



MOTOROLA

Level 1-2 Service Manual

68000201694

A3100/A3000

Digital Wireless Telephone



A3100/A3000

GSM 850/900/1800/1900MHz

UMTS 850/1900/2100MHz

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Introduction

Motorola® Inc. maintains a worldwide organization that is dedicated to provide responsive, full-service customer support. Motorola products are serviced by an international network of company-operated product care centers as well as authorized independent service firms.

Available on a contract basis, Motorola Inc. offers comprehensive maintenance and installation programs that enable customers to meet requirements for reliable, continuous communications. To learn more about the wide range of Motorola service programs, contact your local Motorola products representative or the nearest Customer Service Manager.

Product Identification

The model number on a label (usually on the housing) identifies Motorola products. Use the entire model number when inquiring about the product. Numbers are also assigned to chassis and kits.

Use these numbers when requesting information or ordering replacement parts.

Product Names

Product names are listed on the front cover. Product names are subject to change without notice. Some product names, as well as some frequency bands, are available only in certain markets.

Product Changes

When electrical, mechanical or production changes are incorporated into Motorola products, a revision letter is assigned to the chassis or kit affected, for example: -A, -B, or -C, and so on. The chassis or kit number, complete with revision number is imprinted during production. The revision letter is an integral part of the chassis or kit number and is also listed on schematic diagrams, and printed circuit board layouts.

Regulatory Agency Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

- This device may not cause any harmful interference, and this device must accept interference received, including interference that may cause undesired operation
- This class B device also complies with all requirements of the Canadian Interference-Causing Equipment Regulations (ICES-003). Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Computer Program Copyrights

The Motorola products described in this manual may include Motorola computer programs stored in semiconductor memories or other media that are copyrighted with all rights reserved worldwide to Motorola. Laws in the United States and other countries preserve for Motorola, Inc. certain exclusive rights to the copyrighted Introduction computer programs, including the exclusive right to copy, reproduce, modify, decompile, disassemble, and reverse-engineer the Motorola computer programs in any manner or form without Motorola's prior written consent. Furthermore, the purchase of Motorola products shall not be deemed to grant either directly or by implication, estoppel, or otherwise, any license or rights under the copyrights, patents, or patent applications of Motorola, except for a nonexclusive license to use the Motorola product and the Motorola computer programs with the Motorola product.

About This Service Manual

Using this service manual and the suggestions contained in it assures proper installation operation, and maintenance of A3100/3000. Refer questions about this manual to the nearest Customer Service Manager. This manual contains mechanical service information required for the equipment described and is current as of the printing date.

Audience

This document aids service personnel in testing and repairing A3100/3000. Service personnel should be familiar with electronic assembly, testing and troubleshooting methods, and with the operation and use of associated test equipment.

Scope

This manual provides basic information relating to A3100/3000, and also to provide procedures and processes for repairing the units at Level 1 and 2 service centers including:

- Unit swap out
- Repairing of mechanical faults
- Basic modular troubleshooting
- Testing and verification of unit functionality
- Initiate warranty claims and send faulty modules to Level 3 or 4 repair centers.

Conventions

Special characters and typefaces, listed and described below, are used in this publication to emphasize certain types of information.



Note: Emphasizes additional information pertinent to the subject matter.




Caution: Emphasizes information about actions that may result in equipment damage.



Warning: Emphasizes information about actions that may result in personal injury.



Keys to be pressed are represented graphically. For example, instead of "Press the Menu Key", you will see "Press ".

Information from a screen is shown in text as similar as possible to what appears in the display. For example, ALERTS or ALERTS.

Information that you need to type is printed in **boldface** type.

Warranty Service Policy

The product is sold with the standard 12-month warranty terms and conditions. Accidental damage, misuse, and extended warranties offered by retailers are not supported under warranty.

Non-warranty repairs are available at agreed fixed repair prices.

Out of Box Failure Policy

The standard out of box failure criteria applies. Customer phones that fail very early on after the date of sale are to be returned to Manufacturing for root cause analysis, to guard against epidemic criteria. Manufacturing to bear the costs of early life failure.

Product Support

The customer's original phones will be repaired but not refurbished as standard. Appointed Motorola Service Hubs will perform warranty and non-warranty field service for level 2 (assemblies) and level 3 (limited Transceiver component). Motorola High Tech Centers will perform level 4 (full component) repairs.

Customer Support

Customer support is available through dedicated Call Centers and in-country help desks. Product-Service training should be arranged through the local Motorola Support Center.

Parts Replacement

When ordering replacement parts or equipment, include the Motorola part number and description used in the service manual. When the Motorola part number of a component is not known, use the product model number or other related major assembly along with a description of the related major assembly and of the component in question. In the U.S.A., to contact Motorola, Inc. on your TTY, call: 800-793-7834

Accessories and Aftermarket Division (AAD)

Replacement parts, test equipment, and manuals can be ordered from AAD. For EMEA spare parts call +49 461 803 1638. For Asia spare parts call +65 648 62995.

U.S.A.

Phone: 800-422-4210

FAX: 800-622-6210

Outside U.S.A.

Phone: 847-538-8023

FAX: 847-576-3023

Specifications (A3100/A3000)

General Function	Specification 2.5G	Specification 3G
Frequency Range GSM 850	824-848 MHz Tx 869-893 MHz Rx	
Frequency Range GSM 900	880-915 MHz Tx 925-960 MHz Rx	
Frequency Range GSM 1800	1710-1785 MHz Tx 1805-1880 MHz Rx	
Frequency Range GSM 1900	1850-1910 MHz Tx 1930-1990 MHz Rx	
Frequency Range UMTS 850 (Band 5)	825-848 MHz Tx 869-893 MHz Rx	
Frequency Range UMTS 1900 (Band 2)	1850-1910 MHz Tx 1930-1990 MHz Rx	
Frequency Range UMTS 2100 (Band1)	1920-1960 MHz Tx 2100-2170 MHz Rx	
Channel Spacing	200 KHz	5M
Channels	170 EGSM, 374 DCS, 374 PCS, 124 GSM, With 8 channels per carrier	277 BC1, 277 BC2, 102 BC5
Modulation	GMSK at BT = 0.3	QPSK
Transmitter Phase Accoracy	5 Degress RMS, 20 Degrees peak	
Duplex Spacing	45 MHz	45 MHz for BC5, 80 MHz for BC2, 190 MHz for BC1
Frequency Stability	+/- 0.10 ppm of the downlink frequency (Rx)	
Operation Voltage	+3.4V dc to + 4.2V dc (battery) +5.0V dc (external connector)	
Transmit Current Drain	101-260 Ma average talk current drain	
Stand-by Current Drain	4.6 mA (DRX2), 4 mA (DRX9) typical	
Temperature Range	-10C to 55C (+15 F to +130 F)	
Dismensions, with 1170 mAh Li Ion Battery	117x 64 x 11.5 (in min)	
Size (Volume)	85 cc, with battery	
Weight	115 grams with battery	
Battery Lift, with standard 1170 mAh Ion Battery	Talk Time 300 to 420 minutes with 50 % VAF and DTX ON Standby time 230 in DRx 2 and 270 hours in DRx 9 All talk and standby times are approximate and depend on network configuration, signal strenght, and features selected. Standby times are quoted as a range from DRx=2 to DRx=9. Talk times are quoted with 50% VAF and DTX ON.	
Battery Charge Time	4 hours to 90% of 1070 mAh capacity on mid-rate 2 hours to 90% of 1070 mAh capacity on fast-rate	
Alert Volume	Max 95 db @ 5cm, 0.5 Watts input	

Transmitter Functions	Specification 2.5G	Specification 3G
RF Power	32 dBm nominal GSM 850abd 900 bands, 29 dbm nominal GSM 1800 and GSM 1900 bands	23 dBm nominal UMTS 2100/1900/850
Output Impedance	50 ohms nominal	"
Spurious Emissions	-36 dBm from 0.1 to 1 GHz, -30 dBm from 1 to 4 GHz	"

Receiver Functions	Specification 2.5G	Specification 3G
Receive Sensitivity	Battery than -103 dBm	Batter than -107 dBm
RX Bit Error Rate (100k bits) Type II	<2%	<0.1%

Speech Coding Functions	Specification 2.5G	Specification 3G
Speech Coding Type	Regular pulse excitation/Linear predictive coding with long term prediction (RPE LPC with LTP)	"
Bit Rate	13.0 kbps	"
Frame Duration	20 ms	"
Block Length	260 bits	"
Classes	Class 1 bits = 180bits ; Class 2 bits = 78 bits	"
Bit Rate with FEC Encoding	22.8 kbps	"

Product Overview

Motorola A3100/3000 deliver GSM features in a small and lightweight package. These Global System for Mobile communications (GSM) General Packet Radio Service (GPRS) Enhanced Data Rates for GSM Evolution (EDGE) Universal Mobile Telephone System (UMTS), High Speed Packet Access (HSPA) & Wireless Application Protocol (WAP)-enabled mobile phones incorporate an icon based User Interface (UI) for easier operation, allows Short Message Service (SMS) text messaging, Multi-media Messaging Services (MMS), and includes Personal Information Manager (PIM) functionality. A3100/3000 is a Multiband dualmode phones that allow roaming within the GSM 850 MHz, GSM 900 MHz, 1800 MHz Digital Cellular System (DCS), and PCS 1900 MHz bands.

A3100/3000 have a tablet UMTS/HSPA 2100,1900,850 from factor. They feature viewable 2.8" 240 x 320 TFT, 64k color display for caller identification with date/time. The bottom part of the tablet contains the keypad, transceiver printed circuit board (PCB), microphone, flex connection, external accessory connector, smart button, volume buttons, and voice button. The standard 1170 mAh Lithium Ion (Li Ion) battery fits behind a removable back cover and provides up to 300 minutes of talk time and 262 hours of standby time in GSM mode.

The phones accepts 1.8V Subscriber Identity Module (SIM), cards that fit into the SIM holder under the battery, The phone also incorporates an internal designed antenna. Inexpensive direct connection to a computer or handheld device through USB for data and fax calls, and for synchronizing phonebook entries with Motorola mobile Phone Tools software, can be accomplished using the optional data cable and soft modem.

Features

A3100/3000 use advanced, self-contained, sealed, custom integrated circuits to perform the complex functions required for GSM/GPRS communication. Aside from the space and weight advantage, microcircuits enhance basic UMTS/HSPA, SIM plify maintenance, and provide a wide variety of operational functions.

Other features available in this family of telephones include:

- GSM/GPRS/EDGE 850/900/1800/1900 MHz
- Bluetooth Class 2
- GPRS Class 12
- EDGE Class 12
- UMTS BC1/BC2/BC5

Physical

- Width 60 mm
- Height 111mm
- Depth 13.7mm
- Volume 80 cc
- Weight 130 grams

Audio

- AAC
- MP3
- WMA
- WAV
- AMR

Video

- MPEG4 Video clip playback
- H.263
- WMV

Display

- 2.8" 240 x 320 TFT, 64k colors

Memory

- 128+256 internal memory
- Accepts removable micro SD memory up to 8GB modules

Imaging

- Primary camera resolution 3.0 MP
- Secondary (Video telephony) Camera resolution VGA (640 x 480)

General Functions

Controls, Indicators, and Input/Output (I/O) Connectors

The A3100/A3000 phone's controls are located on the front side of the device and on the keyboard as shown in below. Indicators icons are displayed on the LCD.



Figure 1. Phone Controls

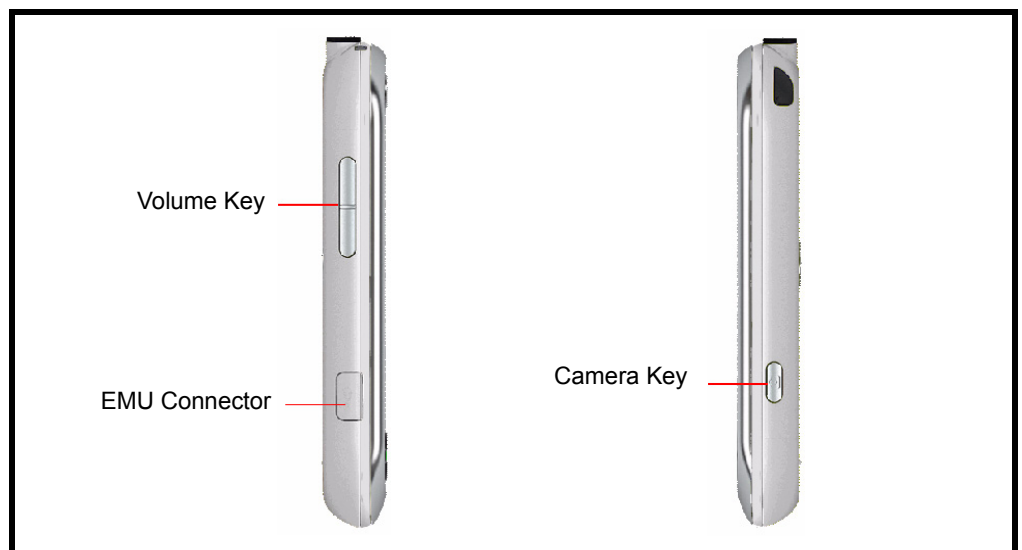


Figure 2. Phone Controls

Menu Navigation


A3100/A3000 telephones are equipped with a simplified icon and graphical-based user interface. See the table below for details of the A3100/A3000 menu structure. A five-way navigation key allows you to move easily through menus and confirm your selection.

