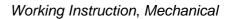


Applicable for S500, W580

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1 Introduction





Tools and Equipment 1.1

The following tools and equipment should be available while performing the procedures.

STANDARD TOOLS

Style 2A Tweezers – Rounded Tip

PRODUCT SPECIFIC TOOLS Coaxial Cable Removal Tool

Japanese Standard Torque Bit

- Nylon Pointer
- Torque Driver •
- Dental Hook •
- Plectrum

•

•









ESD EQUIPMENT

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

- ESD-wristband
- ESD-gloves

LABEL EQUIPMENT

The following special equipment is required when replacing or installing a new label:

- Hot air device
- Zebra printer connected to computer •

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1.2 General Cautions

The following cautions are considered to be generic for all products and will <u>not</u> be repeated in the Disassembly, Reassembly, and Replacements sections:

- SWITCH OFF THE PHONE AND REMOVE ANY MEMORY STICK BEFORE THE START OF THE DISASSEMBLY!
- KEEP ALL CONTACT SURFACES CLEAN!
- BE CAREFUL WHEN USING TOOLS LIKE THE DENTIST HOOK, TWEEZERS, PRY TOOLS, ETC. TO AVOID SCRATCHES OR DAMAGE TO THE EXTERIOR AND INTERIOR PARTS OF THE PHONE!
- BE CAREFUL NOT TO DAMAGE ANY CONTACT SPRINGS!
- REMEMBER TO REMOVE THE PROTECTION FILMS ON NEW PARTS SUCH AS THE FRONT COVER AND LCD!
- NEVER TOUCH THE DISPLAY GLASS!

1.3 Adhesives

Use a dentist hook, the tweezers, and/or a nylon pointer to remove old adhesives. Clean the surface with isopropyl alcohol before attaching new adhesives.

1.4 Using Hand and ESD Protection

When handling this product, keep all surfaces clean of dirt, dust, debris, and hand oil. Use appropriate ESD precautions when working on this product. The use of finger cots or gloves, an ESD mat, and an ESD wrist strap are required at minimum.

1.5 Protection of Displays, Lenses, and Windows

Any time the screen portion of a display assembly, the windows of a display cover, or a camera lens is unprotected and exposed, add a protective film over the exposed part to reduce the amount of dust, finger prints, debris, and/or damage that the part may obtain.

1.6 Acceptable Pry Tools

Whenever the phrase "pry tool" is used, a nylon pointer or a front opening tool may be used depending on the user's preference.



2 Disassembly

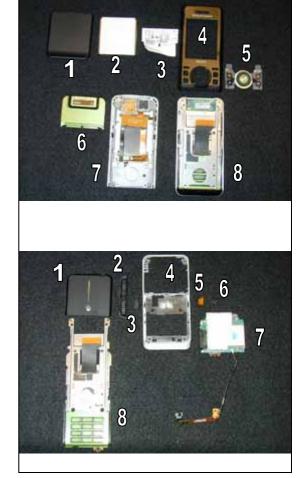
2.1 Overview

Perform the disassembly in the following order: **Slider – Top Section**

- Remove Battery Cover (1)
- Remove Battery (2)
- Remove Label (3)
- Remove Front Cover (4)
- Remove Navigation Keypad (5)
- Remove Camera Cover (6)
- Remove 6 Front Cover Screws (not shown)
- Separate Front Frame (7) and Rear Frame / Hinge Assembly (8)

Base – Bottom Section

- Remove Upper Rear Cover (1)
- Remove 4 Rear Frame Screws (not shown)
- Remove Chin Cover (2)
- Remove Microphone Gasket (3)
- Remove Rear Frame (4) from Hinge Assembly (8)
- Remove Bluetooth Tape (5)
- Remove Power Key (6)
- Remove Board and Antenna (7)





2.1.1 Battery Cover Removal

Use thumbs to push the battery cover down until it stops.

Lift the end of the battery cover to remove it.

2.1.2 Battery Removal

Use a finger to lift the battery up.









Pull the battery out of the battery cavity.

2.1.3 Label Removal

Apply hot air to soften the adhesive. **NOTE: THE USE OF HOT AIR IS OPTIONAL.**

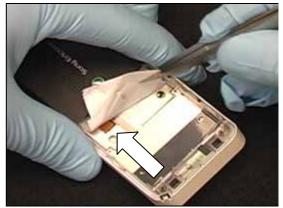
Use a pry tool or tweezers to begin peeling up the label.

Use tweezers to finish pulling the label off.

NOTE: BE CAREFUL WHEN PULLING THE LABEL OFF THE FLEX CONNECTOR.









2.1.4 Front Cover Removal

Insert the plectrum between the front cover and the frame at the bottom side of the volume key.







Slide the plectrum toward the top corner to release the latch.

Continue around the cover to release the other corner latch.

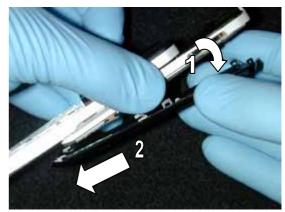
Slide the plectrum down the other side to release the side latch.



2.1.5 Front Cover Removal Continued

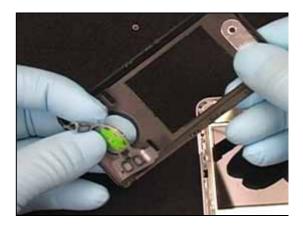
Rotate the cover up a small amount, and then slide it down and off of the frame.

NOTE: DO NOT ROTATE THE COVER TOO FAR OR THE BOTTOM PEGS WILL BE DAMAGED.



