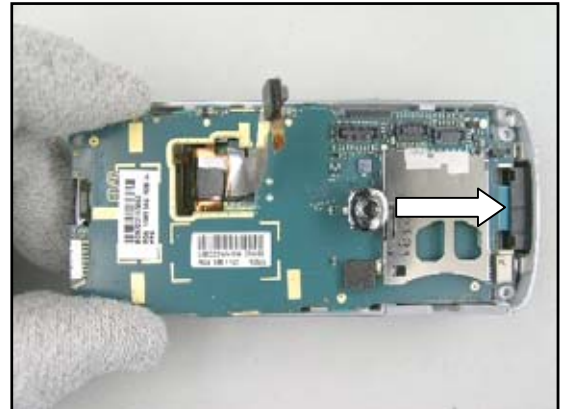

Be careful not to damage the camera flexfilm!

Gently slide the camera flexfilm trough the hole of the PBA.

PBA *continued*

Do not bend the PBA too much upwards!

With the PBA in its raised position, wiggle the board side to side (if necessary) while pressing it into the system connector.

Fold down the PBA completely so that its guide hole is aligned with the guide pin at the top of the frame (1).

Snap the PBA down into the frame.

Make sure that the PBA and the system connector are in their proper positions and securely locked by the two hooks (2) on each side of the frame!
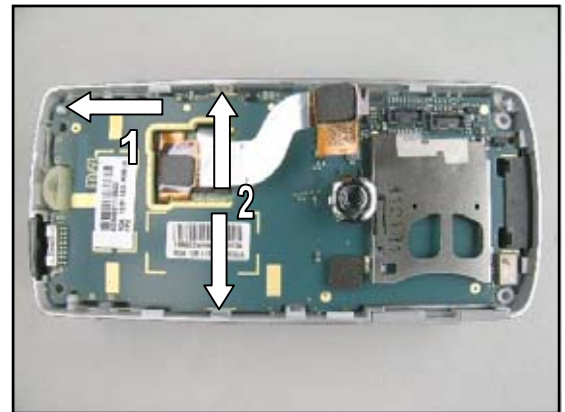
Be careful not to damage the camera flexfilm!
Make sure the board-to-board connector on the PBA has not become broken!

Connect the lower camera flexfilm board-to-board connector to the PBA with your fingers or with the flexfilm assembly tool.

Follow the Assembly instructions of section 3.6 – 3.
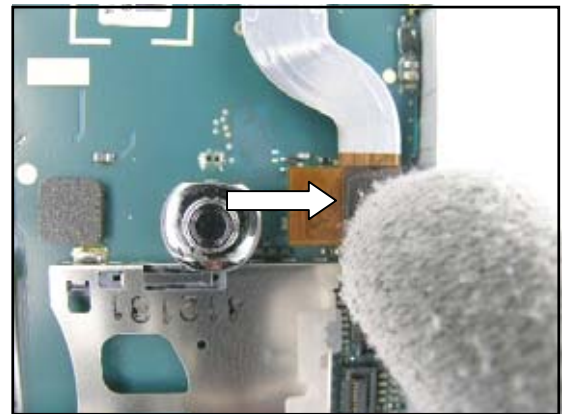
3.8 Camera

REMOVAL

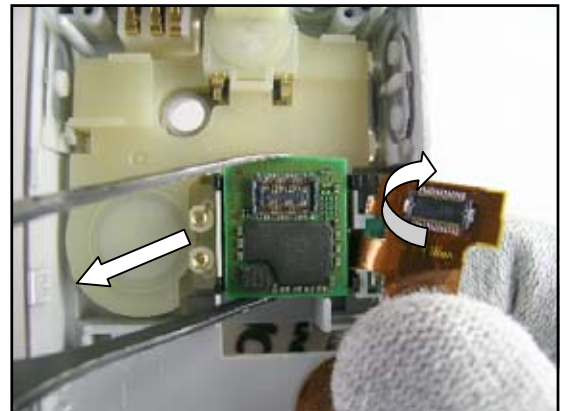*Follow the Removal instructions of section 3.1 – 3.7*

Be careful with the camera and its flexfilm and do not touch the camera lens!

Gently fold away the camera flexfilm to the right.

Remove the camera by lifting it straight up.

ASSEMBLY

Mount the camera from the inside of the frame by pressing gently with your finger, until it is properly mounted.