Liquid Crystal Display (LCD)

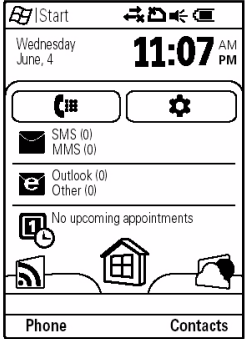
The LCD provides a multicolor backlit color display with user-adjustable contrast settings for optimum readability in all light conditions. The bit-map 128 x 160 pixel display includes up to 3 lines of text, 1 line of icons, and 1 line of prompts.




home screen

quick access to the information you need most

The home screen appears when you turn on the phone. Press  to return to the home screen at any time.

Note: Your home screen may look different to this one.



Press  up/down to scroll through the application short  right/left to scroll through the application fields. Press  to select an item.

status indicators

Status indicators can appear at the top of the home screen:


















	New voicemail.
	New e-mail or MMS message.
	New SMS message.
	Bluetooth® connected.
	Call forwarding is on.
	Network connection: <ul style="list-style-type: none"> •  roaming •  home GPRS •  EDGE (faster connection)
 	Your active line (if you have more than one).
	Current ring style -  Silent ,  Vibrate , none (Normal, Outdoor, or Automatic).
	Speakerphone is on.
	Battery level.
	Signal strength.






















Figure 3. LCD Icons

User Interface Menu Structure

The table below shows a portion of the A3100/A3000 telephone menu structure.

menu map

To open the menu from the home screen, tap **Start**.

 Documents To Go *	 Notes
 Games	 Pictures & Videos
 ActiveSync	 Remote Desktop
 Calculator	 RSS Reader
 Camera	 Search
 File Explorer	 SIM Manager
 Flash Light	 Streaming Player
 Getting Started	 Task Manager
 GPSXtra	 Windows Live
 Internet Sharing	
 Master Clear	
 Messenger	

* Optional
This is the standard main menu layout.
Your phone's menu may be different.

Figure 4. Telephone Menu Structure

Battery Function

The telephone displays a battery charge indicator icon in the idle screen to indicate the battery charge level. The gauge shows four levels: 50%, 20%, 5%, and Low Battery.

Removing the battery causes the phone to shut down immediately and lose any pending work (partially entered phone book entries or outgoing messages, for example).



Note: All batteries can cause property damage and/or bodily injury such as burns if a conductive material such as jewelry, keys, or beaded chains touches exposed terminals. The conductive material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse, or other container with metal objects.



If the battery is removed while receiving a message, the message is lost.



To ensure proper memory retention, turn the phone OFF before removing the battery. Immediately replace the old battery with a fresh battery.

Operation

For detailed operating instructions, refer to the appropriate User Guide.

Tools and Test Equipment

The table below lists the tools and test equipment used on A3100/A3000 telephones. Use either the listed items or the equivalent.

Table 1: General Test Equipment and Tools

Motorola Part Number ¹	Description	Application
See Table 3	Charger	Used to charge battery and power phone
0180386A82	Antistatic Mat Kit (includes 66-80387A95 antistatic mat, 66-80334B36 ground cord, and 42-80385A59 wrist band)	Provides protection from damage to phone caused by electrostatic discharge (ESD)
-	Antistatic Gloves	Provides protection from damage to phone caused by electrostatic discharge (ESD)
0-00-00-3005 (AMS)	Disassembly tool, plastic with flat and pointed ends (manual opening tool)	Used during assembly/disassembly
6680388B01	Tweezers, plastic	Used during assembly/disassembly
-	T5 screw driver	Used with screw driver
HP34401A ²	Digital Multimeter	Used to measure battery voltage

1. To order in North America, contact Motorola Aftermarket and Accessories Division (AAD) by phone at (800) 422-4210 or FAX (800) 622-6210. Internationally, AAD can be reached by calling (847) 538-8023 or by fax (847) 576-3023.

2. Not available from Motorola. To order, contact Hewlett Packard at (800) 452-4844.

AMS Software & Elektronik Gmbh c/o Holger Grube,
Lise-Meitner-StraBe 9,
D-24914 Flensburg,
Tel: +49 461 903 980
Fax : +49 461 903 850



Figure 5. A screwdriver (T5), a pair of tweezers



Note: This particular camera requires a unique camera jig (pictured on the far right) for disassembly of the camera, where present. You can order this tool from Motorola using the information presented above in Footnote 1.

Disassembly



Many of the integrated devices used in this phone are vulnerable to damage from electrostatic discharge (ESD). Ensure adequate static protection is in place when handling, shipping, and servicing any internal components.



Avoid stressing the plastic in any way to avoid damage to either the plastic or internal components.

Removing and Replacing Battery Door and Battery

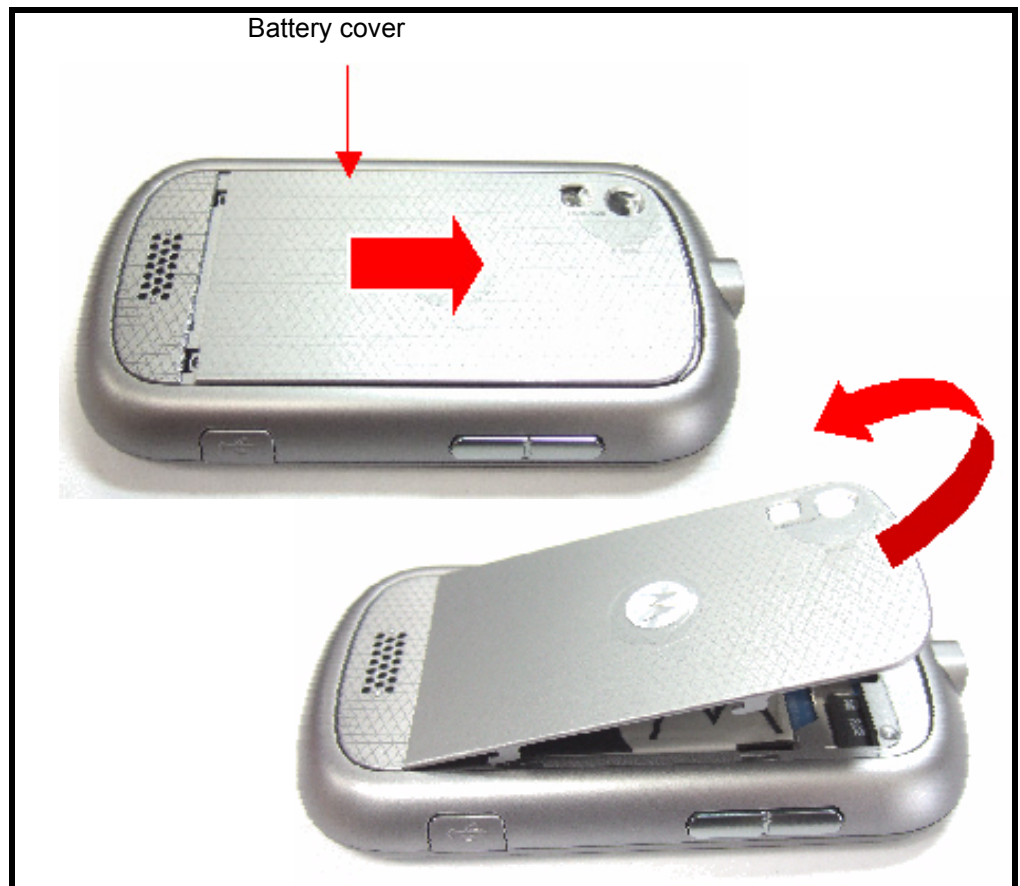


Figure 6. Removing the Battery Door

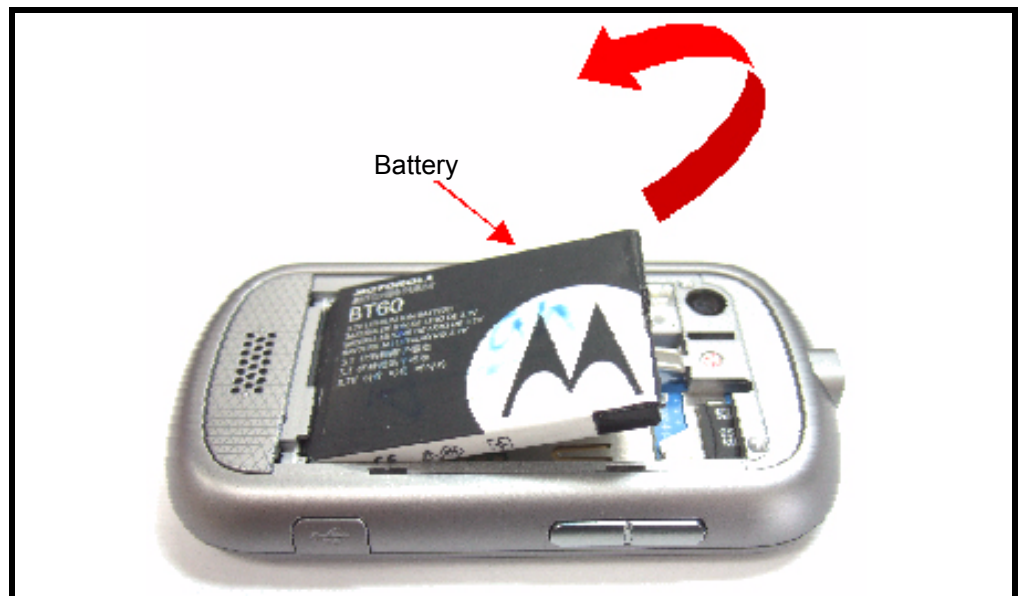


Figure 7.