2.1.6 Navigation Keypad Removal

Remove navigation keypad from front cover.





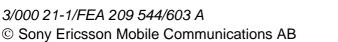
2.1.7 Camera Cover Removal

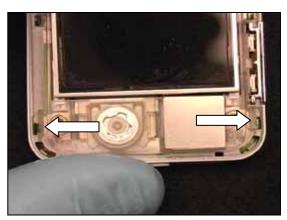
Locate the two tabs that hold the camera cover in place.

Use a pry tool to bend the metal tabs up.

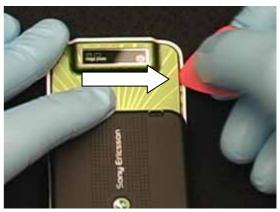
Insert a pry tool between the cover and the frame to pry the cover up.

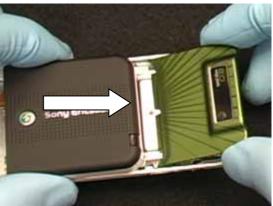
Remove the cover.













2.1.8 Front Cover Screws (6) Removal

Slide the hinge into the open position, and then use a torque wrench and a JCIS-0 bit to remove the 4 visible screws.

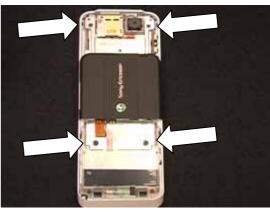
NOTE: DO NOT REUSE THE SCREWS.

Use the magnetism of the wrench to pull the bottom screws up through the hole in the hinge.

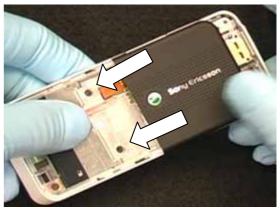
Slide the hinge partially closed until the remaining 2 screws are visible.

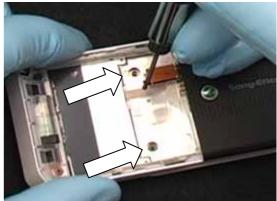
While holding the hinge in the partially closed position, remove the screws.

NOTE: DO NOT REUSE THE SCREWS.











2.1.9 Front Frame Removal

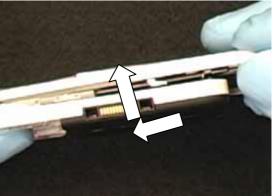
Use a pry tool to release the metal latch of the hinge from the Front Frame.

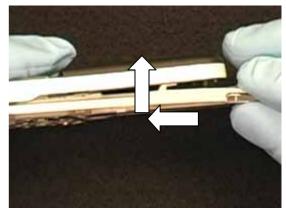
Slide the hinge to the closed position enough to release the metal hook.

Release the metal hook on the other side also.

Rotate the bottom of the Front Frame to the side enough to release the other metal latch.





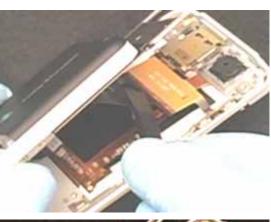


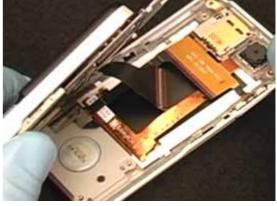




2.1.10 Front Frame Removal Continued

Use a pry tool to disconnect the Front Frame connector.





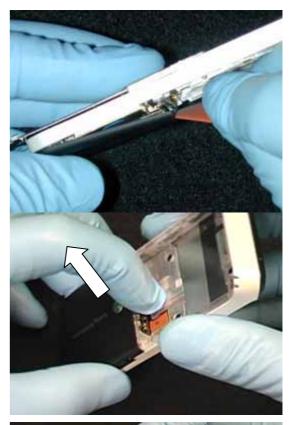
Remove the Front Frame from the hinge.

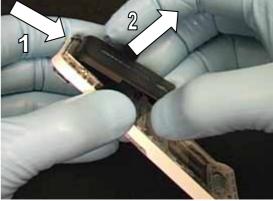
2.1.11 Upper Rear Cover Removal

Insert a pry tool between the rear cover and the rear frame.









Rotate or twist the tool until the rear cover latch releases.

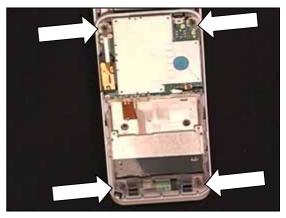
Use finger to pull up the rear cover and release the other latches.

Pull the rear cover down and out of the rear frame.

2.1.12 Rear Frame Screws (4) Removal

Use a torque wrench and a JCIS-0 bit to remove the 4 screws.

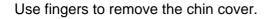
NOTE: DO NOT REUSE THE SCREWS.





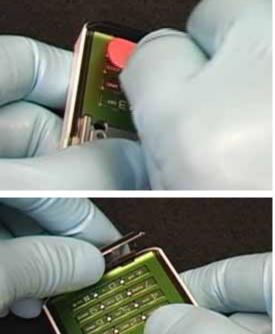
2.1.13 Chin Cover Removal

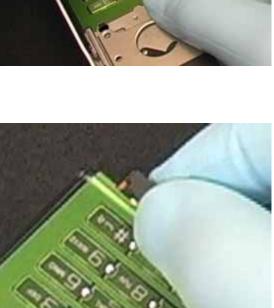
Insert the plectrum between the keypad and the left end of the chin cover.



2.1.14 Microphone Gasket Removal

Remove the microphone gasket from the hinge assembly.