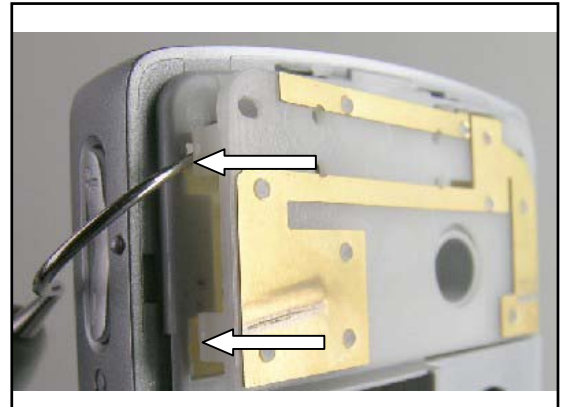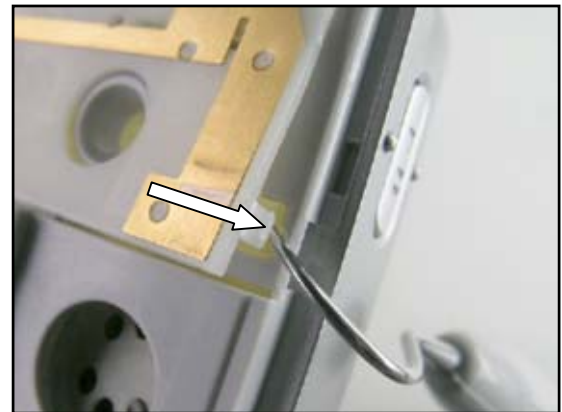*Follow the Assembly instructions of section 3.7 – 3.1*

3.9 Antenna

REMOVAL

Follow the Removal instructions of section 3.1 – 3.7

Be careful not to damage the frame and the antenna with the dentist hook!

Remove the antenna from the frame with a dentist hook. Start by pressing the hook into the holes.

Do the same thing on the opposite side of the antenna.

Be careful not to damage the frame and the antenna with the tweezers!

Push gently with a blunt pair of tweezers (making sure that you press on the snap hooks of the antenna) from the inside of the frame until the whole antenna is released.
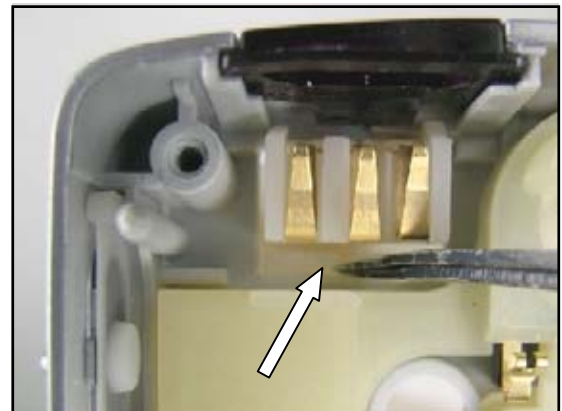
ASSEMBLY

Assemble a new antenna with your hands.

Make sure that the antenna is mounted in its proper position!
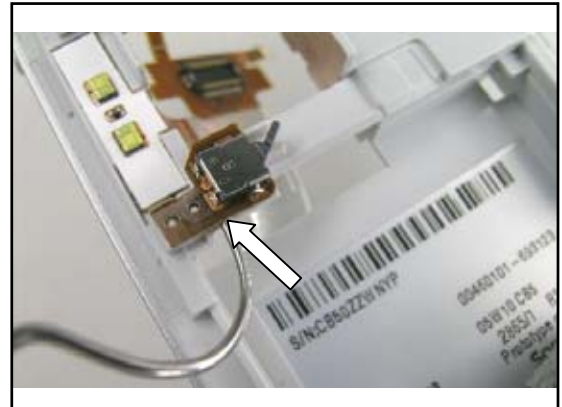
Follow the Assembly instructions of section 3.7 – 3.1

3.10 Camera Flex

REMOVAL

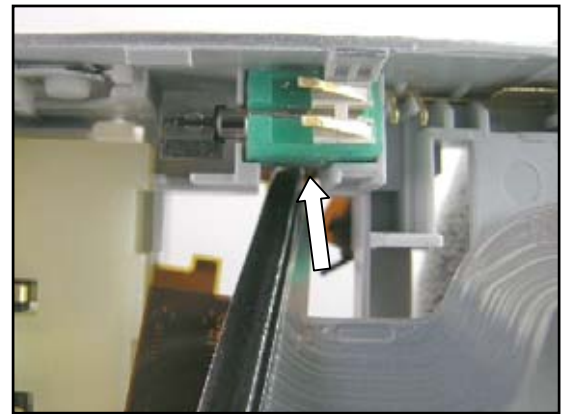*Follow the Removal instructions of section 3.1 – 3.8*

Note how the camera flex is assembled before removal!
Be careful with the dentist hook!

Gently bend with the dentist hook under the camera flex until it becomes loose.

Be careful with the tweezers!

Continue and do the same thing on the flexfilm for the LED´s by using the tweezers.

ASSEMBLY

If necessary, clean the surface of the frame with isopropyl alcohol before attaching new adhesives!

Gently slide a camera flexfilm through the hole in the frame.

Attach the camera flex to the frame.