Removing and Replacing the Subscriber Identity Module (SIM) and Memory Card

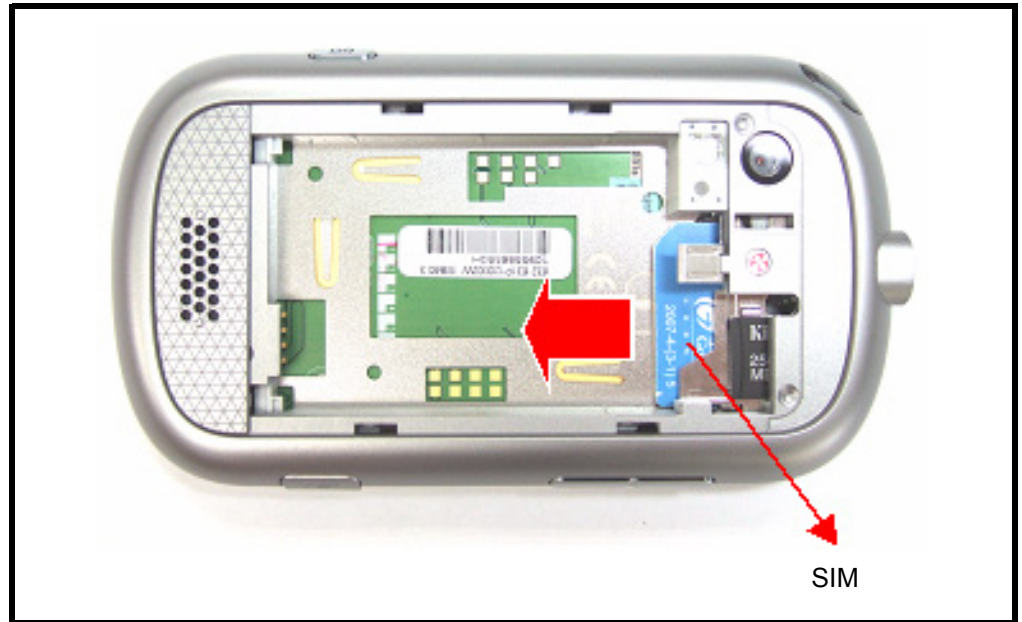


Figure 8. Removing the SIM

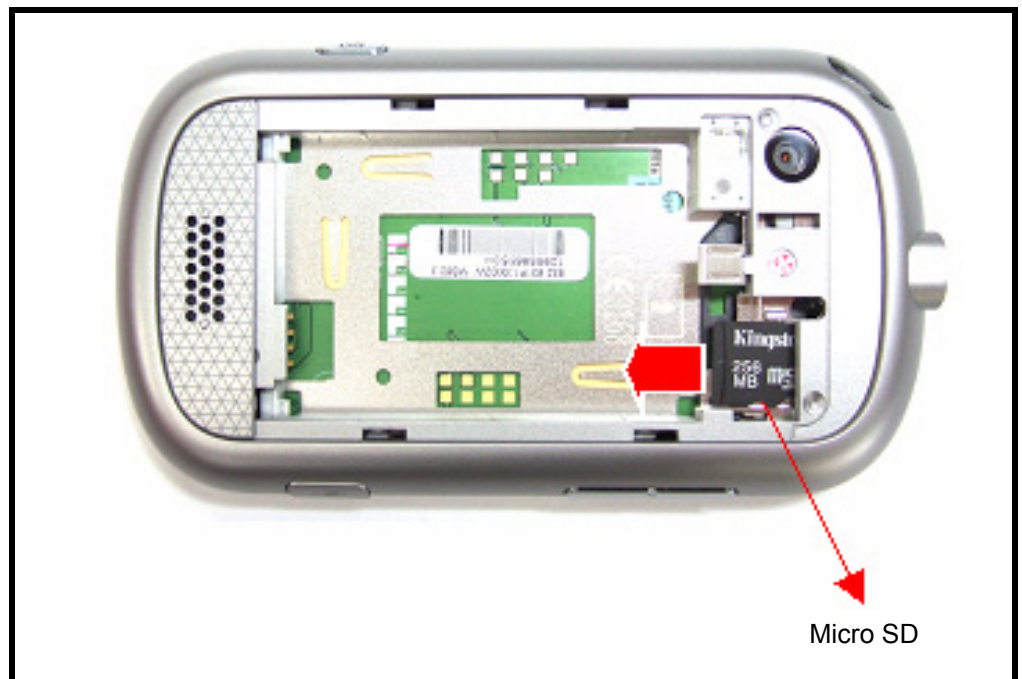


Figure 9. Removing the Memory Card

Removing and Replacing the Housing

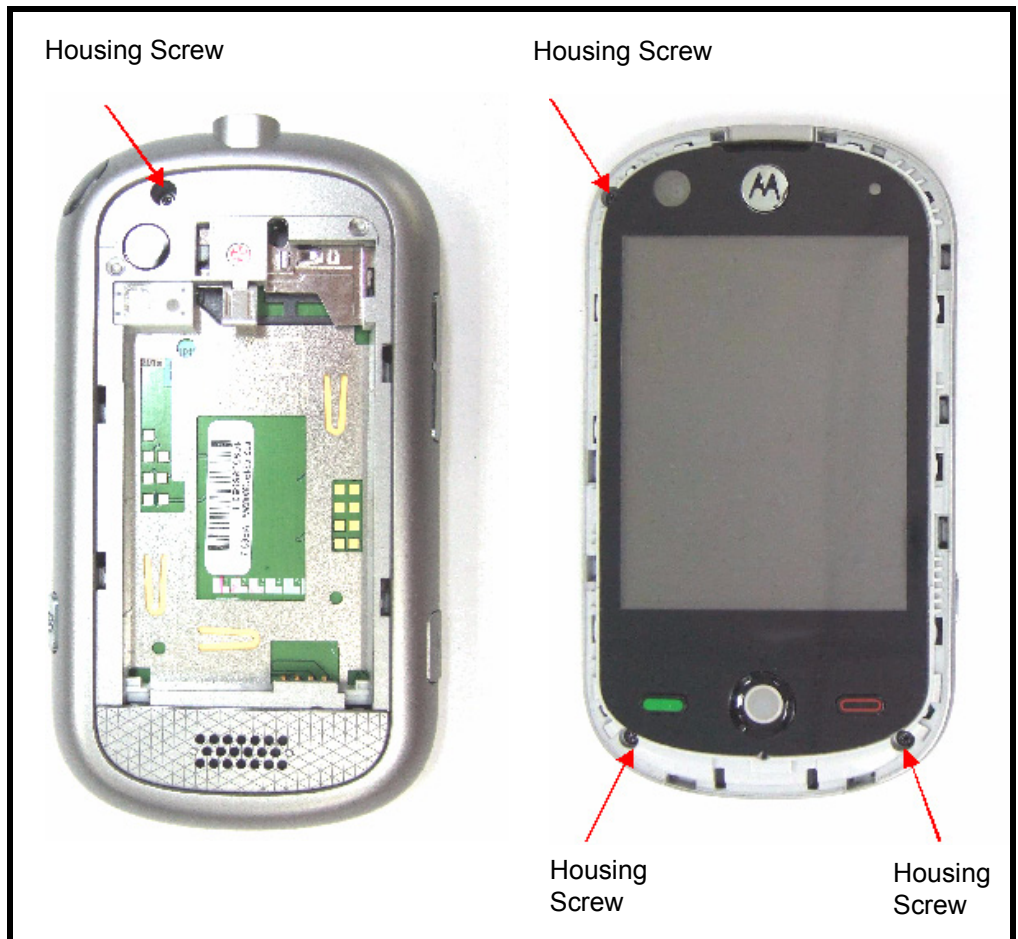


Figure 10. Removing the Housing Screw

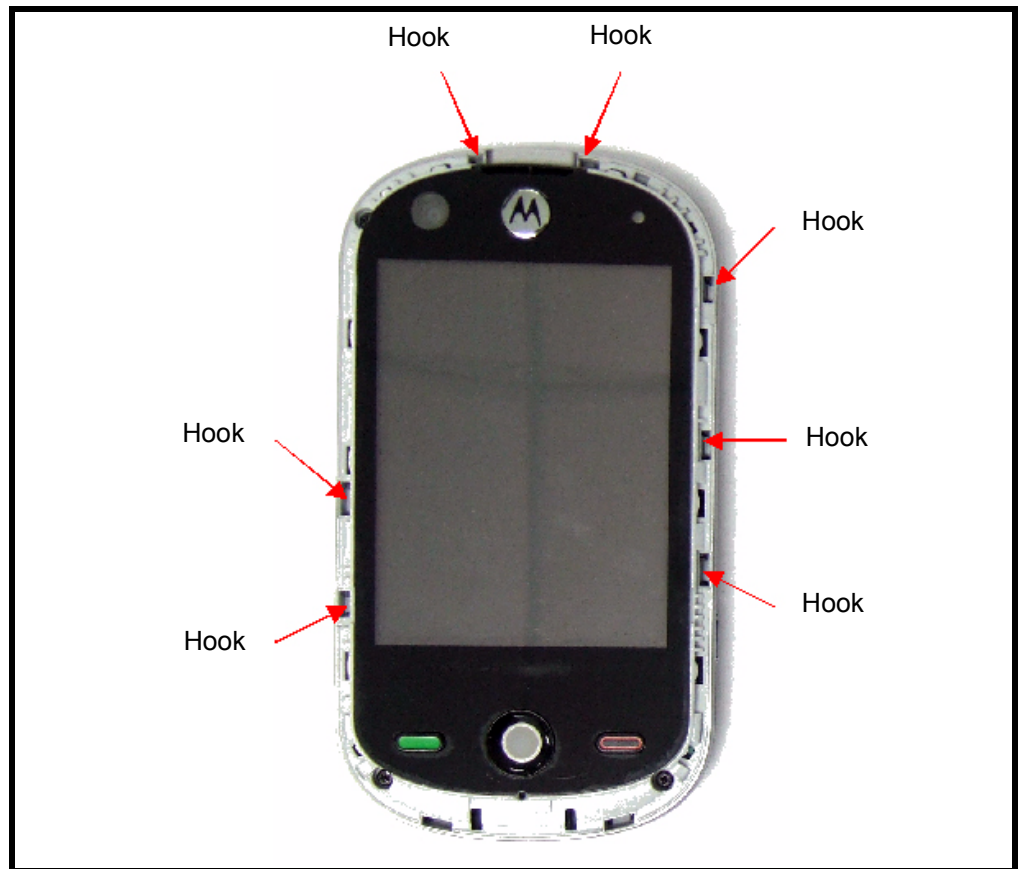


Figure 11. Disengaging the Hook

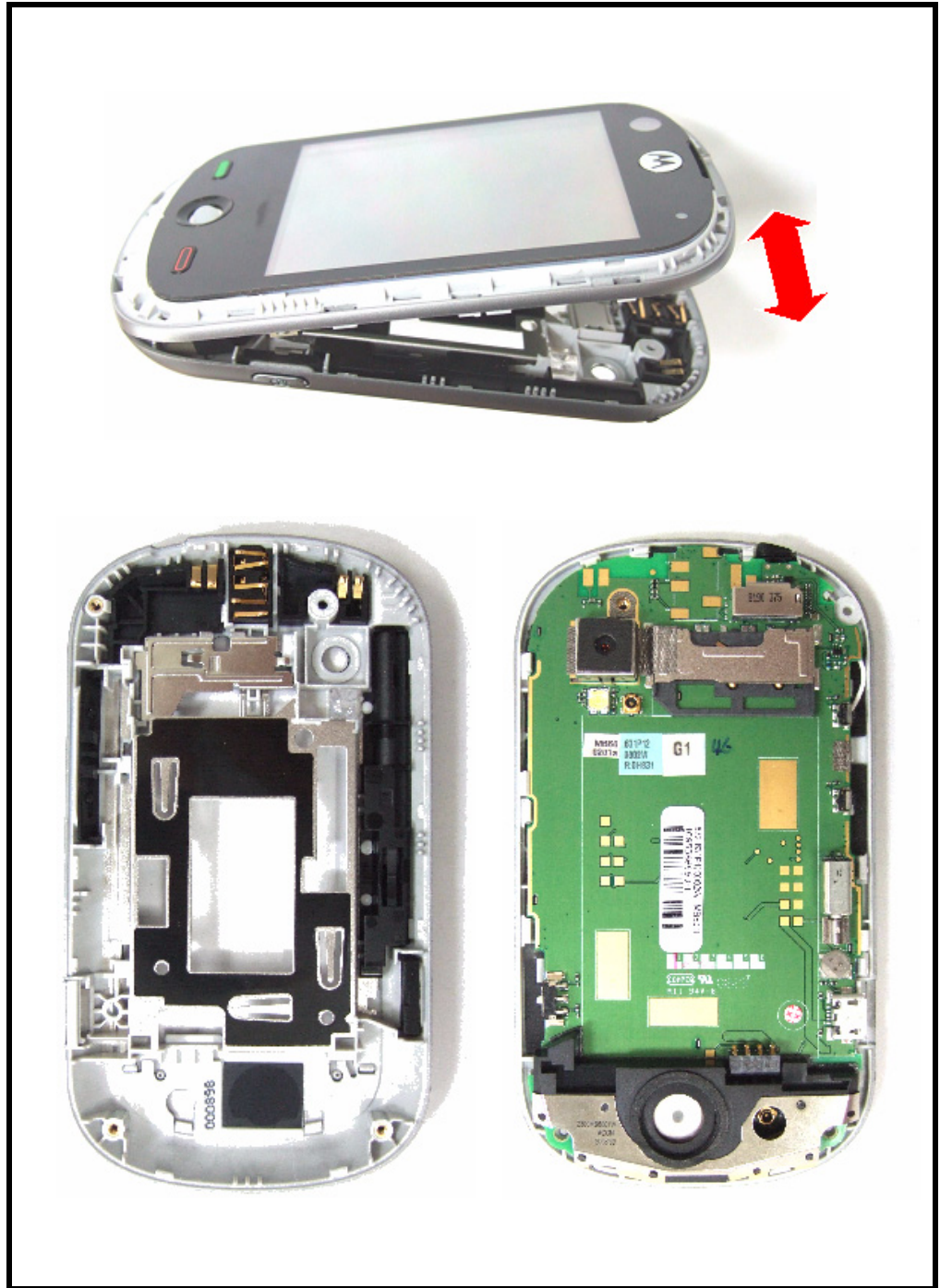


Figure 12. Disengaging the Housing

Removing and Replacing the Main Board

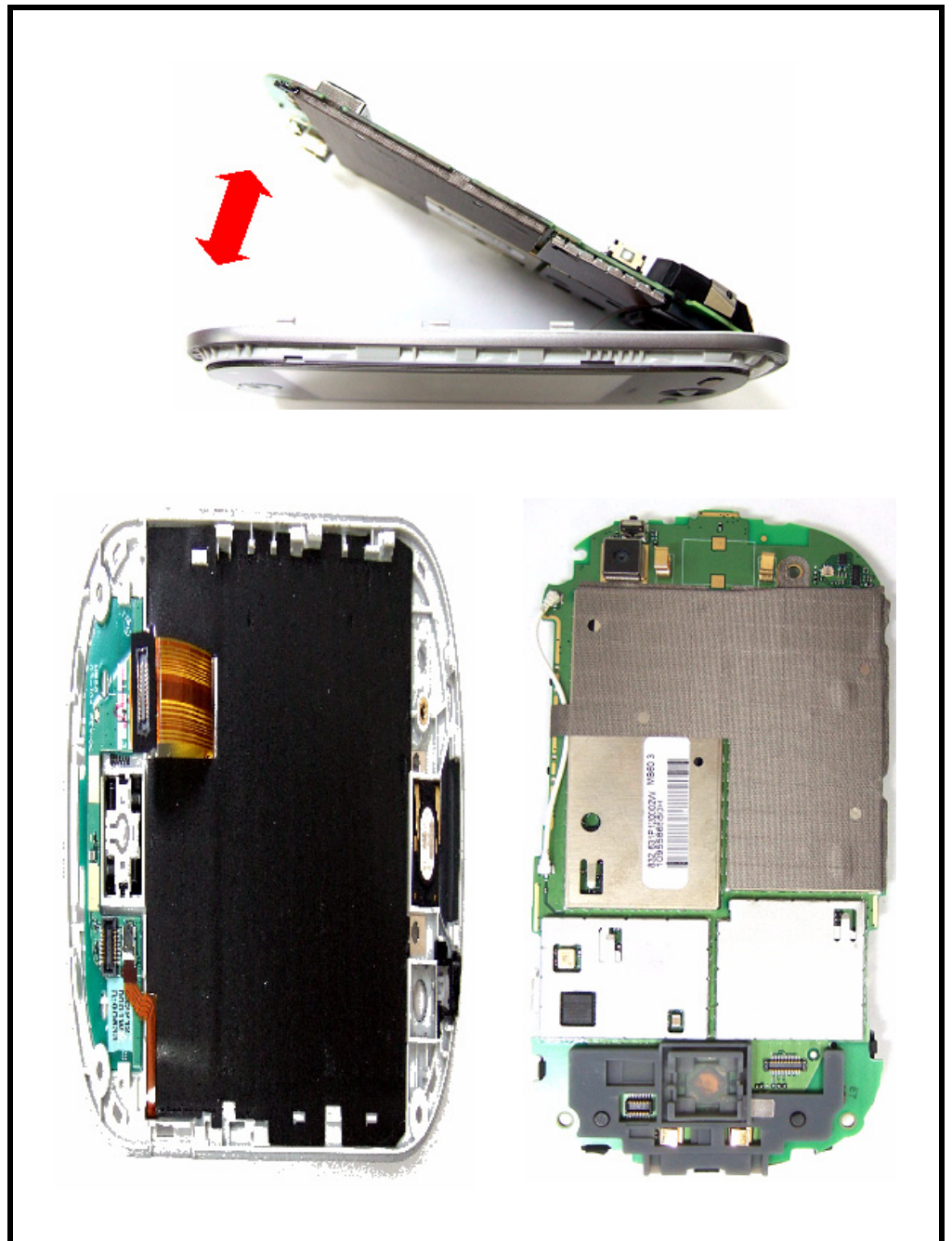


Figure 13. Disengaging the main Board

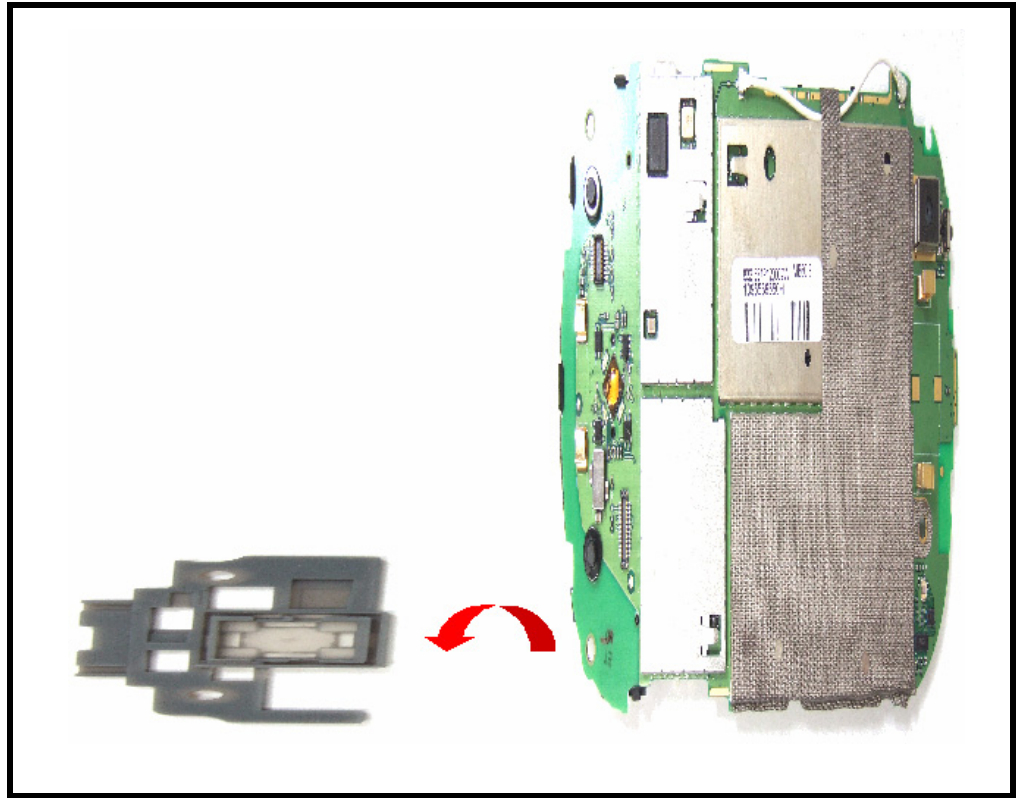


Figure 14. Separate the S/B Rubber from the Main Board

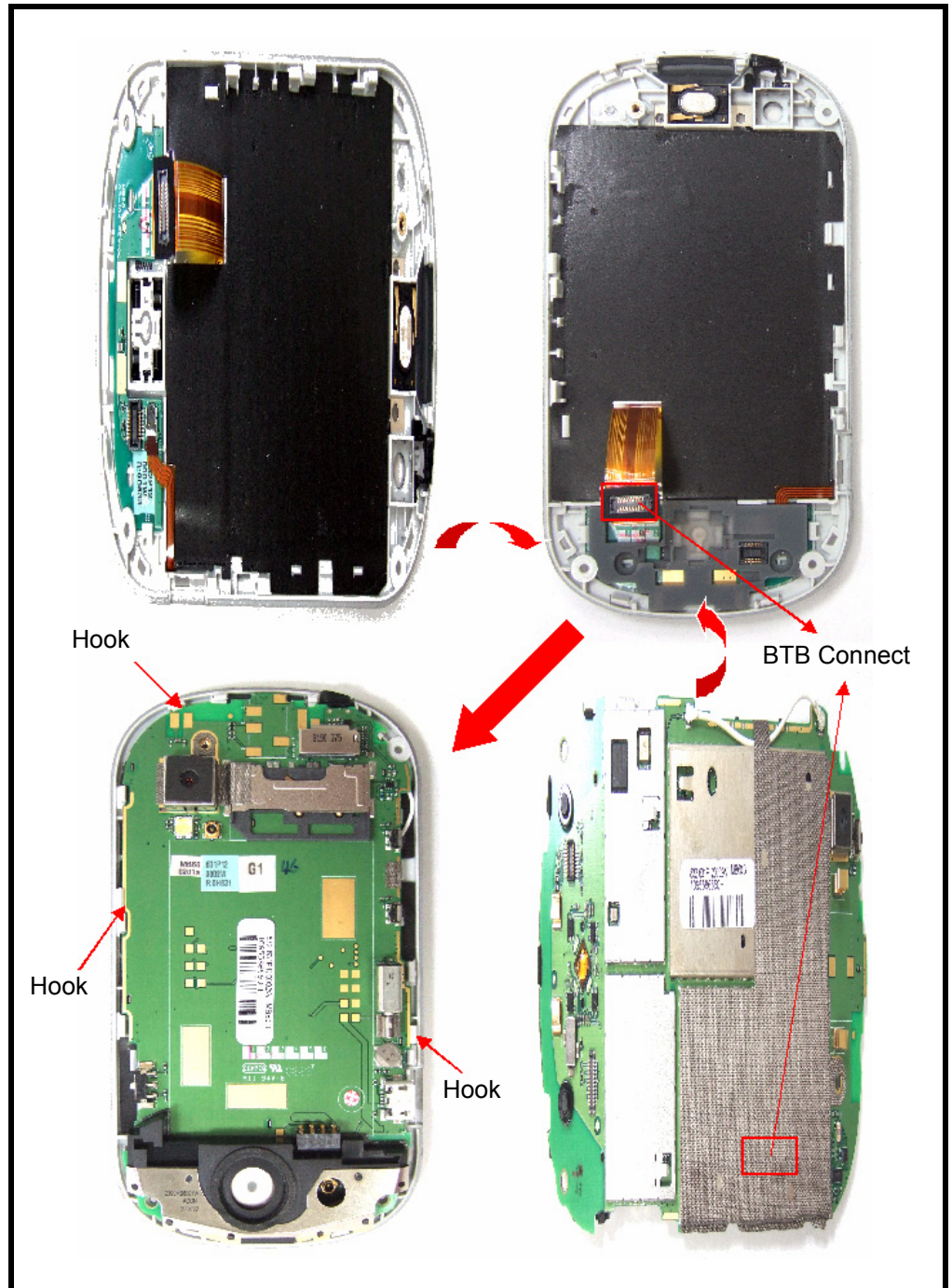


Figure 15. Inserting the Main Board to the Upper Case

Removing and Replacing the RF Shielding

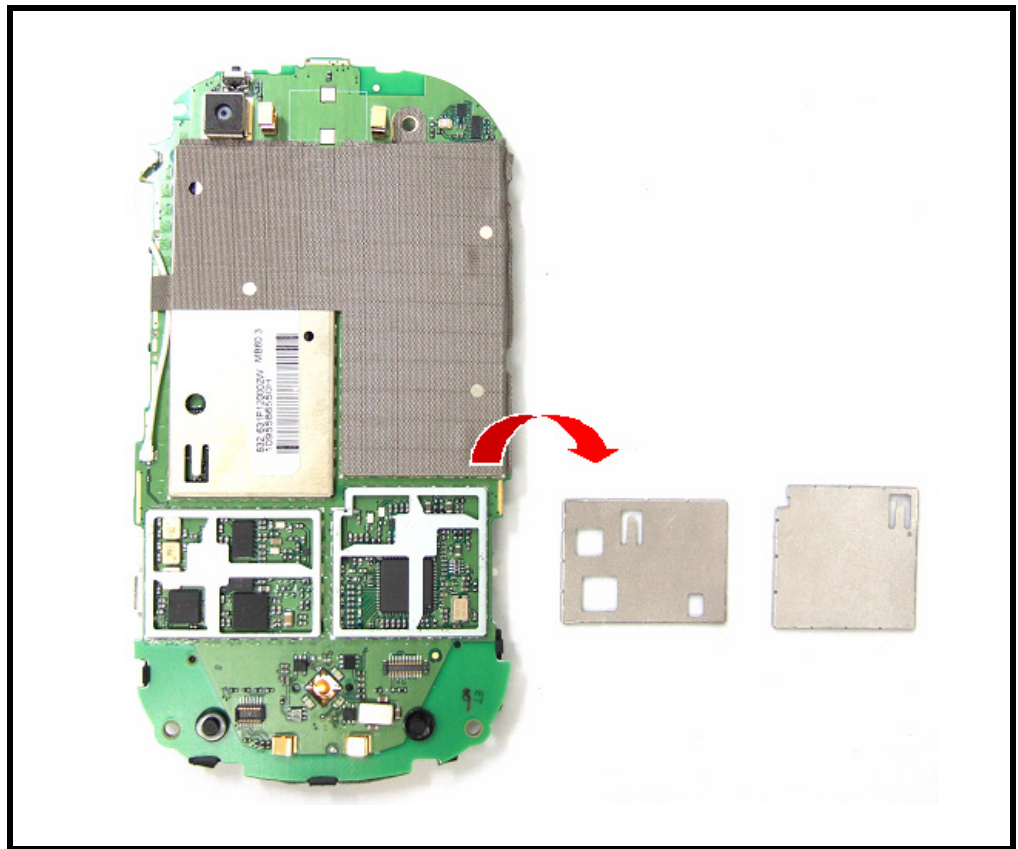


Figure 16. Removing the RF Shielding

Removing and Replacing the Main Antenna

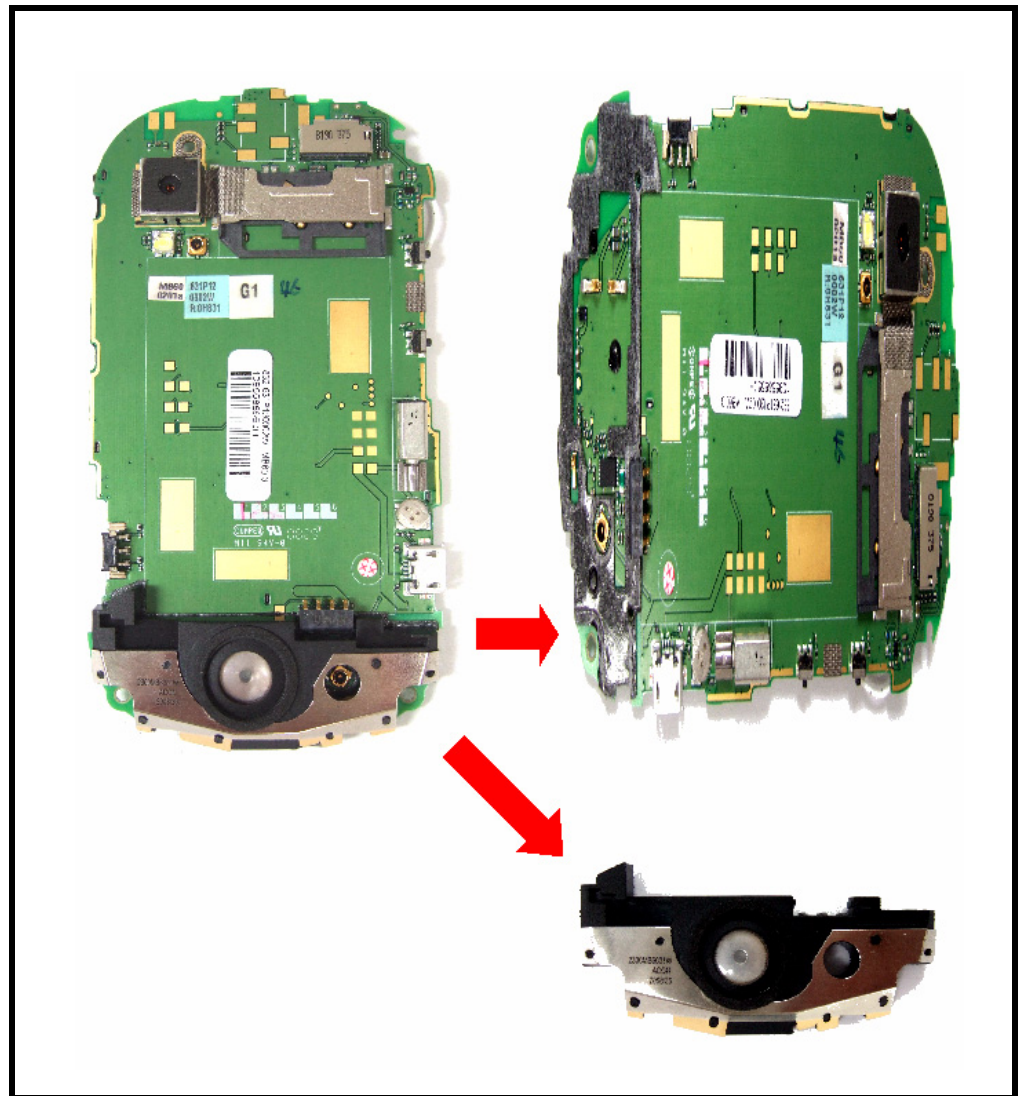


Figure 17. Disconnect the two halves

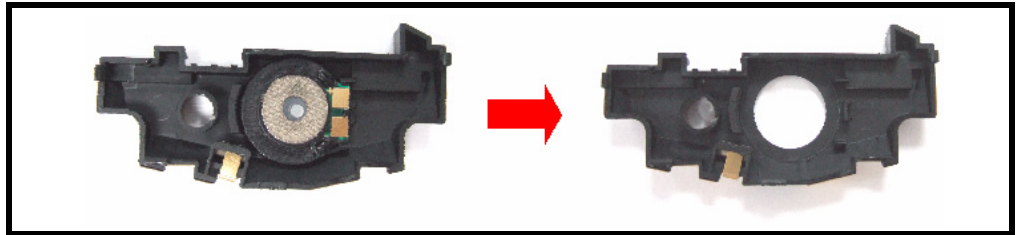


Figure 18. Removing the Speaker