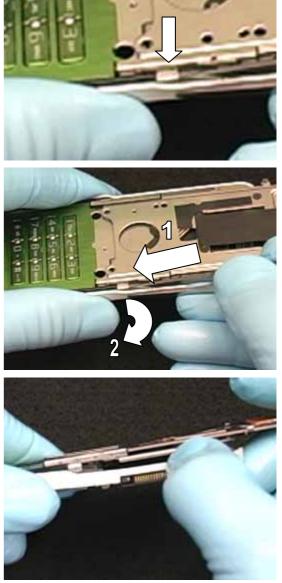
2.1.15 Rear Frame Removal from Hinge Assembly

With the slider open and the keypad up, locate the metal clip of the hinge.

Insert tweezers or small screwdriver under the metal clip and twist toward the center of the phone to release the latch.

Separate the frame from the hinge.

Repeat the process on the other side of the phone.







Use a pry tool to unplug the connector.

2.1.16 Power Key Removal

Use tweezers to remove the power key.

2.1.17 Bluetooth Tape

Use tweezers to remove the Bluetooth tape.

Working Instruction, Mechanical





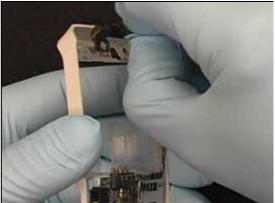




2.1.18 PC Board and Antenna Removal

Use a pry tool to release the board from the latches beside the SIM connector.







Remove the antenna from the slot on the rear frame.

Remove the board, coaxial cable, and antenna.



3 Part Replacement

3.1 Bluetooth Antenna

Remove the Upper Rear Cover as shown in the Disassembly section.

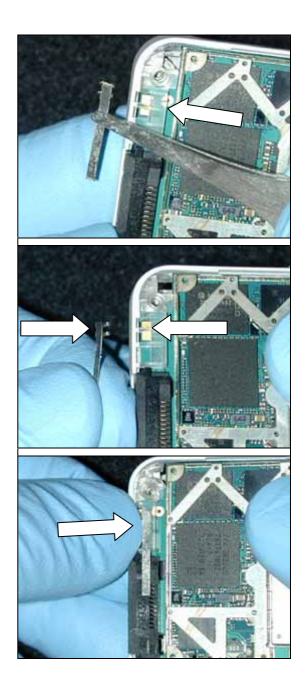
Removal

Remove the Bluetooth antenna from the rear frame by sliding it toward the edge of the frame.



Insert the bent pins of the antenna into the slots of the frame.

Push the antenna into place.





3.2 Coaxial Cable and PC Board

Remove the PC Board and Antenna Assembly as shown in the Disassembly section.

NOTE: USE THE REMOVAL TOOL OR THE BOARD CONNECTOR MAY BE DAMAGED.

Removal

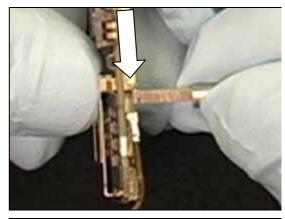
Installation

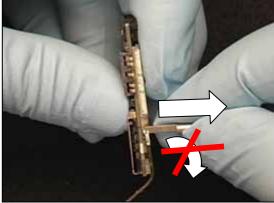
Insert the slot of the tool onto the end of the coaxial cable connector.

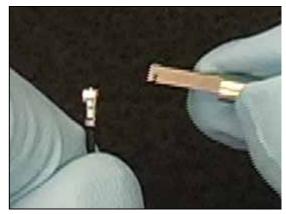
Pull the connector directly away from the PC board. *NOTE: DO NOT ROTATE.*

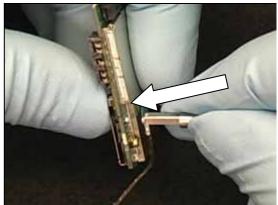
Snap the connector onto the PC board.

Insert the connector into the slot of the tool.











3.3 Coaxial Cable and Antenna

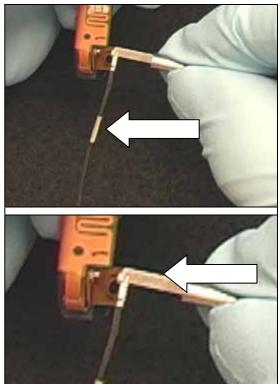
Remove the PC Board and Antenna Assembly as shown in the Disassembly section.

NOTE: IF THE COAXIAL CABLE CONNECTOR IS REMOVED FROM THE ANTENNA, THEN THE ANTENNA MUST BE REPLACED.

Installation

NOTE: CONNECT THE END OF THE COAXIAL CABLE THAT HAS THE METAL SECTION TO THE ANTENNA.

Insert the connector into the slot of the tool, and then snap the connector onto the antenna.



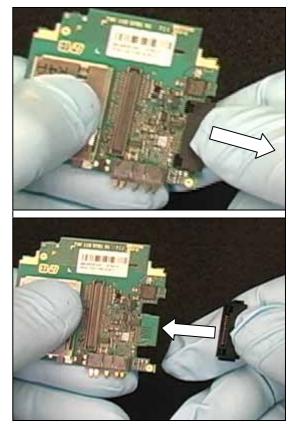


3.4 System Connector

Remove the PC Board and Antenna Assembly as shown in the Disassembly section.

Removal

Pull the system connector off of the PC board.



Installation

Push the system connector onto the PC board.