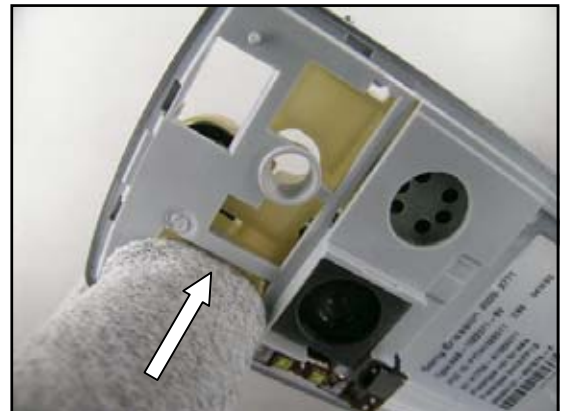*Follow the Assembly instructions of section 3.8 – 3.1*

3.11 Speaker Box

REMOVAL

Follow the Removal instructions of section 3.1 – 3.9

Press with your finger from the back until the speaker box starts to become separated from the frame.

Gently push the speaker box away from the frame until it becomes loose and can be removed.
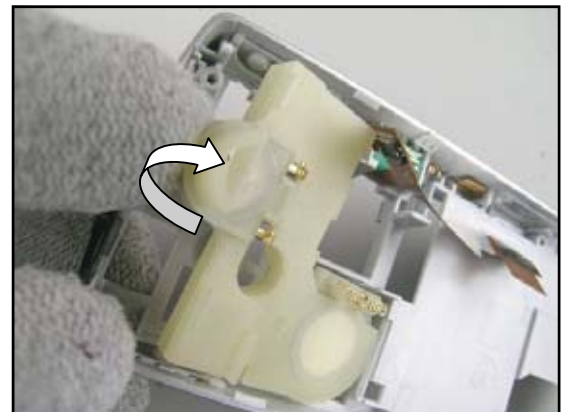
ASSEMBLY

Remove adhesive remains from the speaker cavity (1)! To avoid damage, do not press in the center of the speaker!

Peel off the protection foil (new speaker only) and mount the speaker box in its proper position.

Follow the Assembly instructions of section 3.9 – 3.1

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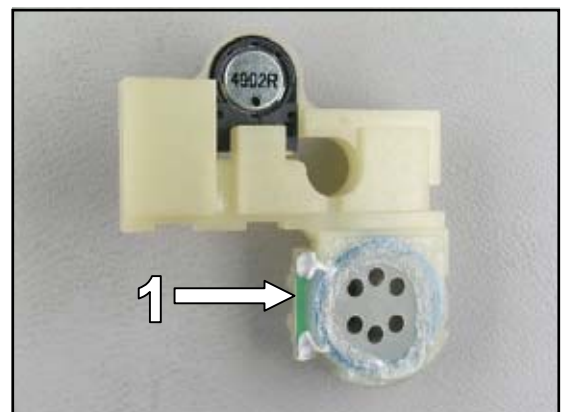## 3.12 System Connector

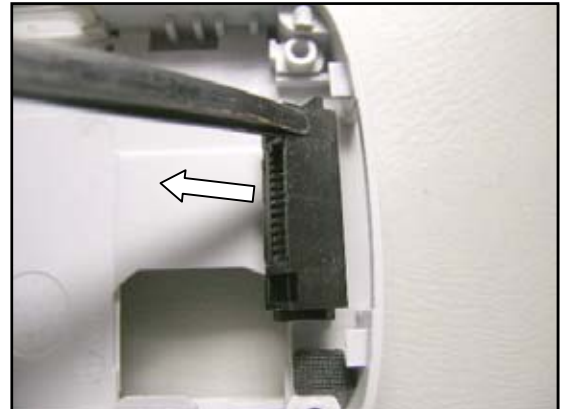### REMOVAL

Follow the Removal instructions of section 3.1 – 3.7

Remove the system connector with a blunt pair of tweezers or by hand.

ASSEMBLY

Mount the system connector with your fingers or tweezers.

Check that the system connector has reached the bottom of the frame!

Follow the Assembly instructions of section 3.7 – 3.1

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3.13 Vibrator

REMOVAL
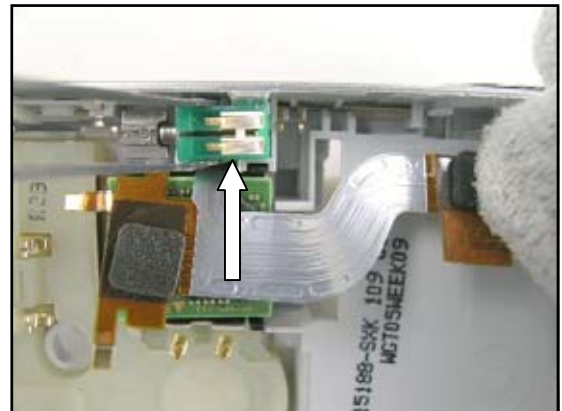
Follow the Removal instructions of section 3.1 – 3.7

Do not touch the vibrator contact springs and do not damage the flywheel!