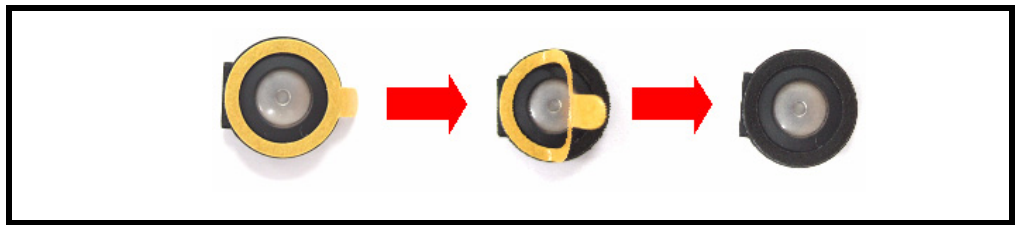


Figure 19. Removing the Liner

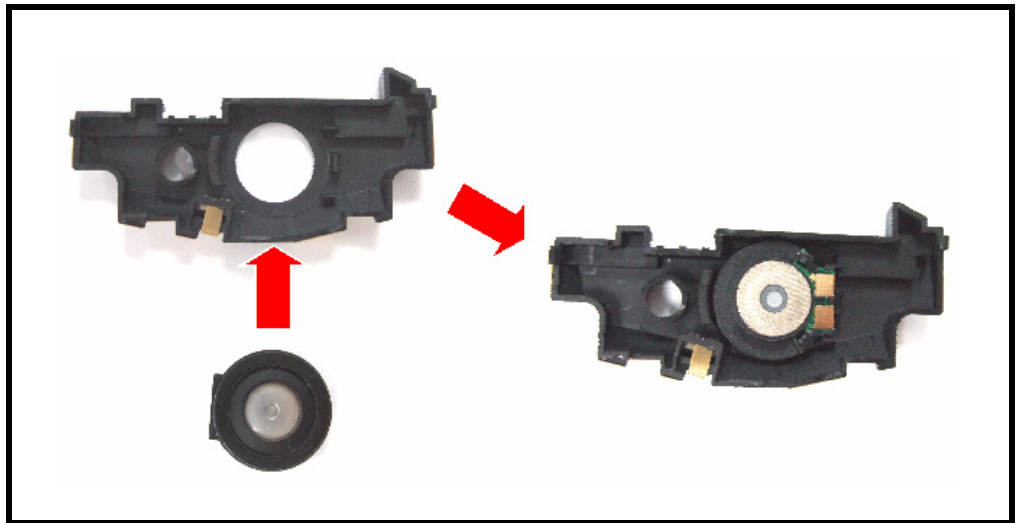


Figure 20. Removing the Speaker

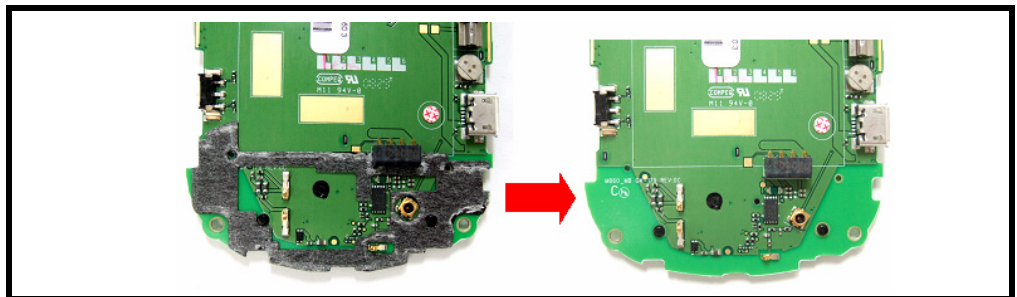


Figure 21. Removing the Sponge

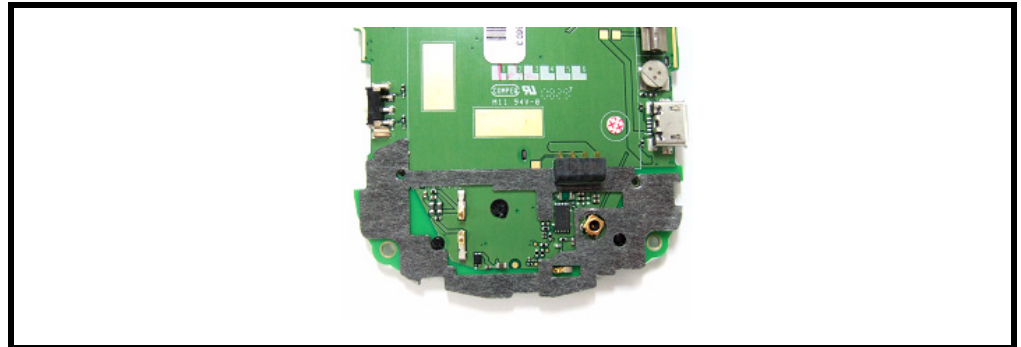


Figure 22. Stick the Sponge

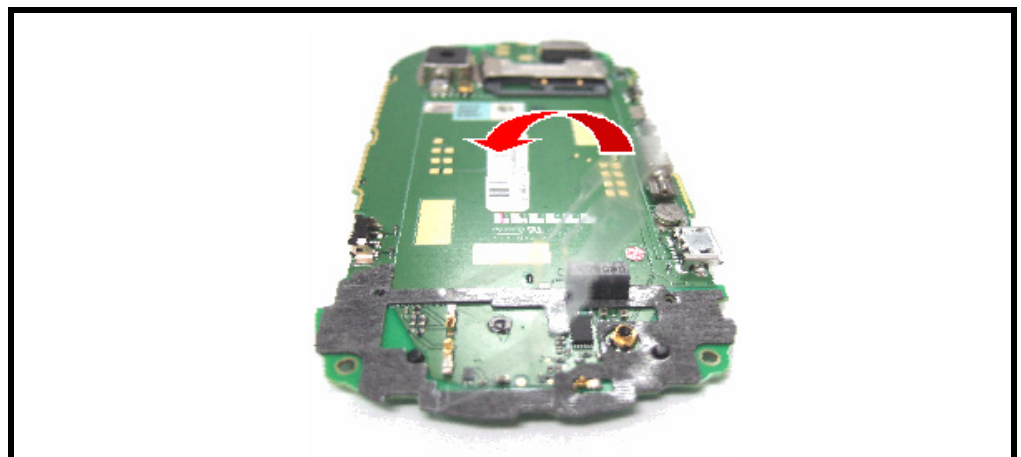


Figure 23. Removing the Liner

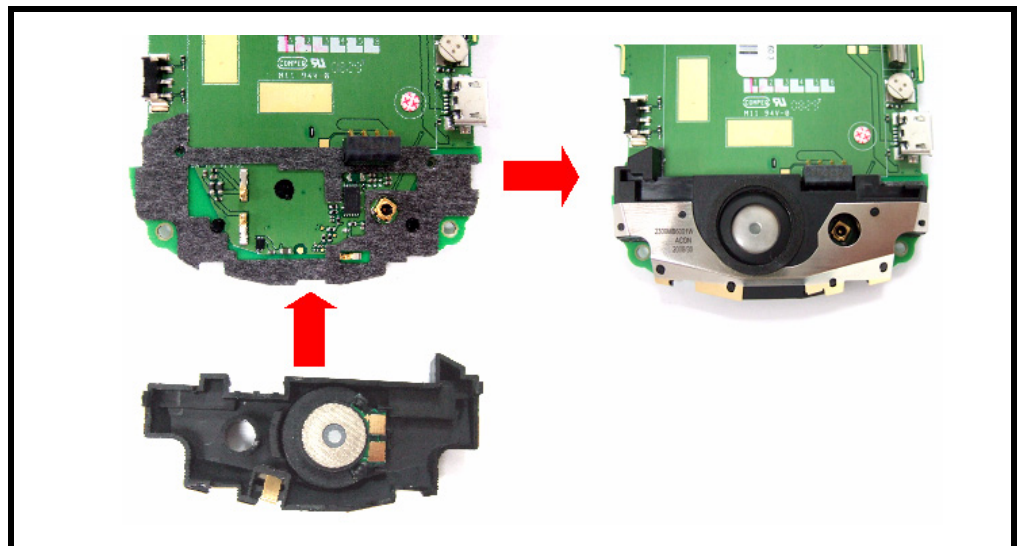


Figure 24. Inserting the Main Antenna

Removing the Replacing the Camera Module

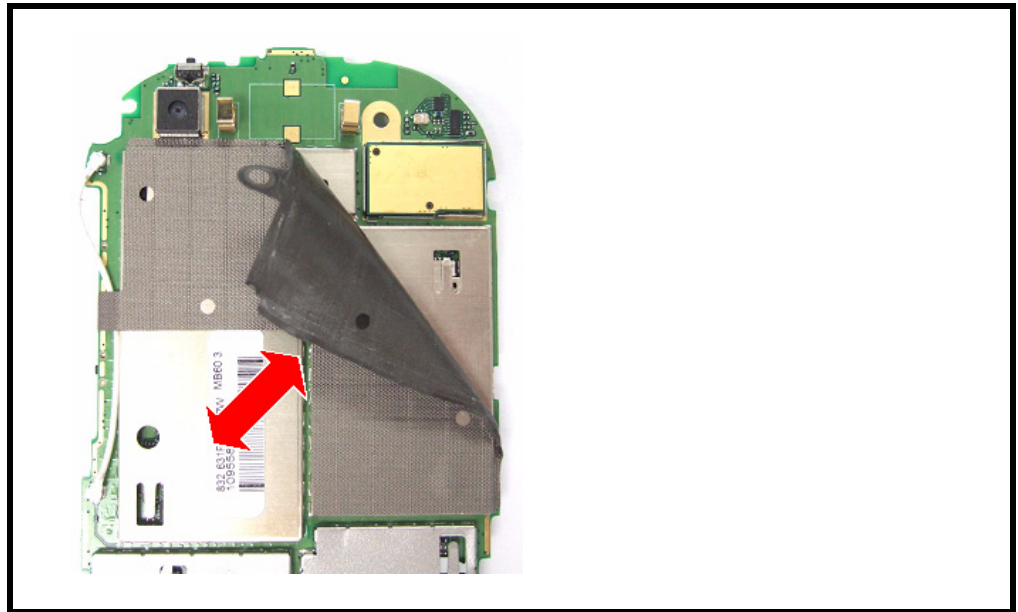


Figure 25. Removing the Gasket

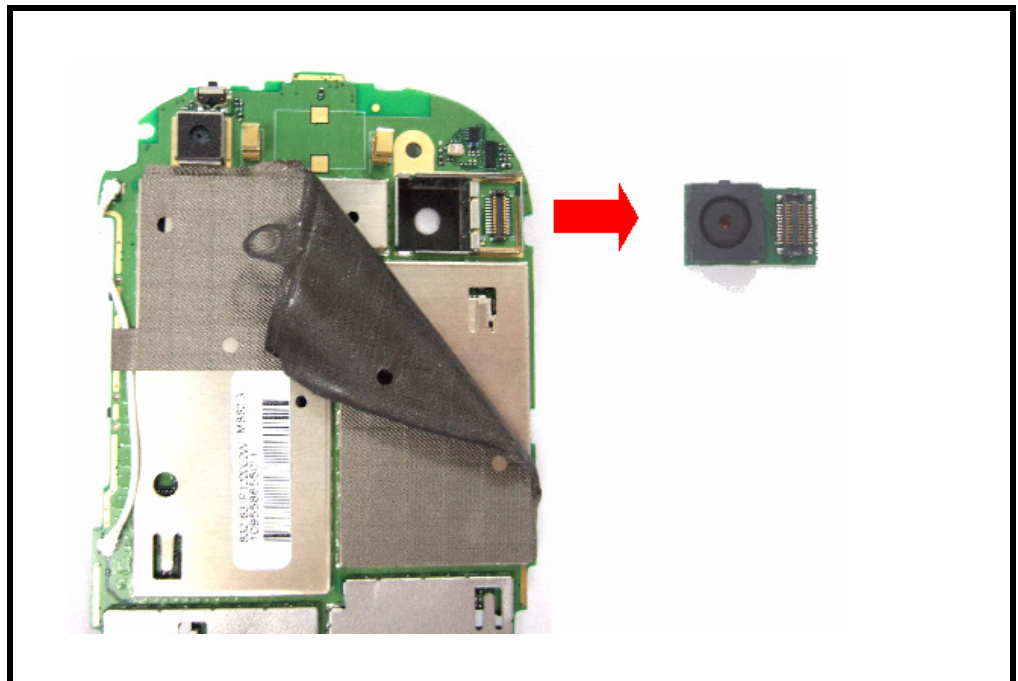


Figure 26. Removing the Camera Module

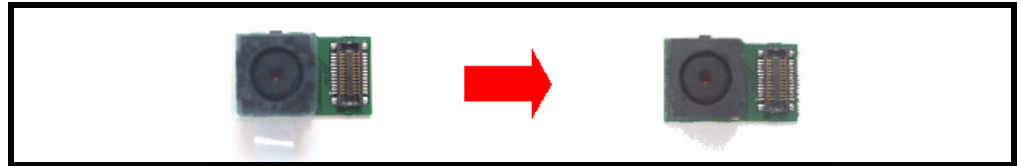


Figure 27. Removing the Liner

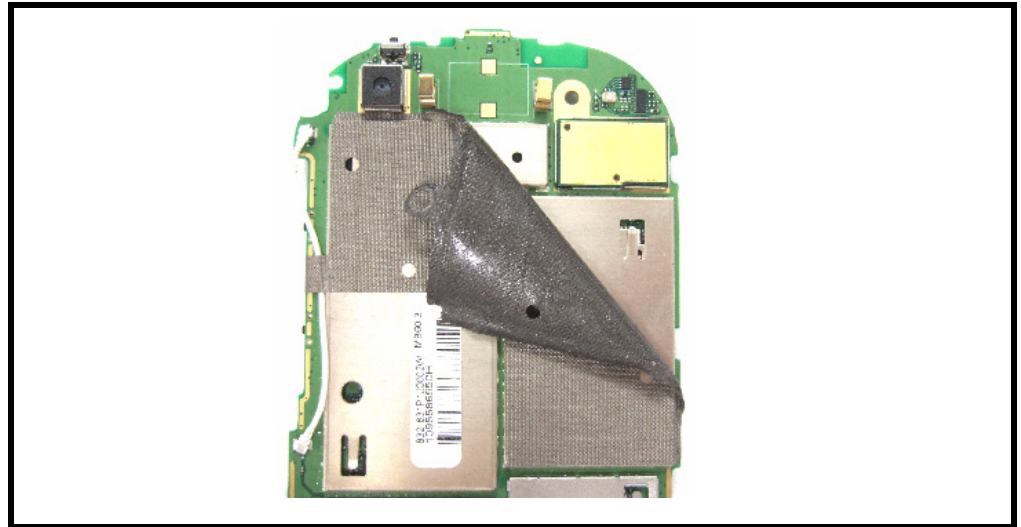


Figure 28. Inserting the Camera Module

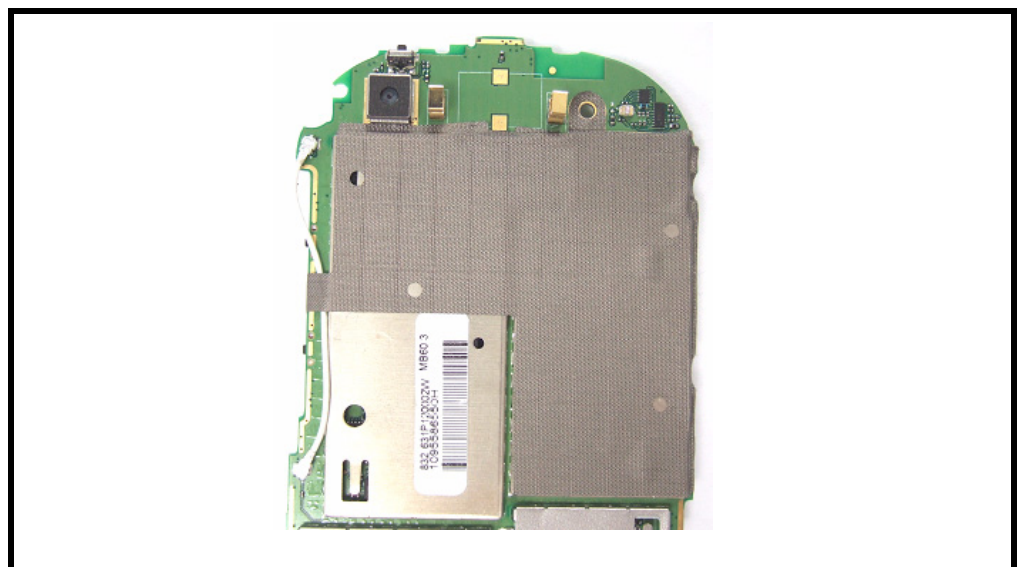


Figure 29. Stick Back Gasket

Removing and Replacing the Daughter Board

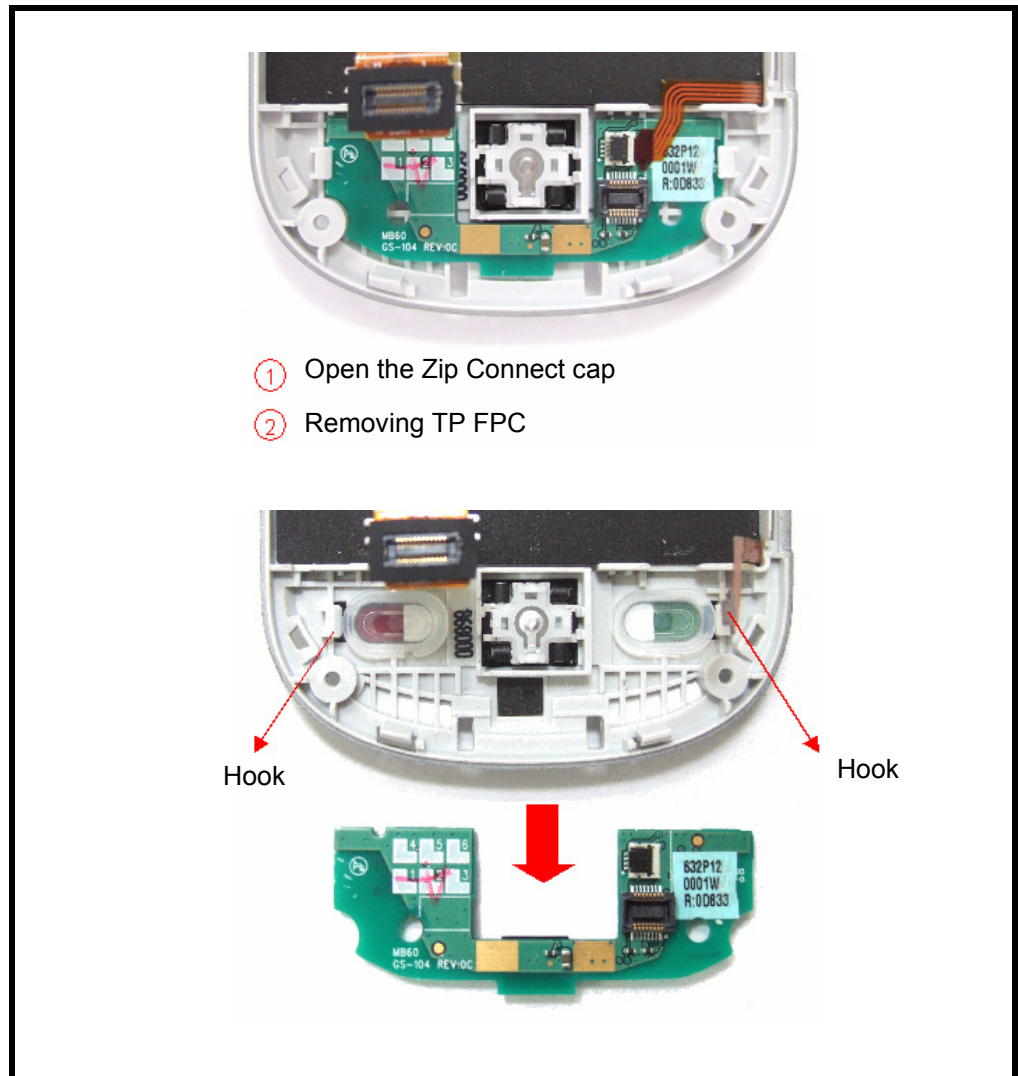


Figure 30. Removing the Daughter Board

Removing and Replacing the TP & LCM

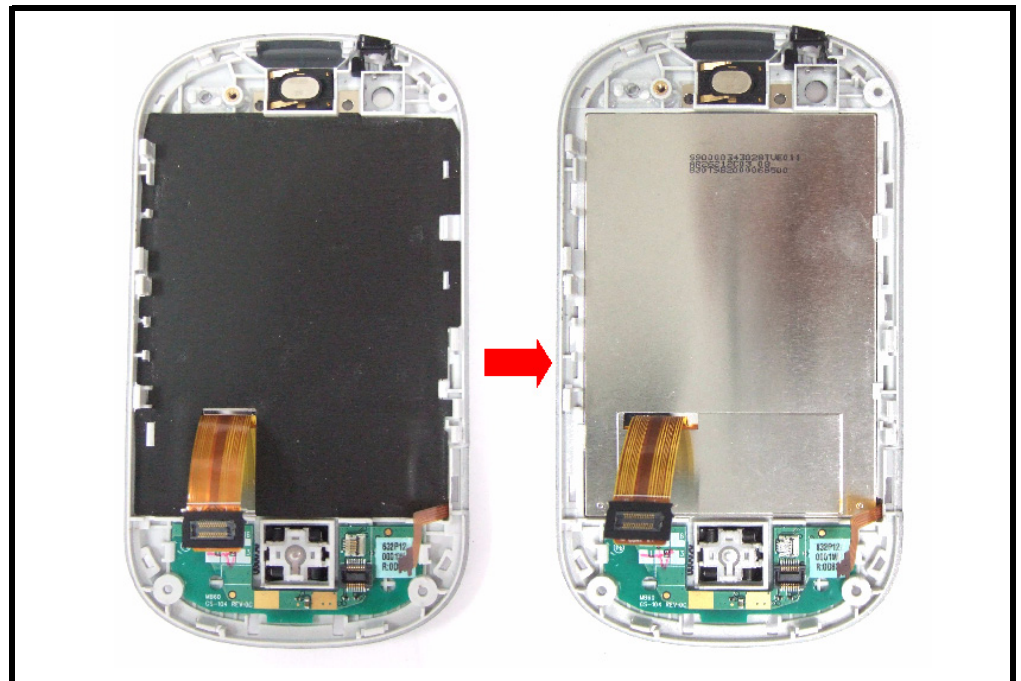


Figure 31. Removing the LCM Sponge

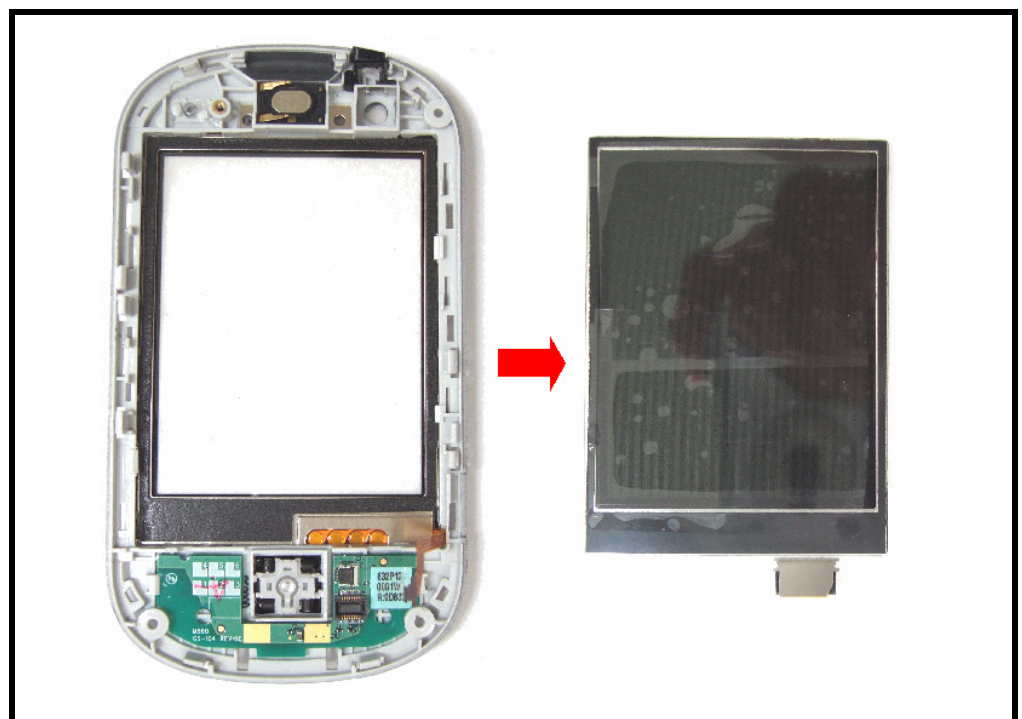