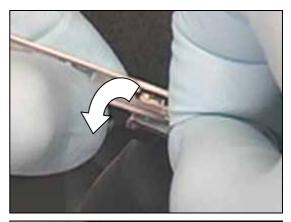


3.5 Volume Key

Remove the Front Frame as shown in the Disassembly section.

Removal

Lift the volume key up a small amount and then rotate it toward the center of the Front Frame.





Installation

Rotate the volume key down into the key cavity.



3.6 LCD Assembly

Remove the Front Cover as shown in the Disassembly section.

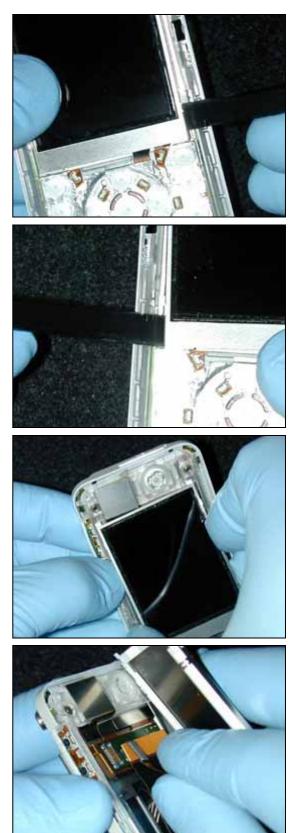
Removal

Use a pry tool to release the tab on one side of the LCD assembly.

Use a pry tool to release the tab on the other side of the LCD assembly.

Pull the LCD assembly down a small amount to release the top tabs.

Disconnect the LCD connector, and remove the LCD assembly from the front frame.





3.7 LCD Assembly Continued

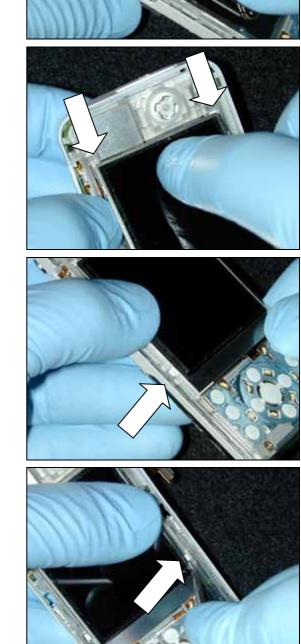
Installation

Plug the LCD connector into the connector on the main flex.

Insert the tabs on the top of the LCD into the slots on the carrier.

Insert the side tab on one side of the LCD into the slot on the front frame.

Repeat the previous step on the other side.





3.8 Bonzer Flex (Keypad Flex / Speaker Box Assembly)

Remove the Front Frame as shown in the Disassembly section. Remove the LCD Assembly and Volume Key also.

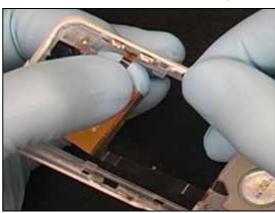
Removal

Pull the volume key switches out of the slot of the carrier.

Push the camera out of its cavity.

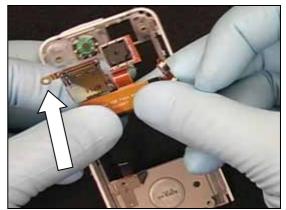
Pull the camera up through the center of the carrier.

Pull the flex beside the memory stick connector off of the peg on the carrier.







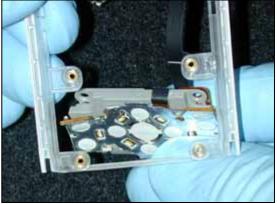




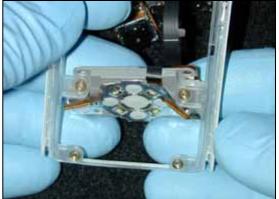
3.9 Bonzer Flex (Keypad Flex / Speaker Box Assy) Cont.

Use tweezers to peel the top corners of the dome foil a small amount off the speaker box.









Push the bottom of the keypad and speaker box through the frame.

Installation

Fold the top corners of the dome foil a small amount off the speaker box.

Insert the top of the keypad and speaker box into the cavity on the frame with the keypad in front of the frame and the speaker box in back of the frame.



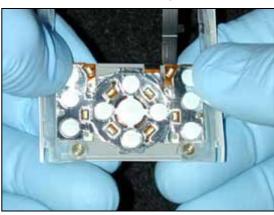
3.10 Bonzer Flex (Keypad Flex / Speaker Box Assy) Cont.

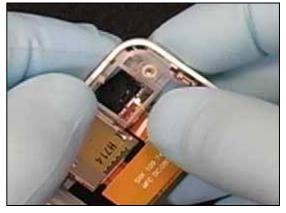
Fold the top corners of the keypad down onto the frame.

Insert the camera into its cavity.

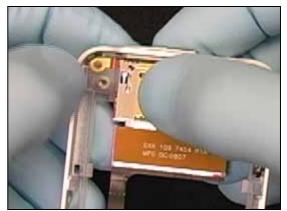
Insert the volume switches into their cavity.

Place the flex onto the peg and push it down as far as it will go.











3.11 Camera

Remove the Camera Cover as shown in the Disassembly section.

Removal

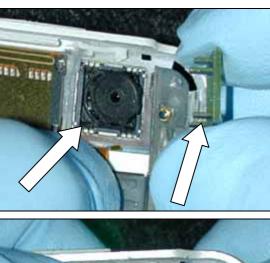
Align the pegs of the camera removal tool with the slots in the camera socket to determine the correct orientation.