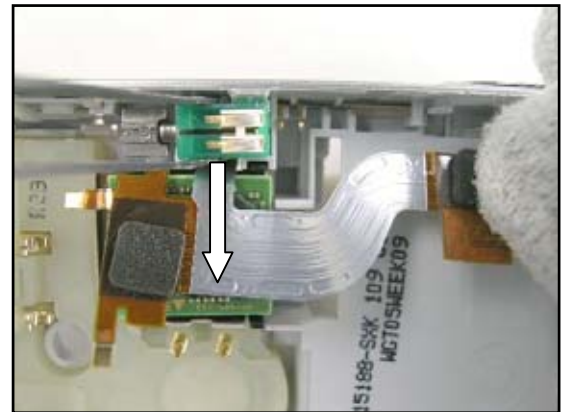Lift the vibrator straight up with a blunt pair of tweezers.

ASSEMBLY

Mount the vibrator using a blunt pair of tweezers.

Press the vibrator gently to the bottom of the cavity with the tweezers!

Follow the Assembly instructions of section 3.7 – 3.1

3.14 Bluetooth Antenna

REMOVAL

Follow the Removal instructions of section 3.1 – 3.7

Note the BT antenna position on the frame!

Remove the BT antenna with a dentist hook and a blunt pair of tweezers.

ASSEMBLY

Mount the antenna with the tweezers.

Follow the Assembly instructions of section 3.7 – 3.1

3.15 IrDA Window

REMOVAL

Follow the Removal instructions of section 3.1 – 3.7

Remove the IrDA window using the flexfilm assembly tool or your fingers.

ASSEMBLY

Be careful not to scratch the IrDA window with the flexfilm assembly tool!

Mount the IrDA window using the flexfilm assembly tool or your fingers.

Follow the Assembly instructions of section 3.7 – 3.1

3.16 On/Off Key

REMOVAL
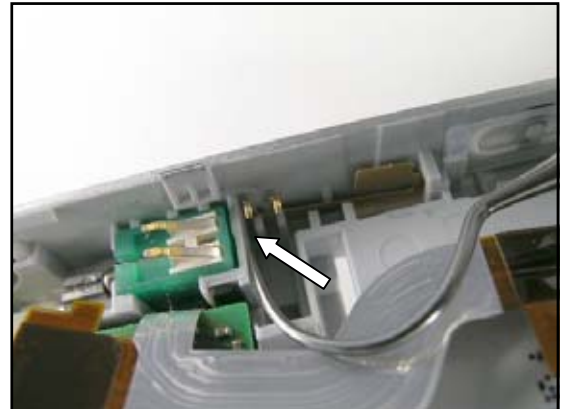
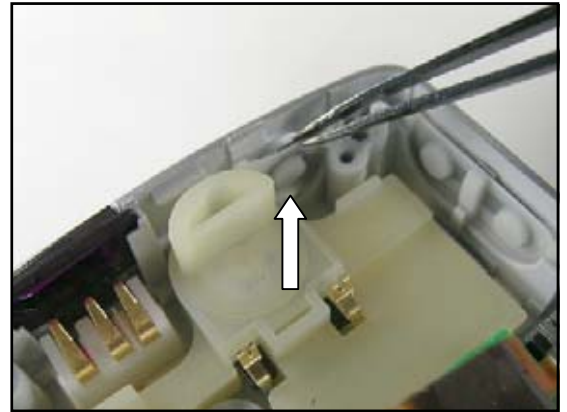*Follow the Removal instructions of section 3.1 – 3.7*

Remove the On/Off key with a blunt pair of tweezers.

ASSEMBLY

Mount a new On/Off key into the frame with the tweezers or your fingers.

Make sure that the On/Off key is properly mounted!

Follow the Assembly instructions of section 3.7 – 3.1

3.17 Volume Key

REMOVAL

Follow the Removal instructions of section 3.1 – 3.7

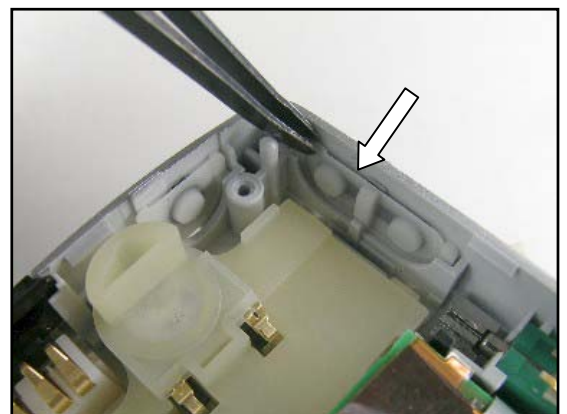Remove the volume key with a blunt pair of tweezers.

ASSEMBLY

Do not damage the volume key with the tweezers!

Mount a new volume key by using the tweezers or your fingers.

Make sure the volume key is properly mounted!

Follow the Assembly instructions of section 3.7 – 3.1

3.18 Music Player Key

REMOVAL

Follow the Removal instructions of section 3.1 – 3.7
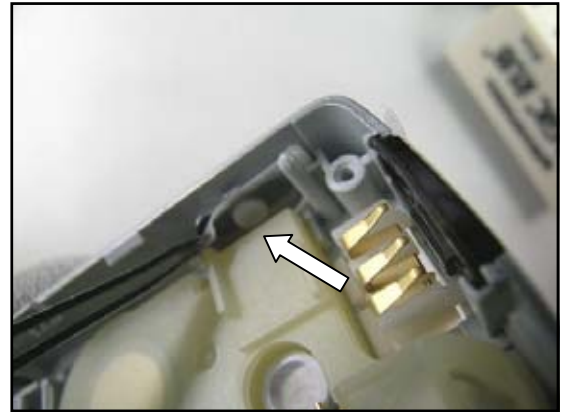
Remove the music player key with a blunt pair of tweezers.