Figure 32. Removing the LCM

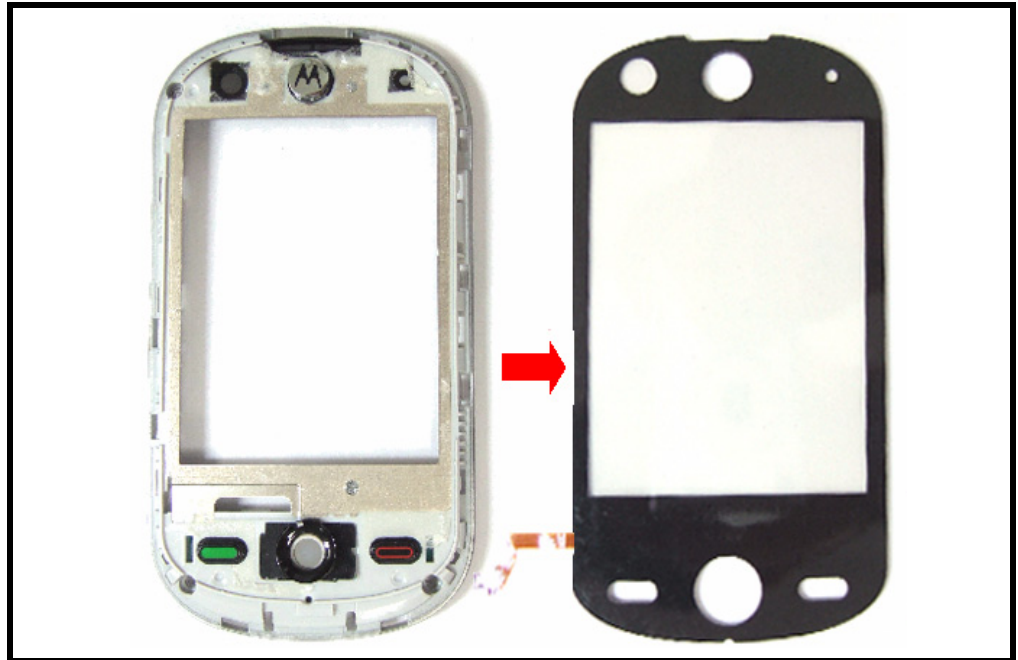


Figure 33. Removing the TP



Figure 34. Removing the Surplus Adhesive



Figure 35. Stick the Adhesive



Figure 36. Removing the Liner

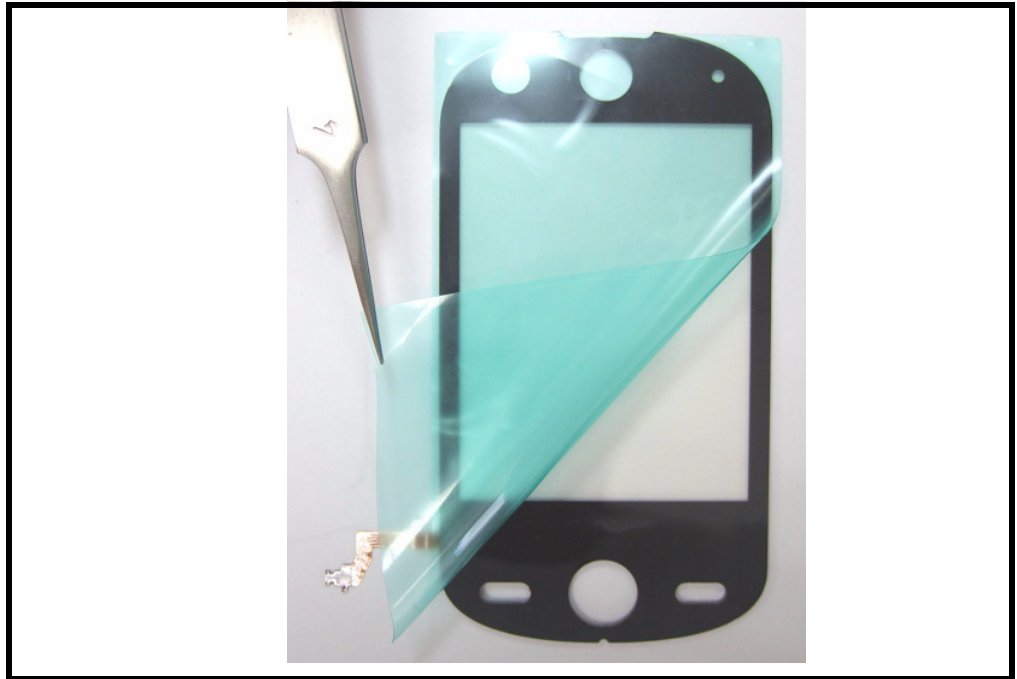


Figure 37. Removing the Protected Tap



Figure 38. Inserting the FPC

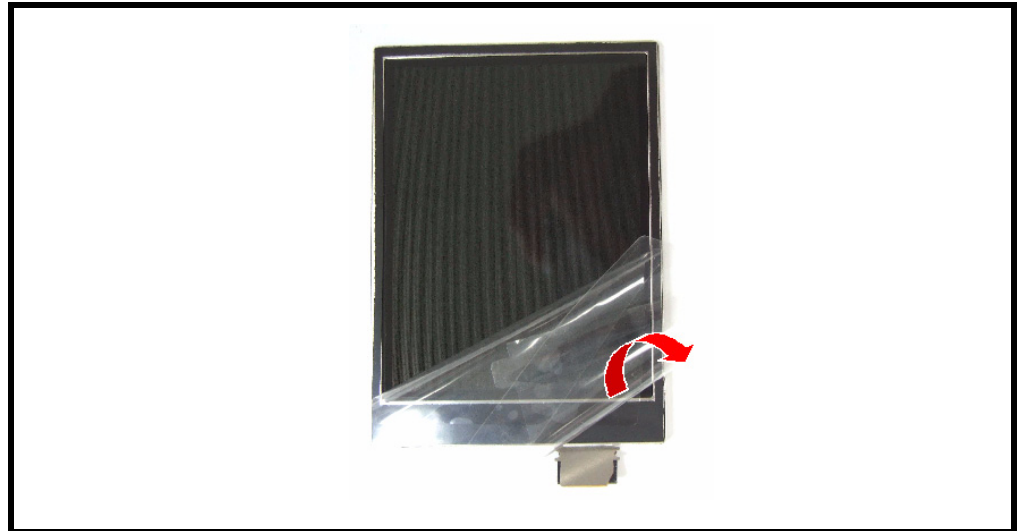


Figure 39. Removing the Liner



Figure 40. Inserting the LCM

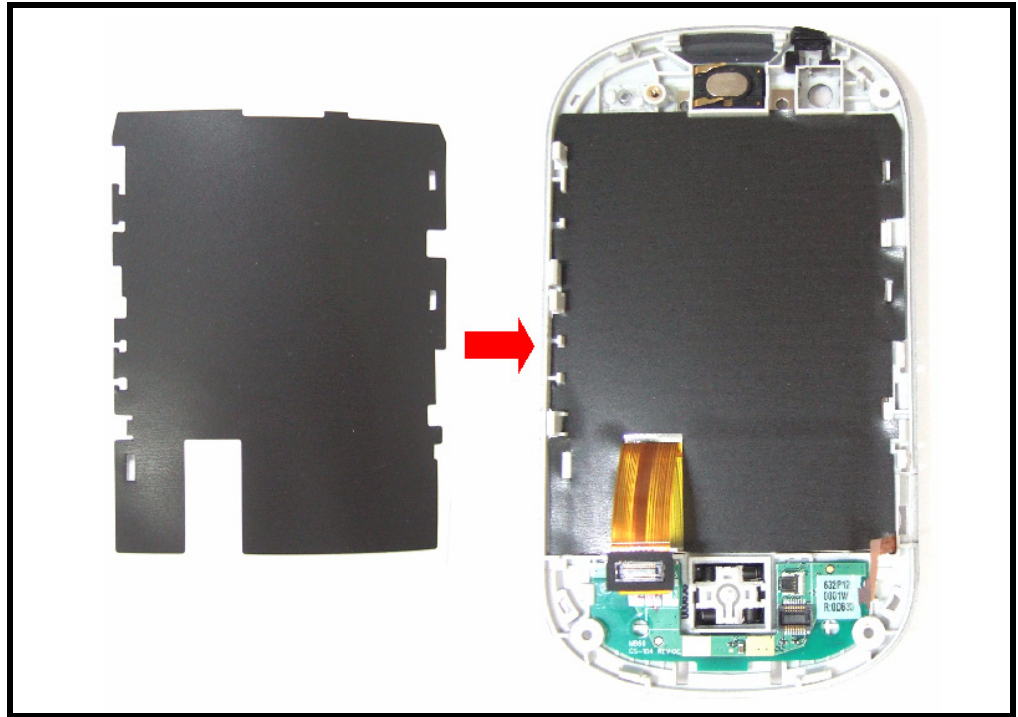


Figure 41. Inserting the LCM Sponge

Troubleshooting

Manual Test Mode

Motorola A3100/A3000 telephone are equipped with a manual test mode capability. This allows service personnel to verify functionality and perform fault isolation by entering keypad commands.

To enter the manual test command mode, a GSM/DCS/PCS test R-UIM must be used.

1. Press and hold **0** to turn the phone OFF.
2. Remove the battery as described in the procedures.
3. Replace the battery as described in the procedures.
4. Press and hold **0** to turn the phone ON.
5. A3100/A3000 Troubleshooting Chart

Key Sequence	Test Function / Name
#02#	Phone Information
#09#	R-UIMple Test Mode

A3100/A3000 Troubleshooting Chart