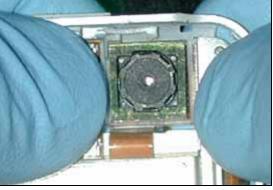
Insert the pegs into the slots and push the tool completely in.

Remove the tool and the camera from the socket.

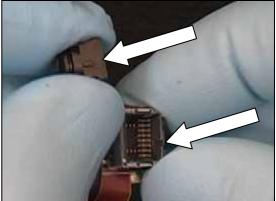
Installation

Align the tab on the camera with the slot of the socket.





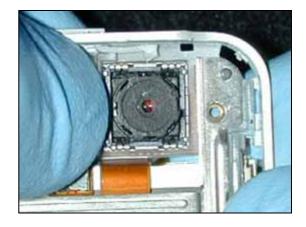






3.12 Camera Continued

Insert the camera into the socket and push it down.





3.13 Memory Stick Cover

Remove the Front Frame as shown in the Disassembly section.

Removal

Pull the memory stick cover out of its cavity.

Rotate the memory stick cover down to free the inside latch from the peg on the frame.

Pull the cover out of the hole.





3.14 Memory Stick Cover Continued

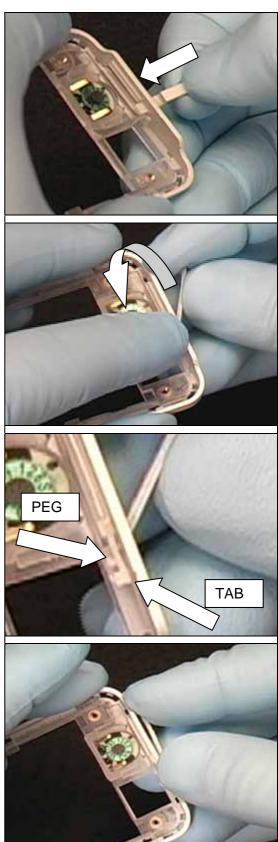
Installation

Insert the tabbed end of the cover through the hole.

Twist the cover and push the tab down behind the peg on the carrier.

Make sure the tab is behind the peg.

Push the cover into its cavity.





3.15 Receiver and Gasket

Remove the Front Frame as shown in the Disassembly section. Remove the LCD, Volume Key, and Bonzer Flex also.

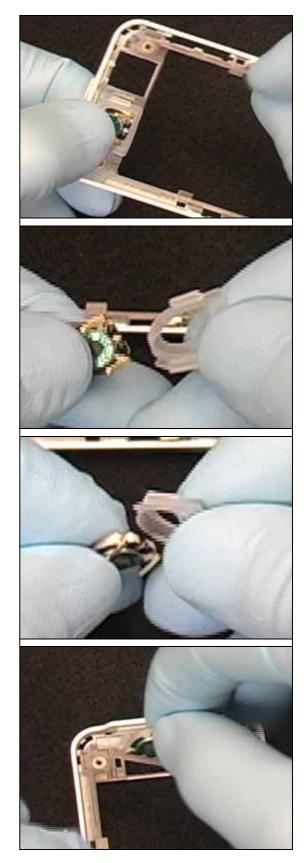
Removal

Push the receiver and gasket out of the cavity on the carrier.

Separate the receiver and the gasket.

Installation Insert the receiver into the gasket.

Insert the receiver and gasket into the carrier.





3.16 Microphone

Remove the Hinge from the Rear Frame as shown in the Disassembly section.

Removal

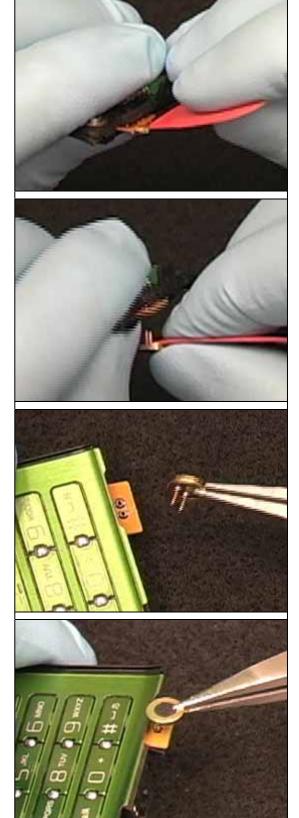
Insert a plectrum between the microphone and the flex.

Hold the flex with one finger while working the microphone pins out of the holes.

Installation

Orient the microphone so the pins are toward the phone.

Insert the pins into the holes.





3.17 Microphone Continued

Push the microphone down completely.



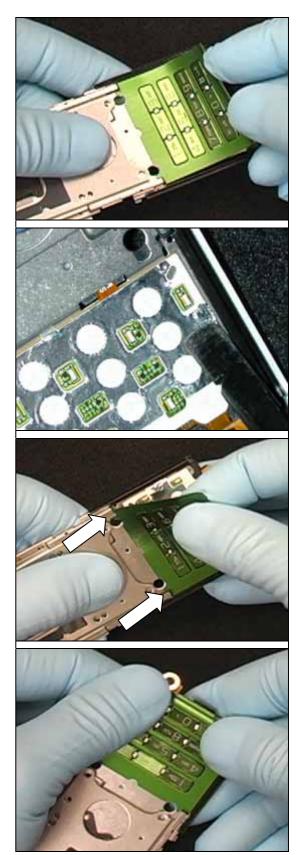


3.18 Keypad

Remove the Chin Cover and microphone gasket as shown in the Disassembly section.

Removal

Peel the keypad off the hinge.