ASSEMBLY

Do not damage the music player key with the tweezers!

Mount a new music player key by using the tweezers or your fingers.

Make sure the music player key is properly mounted!

Follow the Assembly instructions of section 3.7 – 3.1

3.19 Camera Key

REMOVAL

Follow the Removal instructions of section 3.1 – 3.7

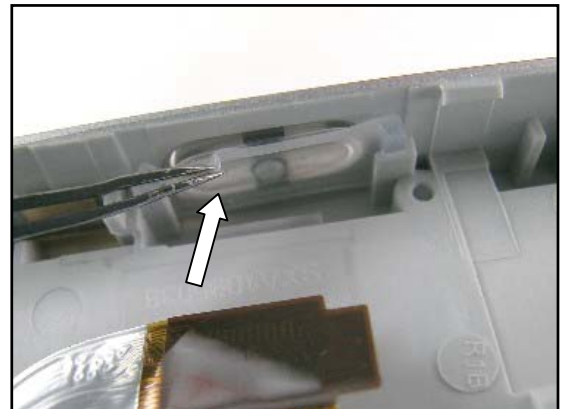Remove the camera key with a blunt pair of tweezers.

ASSEMBLY

Be careful not to damage the camera key with the tweezers!

Mount a new camera key by using the tweezers or your fingers.

Make sure the camera key is properly mounted!

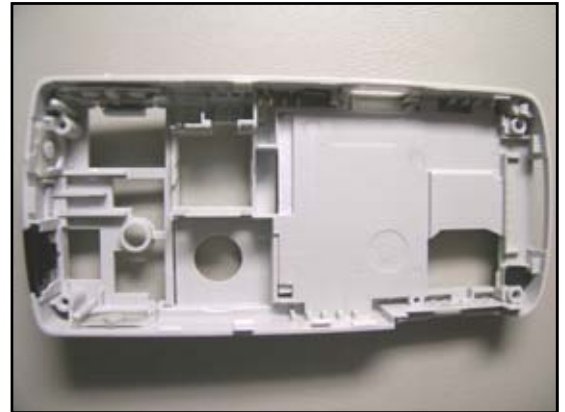*Follow the Assembly instructions of section 3.7 – 3.1*

3.20 Frame

REMOVAL & ASSEMBLY

Follow the Removal instructions of sections 3.1 – 3.19

Replace the frame.

Follow the Assembly instructions of sections 3.19 – 3.1

3.21 Camera Gasket

REMOVAL

Follow the Removal instructions of section 3.1 – 3.8

**Be careful with the camera and its flexfilm and do not touch the camera lens!**

Gently remove the old camera gasket with the dentist hook and a blunt pair of tweezers.

ASSEMBLY

If necessary, clean the surface of the camera with isopropyl alcohol before attaching a new gasket!

Attach a new camera gasket with the tweezers.

Follow the Assembly instructions of section 3.8 – 3.1
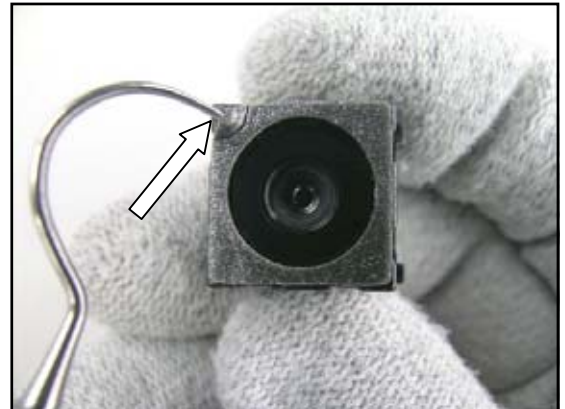
3.22 Tape, MS Duo

REMOVAL

Follow the Removal instructions of section 3.1 – 3.6

Be careful with the dentist hook!

Remove the tape using a dentist hook.

ASSEMBLY

If necessary, clean the metal surface with isopropyl alcohol before attaching the new tape!

Attach a new tape using a blunt pair of tweezers.

Follow the Assembly instructions of section 3.6 – 3.1

3.23 Support Pad, LCD

REMOVAL

Follow the Removal instructions of section 3.1 – 3.6

Be careful with the dentist hook!

Remove the pad using a dentist hook.

ASSEMBLY

If necessary, clean the surface with isopropyl alcohol before attaching the new pad!

Attach a new pad using a blunt pair of tweezers.