Level 1 and 2 Troubleshooting Chart

Symptom	Probable Cause	Verification and Remedy
1. Phone will not turn on or stay on.	a) Battery either discharged or defective.	Measure battery voltage across a 50 ohm (>1 Watt) load. If the battery voltage is <3.25 Vdc, recharge the battery using the appropriate battery charger. If the battery will not recharge, replace the battery. If battery is not at fault, proceed to b.
	b) Battery terminals open or misaligned.	Visually inspect the battery terminals on both the battery and the phone. Realign and, if necessary, either replace battery or refer to a Level 3 Service Center for the battery connector replacement. If battery terminals are not at fault, proceed to c.
	c) Keypad defective.	Replace the keypad. Temporarily connect a +3.6 Vdc supply to the battery terminals. Press and hold the PWR button. If phone turns on and stays on, disconnect the dc power source and reassemble with the new keypad.
2. Phone exhibits poor reception or erratic operation such as calls frequently dropping or weak or distorted audio.	Connections to or from lower PCB defective.	Check connection between the antenna and the lower PCB.
3. Display is erratic, or provides partial or no display.	LCM defective.	Replace the LCM. Verify that the fault has been cleared and reassemble the phone with the new LCM.
4. Incoming call alert transducer audio distorted or volume is too low.	Speaker defective.	Replace the speaker as described in the procedures. Verify that the fault has been cleared and reassemble the phone with the new speaker.
5. Phone transmit audio is weak. (usually indicated by called parties complaining of difficulty in hearing voice).	Microphone defective.	Replace the microphone as described in the procedures. Verify that the fault has been cleared and reassemble the phone with the new microphone.
6. Receive audio from earpiece speaker is weak or distorted.	a) Connections to or from lower PCB defective.	Check connection between the antenna and the lower PCB. If the connection is OK, proceed to b.
	b) Earpiece Speaker defective.	Temporarily replace the earpiece speaker with a known good earpiece speaker. Ensure good connection. Place a call and verify improvement in earpiece audio. If fault is cleared, reassemble the phone with the good earpiece speaker.