Installation

NOTE: CHECK THE FOIL ON THE HINGE TO MAKE SURE IT IS FLAT. IF ANY PARTS WERE PULLED UP DURING REMOVAL OF THE OLD KEYPAD, THEN SMOOTH THESE PARTS BACK DOWN.

Align the keypad with the tabs on the hinge and the holes.

Adhere the keypad to the hinge.



3.19 Wear Strips

Remove the Hinge from the Rear Frame as shown in the Disassembly section.

Removal

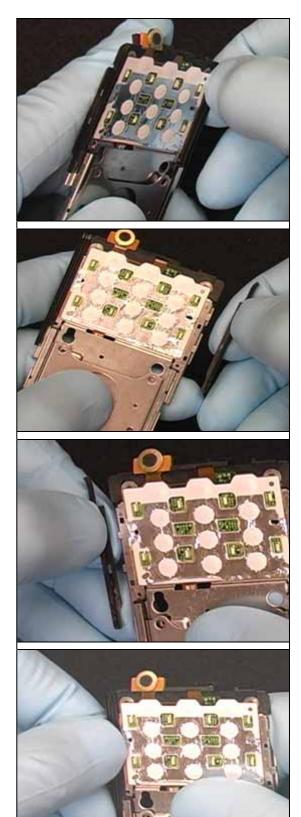
Pry the curved end of the wear strip off the hinge.

Pull the strip off the hinge.

Installation

Align the tabs on the hinge with the holes in the wear strip.

Push the strip onto the hinge.



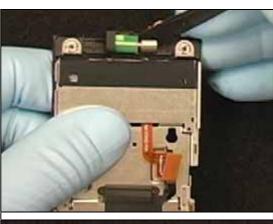


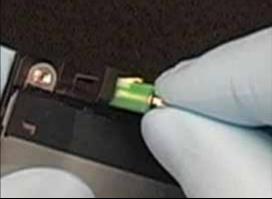
3.20 Vibrator

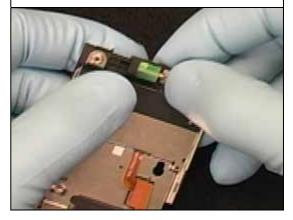
Remove the Hinge from the Rear Frame as shown in the Disassembly section.

Removal

Pry the vibrator out of its cavity.







Installation

Insert the end of the vibrator and gasket into the cavity.

Push the vibrator down into place.



3.21 Main Keypad Flex

Remove the Hinge from the Rear Frame as shown in the Disassembly section.

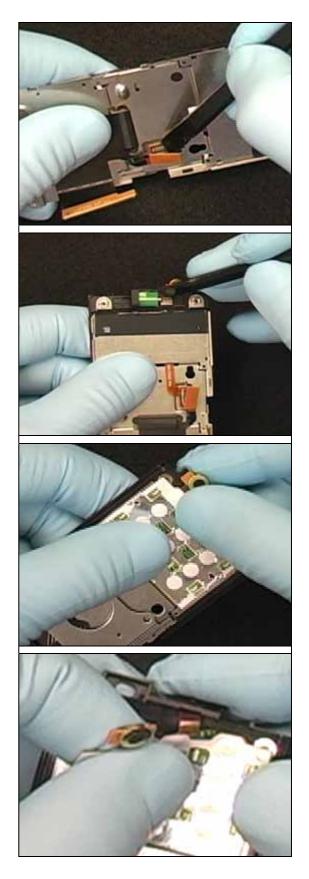
Removal

Use a pry tool to disconnect the flex connectors.

Use a pry tool to remove the vibrator.

Lift the microphone flex off the hinge.

Pull the vibrator pads through the slot in the hinge.

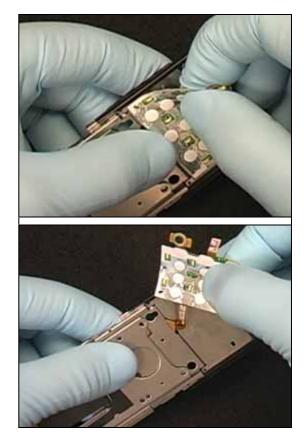




3.22 Main Keypad Flex Continued

Peel the dome foil off the hinge.

Pull the flex connector through the hole in the hinge.





3.23 Main Keypad Flex Continued

Remove the microphone from the old flex and install it on the new flex.

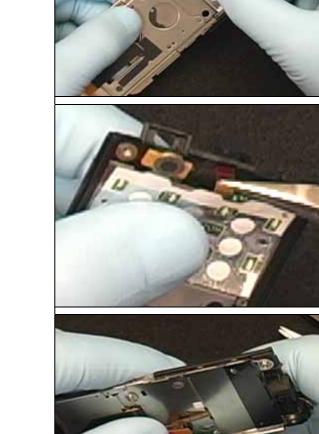
Installation

Push the flex connector through the hole in the hinge.

Push the dome foil down into place.

Insert the vibrator connector through the slot.

Attach the connectors.





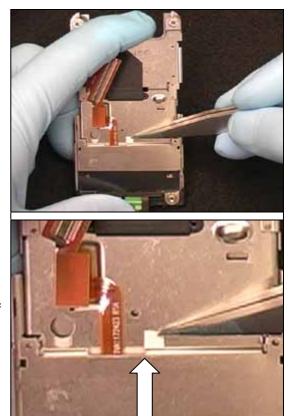
3.24 Liquid Intrusion Indicator

Remove the Hinge from the Rear Frame as shown in the Disassembly section. Remove the vibrator also.

Installation

Place the liquid intrusion indicator beside the main keypad connector on the hinge.