Follow the Assembly instructions of section 3.6 – 3.1

3.24 Camera Flex Pad, upper

REMOVAL

Follow the Removal instructions of section 3.1 – 3.6

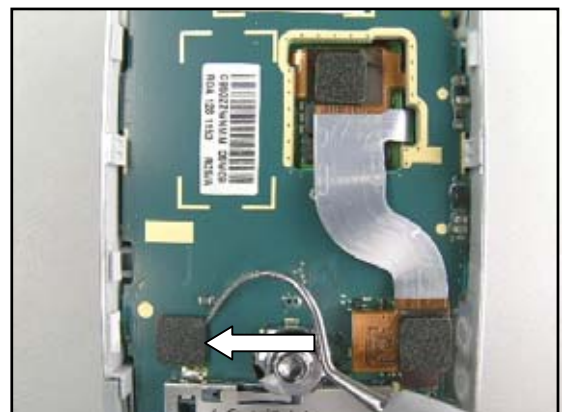**Be careful with the dentist hook!**

Remove the pad using a dentist hook.

ASSEMBLY

If necessary, clean the surface with isopropyl alcohol before attaching the new pad!

Attach a new pad using a blunt pair of tweezers.

Follow the Assembly instructions of section 3.6 – 3.1

3.25 Pressure Pad, camera connector

REMOVAL

Follow the Removal instructions of section 3.1 – 3.6

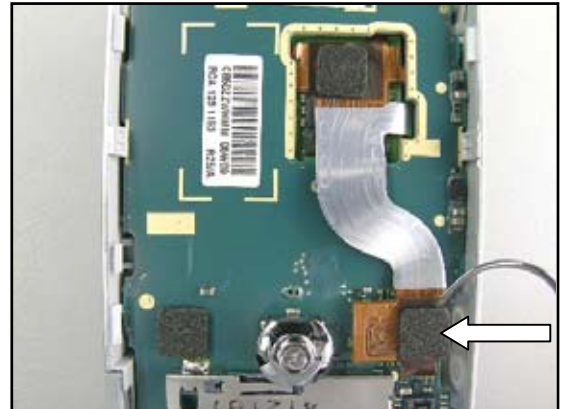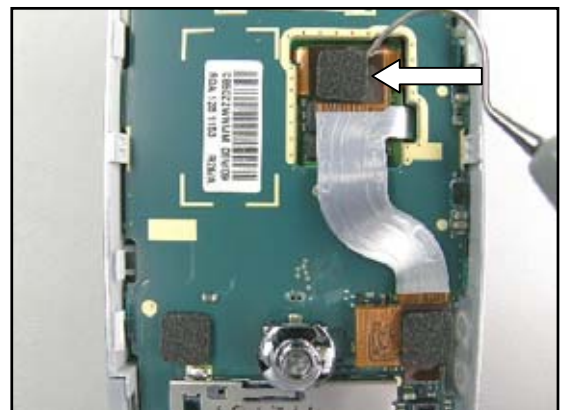**Be careful with the dentist hook!**

Remove the pad using a dentist hook.

ASSEMBLY

If necessary, clean the surface with isopropyl alcohol before attaching the new pad!

Attach a new pad using a blunt pair of tweezers.

Follow the Assembly instructions of section 3.6 – 3.1

3.26 Joystick Button

REMOVAL

Follow the Removal instructions of section 3.1 – 3.5

Remove the joystick button with your fingers.

**The joystick button cannot be reused due to the crash ribs inside the button!**

ASSEMBLY

When assembling a <u>new</u> joystick button, you must first check that the dust gasket is properly mounted.

The flat part of the joystick button should be pointing towards the top of the phone!

Press the joystick button onto the joystick switch.

Follow the Assembly instructions of section 3.5 – 3.1
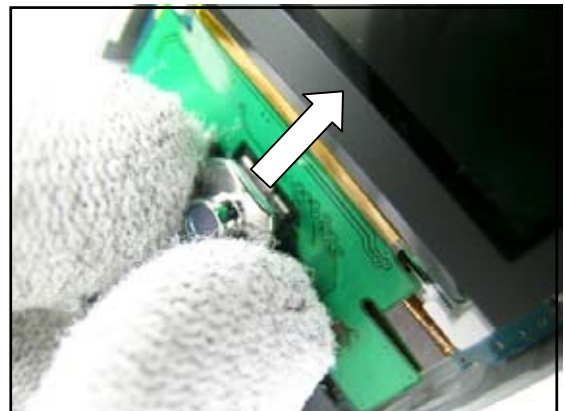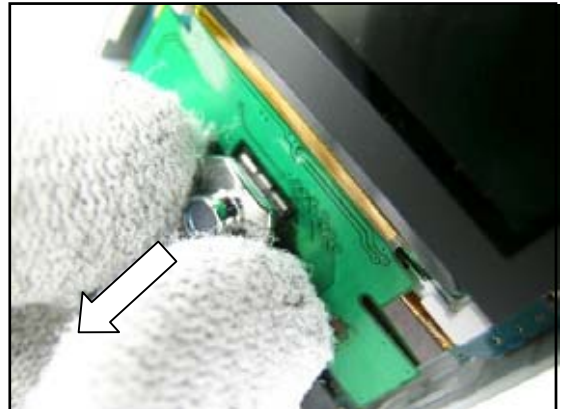
3.27 Keyboard Foil

REMOVAL

Follow the Removal instructions of section 3.1 – 3.5

Gently flip the keyfoil and metal plate to the right.
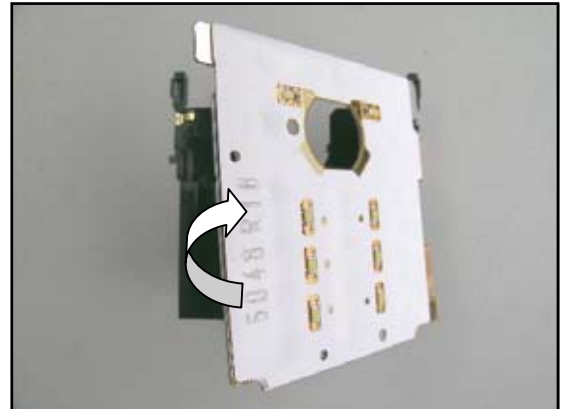
Remove the keyboard foil with a blunt pair of tweezers or by hand.

After removal – clean the surface of the metal plate with isopropyl alcohol.
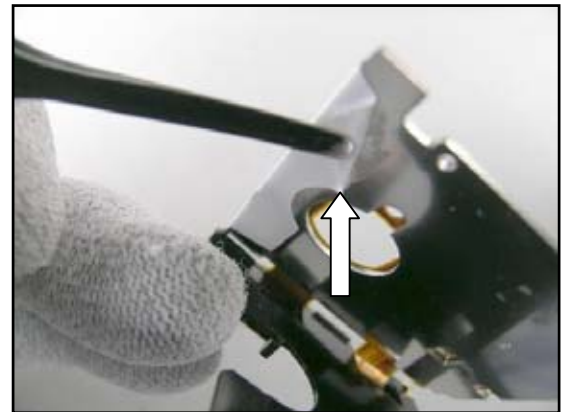
ASSEMBLY

The keyboard foil should be aligned to the markings and the holes on the plate!

Attach a new keyboard foil with your fingers.

Follow the Assembly instructions of section 3.5 – 3.1

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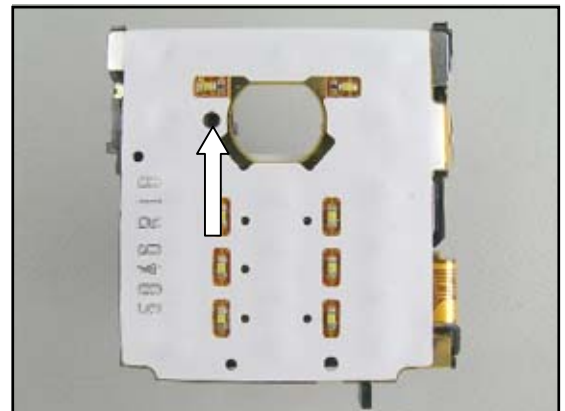
3.28 Ground Springs

REMOVAL

Follow the Removal instructions of section 3.1 – 3.5

Remove the two ground springs using a blunt pair of tweezers.

ASSEMBLY

Mount two new ground springs using a blunt pair of tweezers.

Follow the Assembly instructions of section 3.5 – 3.1

3.29 Spacer, board-to-board connector

REMOVAL

Follow the Removal instructions of section 3.1 – 3.5

Be careful not to damage the keyboard flexfilm with the tweezers.
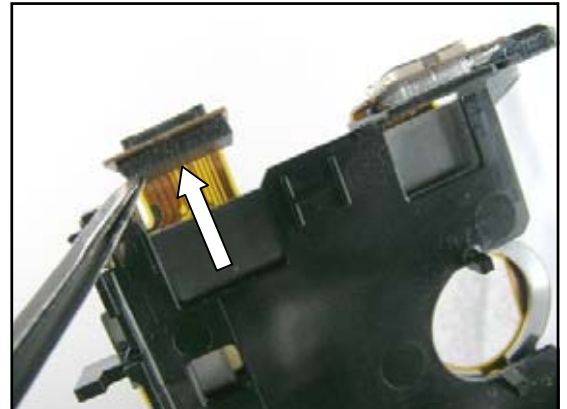
Remove the spacer with a blunt pair of tweezers or by hand.

ASSEMBLY

Attach a new spacer by hand.

Follow the Assembly instructions of section 3.5 – 3.1

3.30 Tape, plastic carrier

REMOVAL

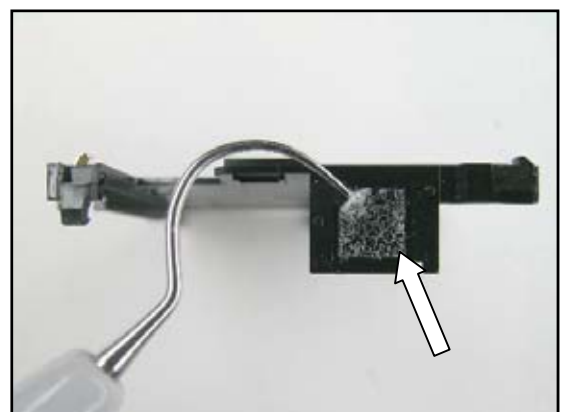*Follow the Removal instructions of section 3.1 – 3.5*

Remove the tape with a dentist hook.