Align the bottom, left corner of the indicator with the edge of the slot in the hinge.

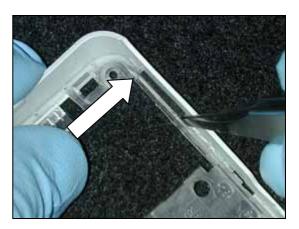


4 Rear Frame / Pad

NOTE: WHEN REPLACING THE REAR FRAME, BE SURE TO INSTALL A COAXIAL CABLE GROUND PAD IN THE COAXIAL CABLE SLOT.

Installation

Use tweezers to insert the pad into the slot with one end of the pad aligned with the end of the plastic rail in the frame.





5 Front Frame

NOTE: WHEN REPLACING THE FRONT FRAME, REMOVE THE LCD, VOLUME KEY, BONZER FLEX, RECEIVER, AND RECEIVER GASKET FROM THE OLD FRAME AND INSTALL THEM INTO THE NEW FRAME.







6 Reassembly 6.1 Overview

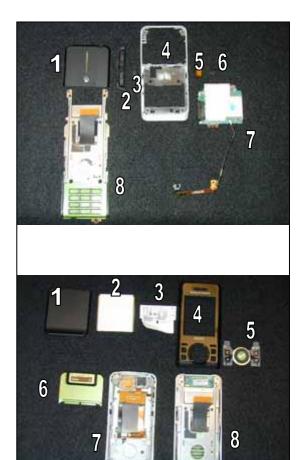
Perform the reassembly in the following order:

Base – Bottom Section

- Install Board and Antenna (7) into Rear Frame (4)
- Install Power Key (6)
- Install Bluetooth Tape (5)
- Attach Rear Frame (4) to Hinge Assembly (8)
- Install Microphone Gasket (3)
- Install Chin Cover (2)
- Install 4 Rear Frame Screws (not shown)
- Install Upper Rear Cover (1)

Slider – Top Section

- Attach Front Frame (7) and Rear Frame / Hinge Assembly (8)
- Install 6 Front Cover Screws (not shown)
- Install Camera Cover (6)
- Install Navigation Keypad (5)
- Install Front Cover (4)
- Install Label (3)
- Install Battery (2)
- Install Battery Cover (1)

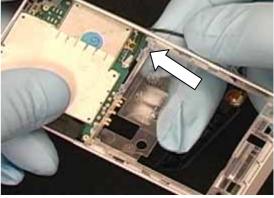




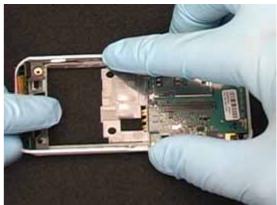
6.1.1 PC Board and Antenna Installation

Insert the side of the PC board with the system connector into place under the Bluetooth antenna.









Push the coaxial cable toward the center of the board so it is not under the plastic of the frame.

Snap the other side of the board into the frame.

Insert the antenna into its cavity.



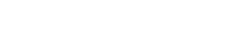
6.1.2 PC Board and Antenna Installation Continued

Push the coaxial cable down into the slot of the frame.

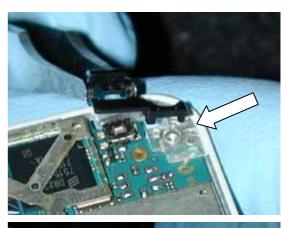


6.1.3 Power Key Installation

Use tweezers to install the peg of the power key into the hole on the rear frame.



Push the key into place.

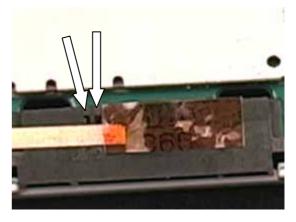






6.1.4 Bluetooth Tape Installation

Use tweezers to install the Bluetooth tape. Align the tape with the inside edge of the system connector and leave two holes exposed.





6.1.5 Rear Frame and Hinge Assembly Installation

Plug the flex connector into the socket on the PC board.

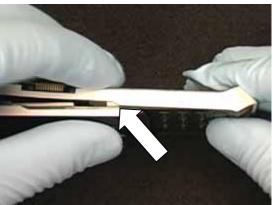
Insert the end of the hinge with the microphone into the rear frame.

NOTE: MAKE SURE THE MICROPHONE FLEX IS UNDER THE TABS OF THE ANTENNA PLASTIC.

Snap the tab on one side of the frame in the slot on the hinge.

Snap the other side into place.



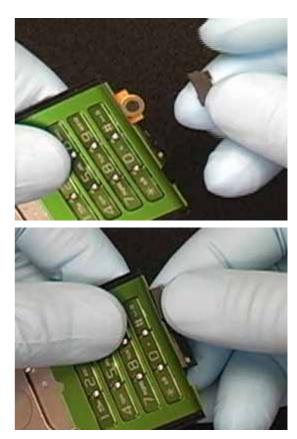




6.1.6 Microphone Gasket Installation

Place the wider side of the gasket toward the keypad.







6.1.7 Chin Cover Installation

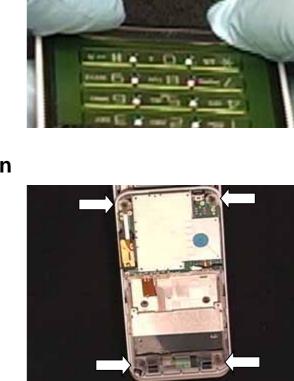
Insert the tabs of the cover into the slots.

Push down on the cover to snap all the tabs into place.



NOTE: DO NOT REUSE THESE SCREWS.

Use 8Ncm to install the four new screws.



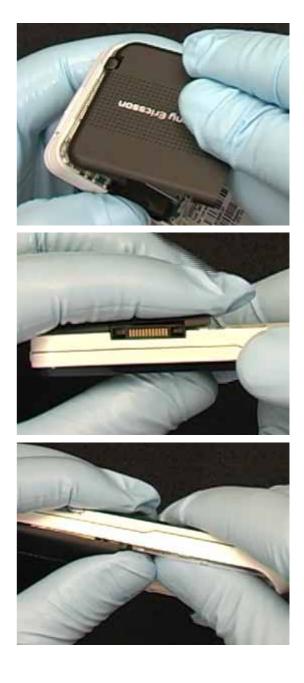


6.1.9 Upper Rear Cover Installation

Insert the tabs of the cover into the slots on the frame.

Push the cover down toward the phone.

Snap the remaining tabs into place.





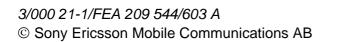
6.1.10 Front Frame Installation

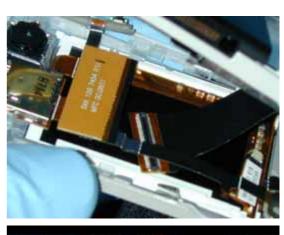
Insert the plug under the large socket on the Front Frame.

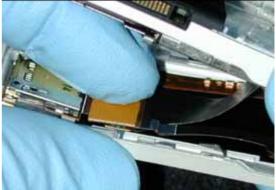
Align the plug and socket and push them together.

Place the hinge and rear frame assembly down into the front frame.

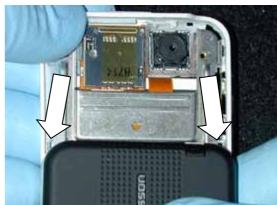
Slowly push the slider to the open position and then push on the metal tabs to snap them into place.











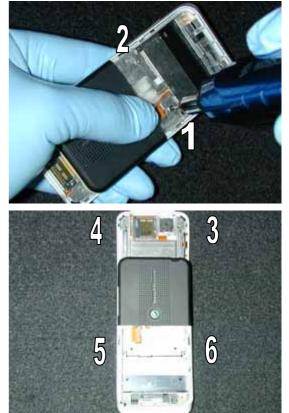


6.1.11 Front Frame Installation Continued

NOTE: DO NOT REUSE THESE SCREWS.

NOTE: FOLLOW THE SCREW INSERTION ORDER SHOWN IN THIS PHOTO AND THE NEXT PHOTO.

Push the slider closed a small amount until the screw holes on the front frame are visible. Use 6Ncm to install new screws.



Push the slider open and install the remaining four screws.



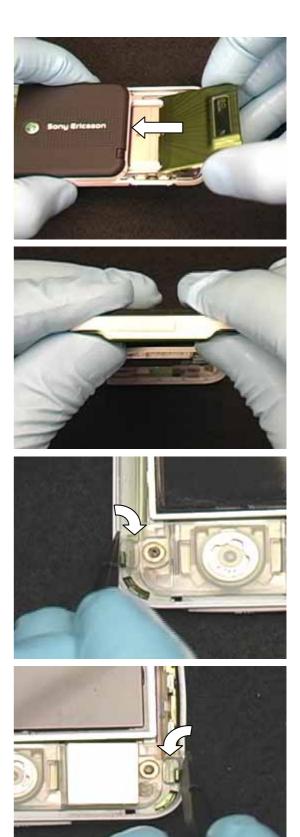
6.1.12 Camera Cover Installation

NOTE: DO NOT REUSE THE CAMERA COVER. Insert the new cover into the slot.

Push the cover down toward the phone.

Turn the phone over and bend the metal tab toward the center.

Bend the other metal tab.





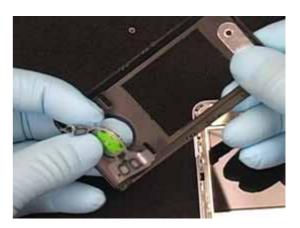
6.1.13 Navigation Keypad Installation

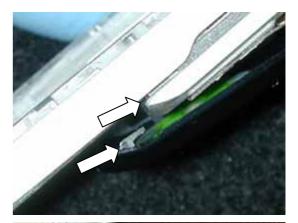
Place the keypad into the front cover.

6.1.14 Front Cover Installation

Slide the hooks at the bottom of the front cover into the slots on the frame.

Squeeze the sides and top of the phone to snap the front cover into place.





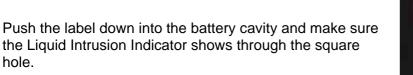




6.1.15 Label Installation

NOTE: DO NOT REUSE THE OLD LABEL. PRINT A NEW LABEL.

Insert the top side of the label under the battery connector.



6.1.16 Battery Installation

Install the battery.



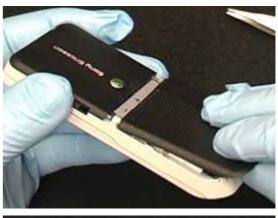


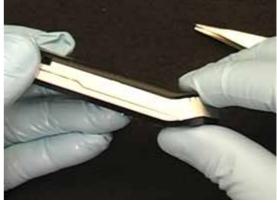




6.1.17 Battery Cover Installation

Insert the tabs of the battery cover into the slots on the frame.





Push the cover down toward the phone and then slide it into place.

7 Revision History

Rev.	Date	Changes / Comments
А	2007-May-30	Initial Release