ASSEMBLY

If necessary, clean the plastic carrier surface with isopropyl alcohol before attaching the new tape!

Attach a new tape with a blunt pair of tweezers.

Follow the Assembly instructions of section 3.5 – 3.1

3.31 Liquid Intrusion Indicator

REMOVAL

Follow the Removal instructions of section 3.1

Note the position of the liquid intrusion indicator on the frame!

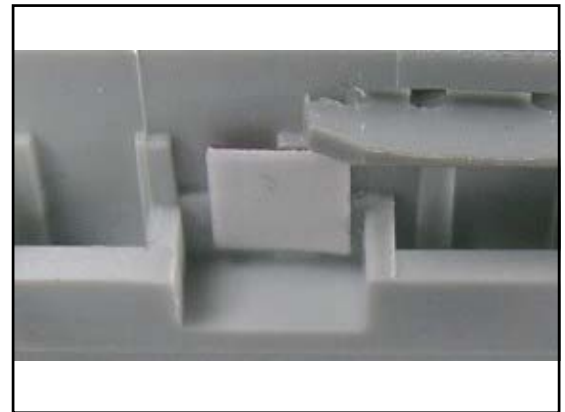Remove the liquid intrusion indicator with a dentist hook.

ASSEMBLY

If necessary, clean the frame surface with isopropyl alcohol before attaching the new indicator!

Attach a new indicator.

Follow the Assembly instructions of section 3.1

3.32 Memory Card Rubber Lid

REMOVAL

Can be done without any previous disassembly!

Remove the memory card rubber key with your fingers.

ASSEMBLY

Mount a new rubber lid by hand and using tweezers.

3.33 Plug, external antenna

REMOVAL

Can be done without any previous disassembly!

Be careful not to scratch the antenna cover with the dentist hook!

Remove the plug with the dentist hook.
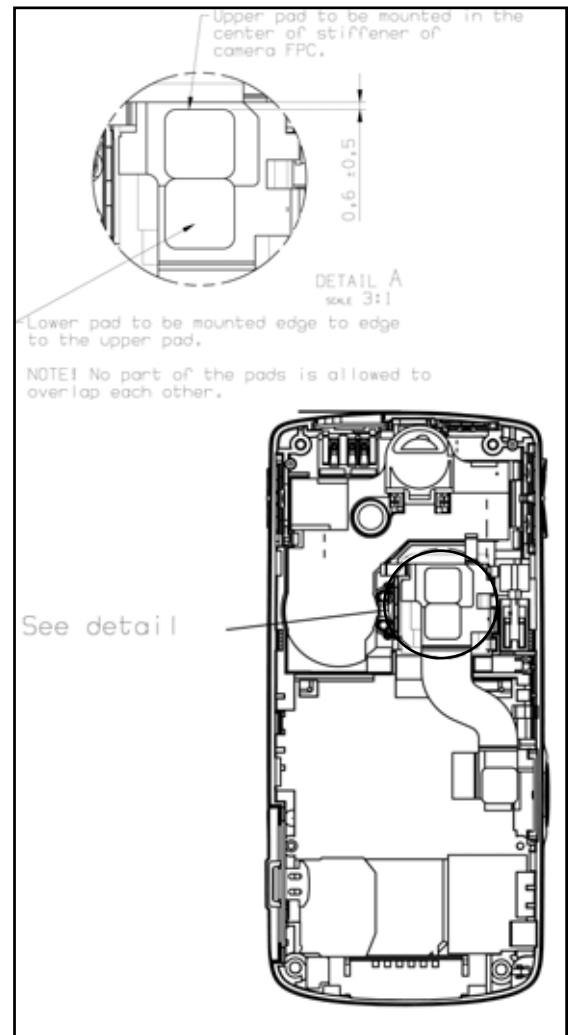
ASSEMBLY

Mount the plug with your fingers.

3.34 Mount camera flex film pads

Mount the two pads according to instructions to the right.

Upper pad to be mounted in the center of stiffener of camera FPC

Lower pad to be mounted edge to edge with the upper pad.

Note! No part of the pads are allowed to overlap each other.

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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!

1. Read the old label and/or write the information into the "Labelmake" program.

2. Heat up the label with a hot air flow solder station, if needed.

3. 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.

4. Check that the right label format is loaded in the Zebra printer.

5. Write a new label by using the program "Labelmake".
   Check that the printing is ok.

6. 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

Rev.	Date	Changes / Comments
A	2005-05-13	Initial release
B	2005-07-14	Added section: Mount camera flex film pads
		Updated and corrected fields.
		W800 added
C	2005-07-20	K758c added

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