Level 1 and 2 Troubleshooting Chart (Continue)

Symptom	Probable Cause	Verification and Remedy
8. Keypad not functioning.	Keypad defective.	Use alcohol to wipe the keypad metal dome. Check if fault has been cleared. If the fault is still present, either replace the keypad or refer to a Level 3 Service Center for the keypad metal dome replacement.
9. Vibrator feature not functioning.	a) Vibrator faulty.	Check general condition of vibrator. If it is good, proceed to b.
	b) Vibrator defective.	Replace the defective vibrator.
10. No or weak audio when using headset.	a) Headset plug not fully pushed.	Ensure the headset plug is fully seated in the jack. If the seated is OK, proceed to b.
	b) Headset defective.	Temporarily replace the headset with a known good headset. Ensure good seated. Place a call and verify improvement in headset audio. If fault is cleared, replace the defective headset.

Programming: Software Upgrade and Flexing

Contact your local technical support engineer for information about equipment and procedures for flashing and flexing.

Exploded View Parts List

Table 2: A3100 Exploded View Parts List

Subs	Son-parent/ Comp	Qty-per	Description	Specification
	77P01002A1W		SYS 33 J/B	MB60 NICKEL
	251JMB6002W		COVERASSY	MB60-NICKEL-SPK CAP
	254FMB6003W	1.00000	DECORATE	MB60-ABS+PC-NICKEL-ANT_CAP-GP
	3061MB6005W	1.00000	DUST-PRO	MB60-NONWOVEN-SPK CAP
	251KMB6001W		FRAMEASSY	MB60-PC-UPPCASE_SKIN ASSY
	254FMB6002W	1.00000	DECORATE	MB60-PC-CHROME-UPPCASE_SKIN
	8609MB6006W	16.00000	ADHESIVE	MB60-NITTO5635-SKIN
	55P0100202W		ME/PT 33	MB60 NICKEL VC
001	2240071107W	1.00000	RECEIVER	SDRP0711KJ01-F15-G 32ohm AAC
002	76300028E3W	1.00000	LCM	LTJ028T004A 990000343 TPO
004	7651MB6001W	1.00000	CAMERA	MB60 MOMBE547U3A 3.1M SEMCO
005	2250160819W	1.00000	SPEAKER	DMS1608F-05-PC-F5B5-G 8ohm AAC
006	2300MB6001W	1.00000	I-ANTENNA	MB60 MAIN-ANT FPC FIVE-BAND
007	2300MB6002W	1.00000	I-ANTENNA	MB60 GPS-ANT CU
008	2300MB6003W	1.00000	I-ANTENNA	MB60 WIFI & BT-ANT CU
010	82C8600001W	2.00000	LABEL	C86 WATER+PRINT 3M5557 ϕ 3mm
011	7630000103W	1.00000	TOUCH PNL	MTA-V1B NISSHA
013	251KMB6001W	1.00000	FRAMEASSY	MB60-PC-UPPCASE_SKIN ASSY
015	251JMB6002W	1.00000	COVERASSY	MB60-NICKEL-SPK CAP
016	3064MB6011W	1.00000	MYLAR	MB60-MYLAR-SCREW-LOW CASE
251	691P120003W	1.00000	F/WMB 33	MB60 GA-179 J/B
252	632P120001W	1.00000	SMT S/B	MB60 GS-104
300	55P0100202W	1.00000	ME/PT 33	MB60 NICKEL VC
302	253BMB6001W	1.00000	RING	MB60-PC-BLACK-TRACK_BALL-GP
303	2511MB6002W	1.00000	UPP-ASSY	MB60-NICKEL-UPPER CASE ASSY
304	2307000052W	1.00000	TACT SW	EVQWJN005 NAIS
305	3115MB6001W	1.00000	SEND-KEY	MB60-P+R-NCVM-1KEY-SEND-LEFT
306	3116MB6001W	1.00000	END-KEY	MB60-P+R-NCVM-1KEY-END-RIGHT
307	3118MB6001W	1.00000	POWER-KEY	MB60-PC+METAL-LICORICE-1KEY
310	3012MB6001W	1.00000	SHIELDASY	MB60-YUANDENG-VGA CAMERA
311	3023MB6001W	1.00000	MIC-HOLD	MB60-RUBBER-BLACK-PIONEER
312	3056MB6002W	1.00000	MAGNET	MB60-MAGNET-9888T
313	3068MB6001W	1.00000	GASKET	MB60-GASKET-LCM
315	3052MB6007W	1.00000	SHIELD-C	MB60-SUS304-RF-COVER-R
316	303MMB6002W	1.00000	SPONGE	MB60-SPON-ZIF CONN
317	3012MB6002W	1.00000	SHIELDASY	MB60-YUANDENG-3M CAMERA
319	303MMB6001W	1.00000	SPONGE	MB60-SPON-MAIN ANT
320	2512MB6002W	1.00000	LOW-ASSY	MB60-NICKEL-LOWER CASE ASSY
321	3106MB6001W	1.00000	VOL-KEY	MB60-P+R-NCVM-2KEY

Table 2: A3100 Exploded View Parts List

Subs	Son-parent/ Comp	Qty-per	Description	Specification
322	3123MB6001W	1.00000	HOLD-KEY	MB60-P+R-NCVM-1KEY-CAMERA
325	254JMB6003W	1.00000	COVER	MB60-PC+TPE-NICKEL-USB
327	8610MB6002W	1.00000	PROT-TAPE	MB60-MEMBRANC-PANEL
328	2545MB6001W	1.00000	MARK	MB60-PC+ABS-CHROME-GP
330	302AMB6001W	1.00000	RUBBER	MB60-RUBBER-S/B
331	3068MB6003W	1.00000	GASKET	MB60-GASKET-BB-SHIELD
333	2311000211W	1.00000	AUDIOJACK	AJP21-5KD000 H4.4 D3.6 ACON
334	302AMB6002W	1.00000	RUBBER	MB60-RUBBER-POWER-KEY
335	306CMB6001W	2.00000	RIBBON	MB60-BTB-RIB
336	3068MB6006W	1.00000	GASKET	MB60-GASKET-3M-CAMERA-R
337	3068MB6007W	1.00000	GASKET	MB60-GASKET-3M-CAMERA-L
338	3068MB6005W	1.00000	GASKET	MB60-GASKET-3M-CAMERA-UP
339	303MMB6008W	1.00000	SPONGE	MB60-SPONGE-VGA
340	303MMB6009W	3.00000	SPONGE	MB60-SPONGE-BB_SHIELD-4PCS
341	3068MB6008W	2.00000	GASKET	MB60-GASKET-VGA-CAMERA
342	306BMB6002W	2.00000	KAPTON	MB60-KAPTON-3M-CAMERA
343	303MMB6010W	1.00000	SPONGE	MB60-SPONGE-BB_SHIELD_3.5*3.5
385	3501635102W	4.00000	SCREW_G	TORX-P.35*3.5-BLK-NYLO-SAE1018

Part Number Charts (A3000)

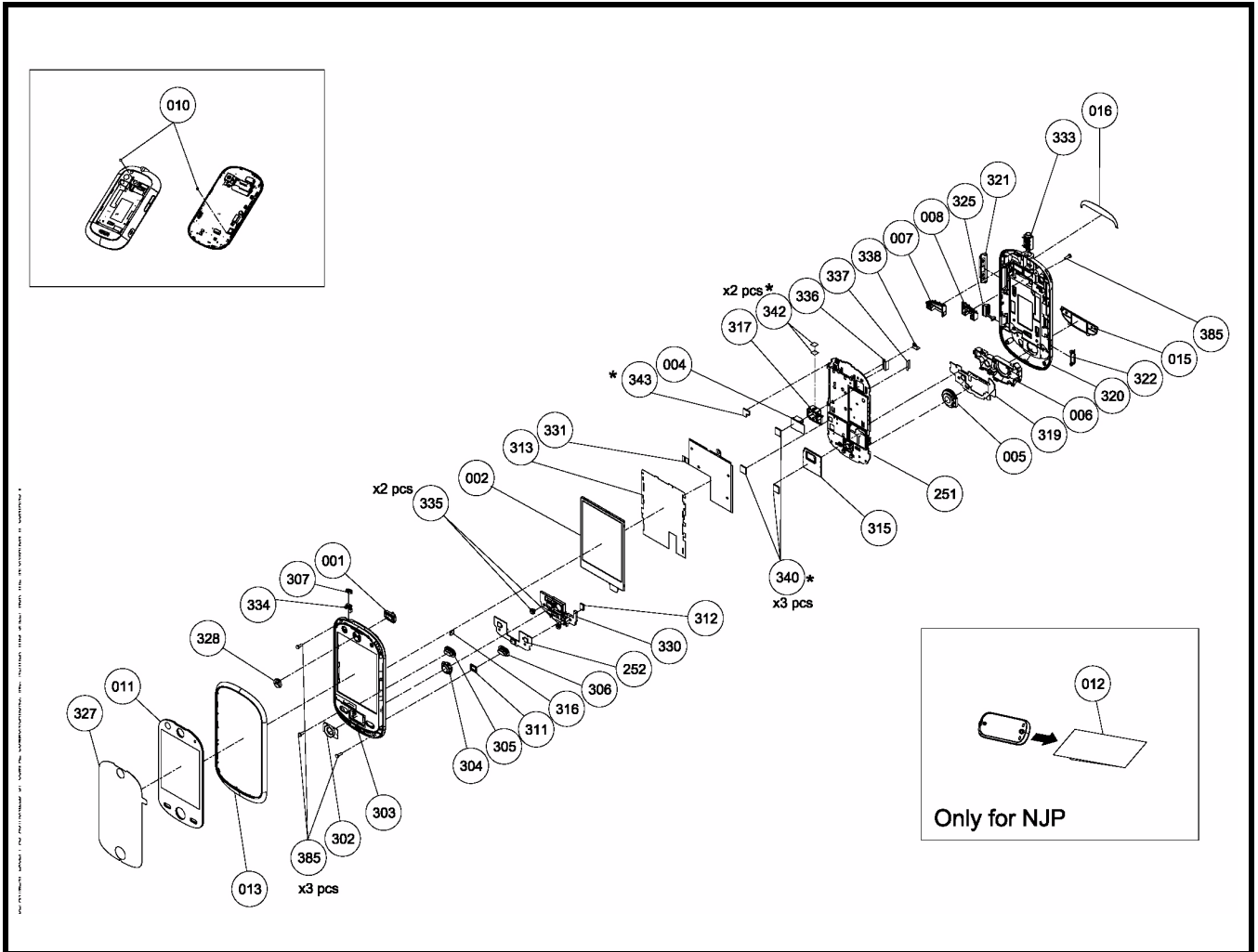


Figure 43. A3000

Exploded View Parts List

Table 3: A3000 Exploded View Parts List

Subs	Son-parent/ Comp	Qty-per	Description	Specification
	77P01102A1W		SYS 33 WF J/B	MB58 NICKEL
	251JMB6002W		COVERASSY	MB60-NICKEL-SPK CAP
	254FMB6003W	1.00000	DECORATE	MB60-ABS+PC-NICKEL-ANT_CAP-GP
	3061MB6005W	1.00000	DUST-PRO	MB60-NONWOVEN-SPK CAP
	251KMB6001W		FRAMEASSY	MB60-PC-UPPCASE_SKIN ASSY
	254FMB6002W	1.00000	DECORATE	MB60-PC-CHROME-UPPCASE_SKIN
	8609MB6006W	16.00000	ADHESIVE	MB60-NITTO5635-SKIN
	55P0110202W		ME/PT 33	MB58 NICKEL VC
001	2240071107W	1.00000	RECEIVER	SDRP0711KJ01-F15-G 32ohm AAC
002	76300028E3W	1.00000	LCM	LTJ028T004A 990000343 TPO
004	7651MB6001W	1.00000	CAMERA	MB60 MOMBE547U3A 3.1M SEMCO
005	2250160819W	1.00000	SPEAKER	DMS1608F-05-PC-F5B5-G 8ohm AAC
006	2300MB6001W	1.00000	I-ANTENNA	MB60 MAIN-ANT FPC FIVE-BAND
007	2300MB6002W	1.00000	I-ANTENNA	MB60 GPS-ANT CU
008	2300MB6003W	1.00000	I-ANTENNA	MB60 WIFI & BT-ANT CU
010	82C8600001W	2.00000	LABEL	C86 WATER+PRINT 3M5557 ϕ 3mm
011	7630000202W	1.00000	TOUCH PNL	MTA-V2B NISSHA
013	251KMB6001W	1.00000	FRAMEASSY	MB60-PC-UPPCASE_SKIN ASSY
015	251JMB6002W	1.00000	COVERASSY	MB60-NICKEL-SPK CAP
016	3064MB6011W	1.00000	MYLAR	MB60-MYLAR-SCREW-LOW CASE
251	691P120014W	1.00000	F/WMB 33	MB58 GA-179 J/B
252	632P120001W	1.00000	SMT S/B	MB60 GS-104
300	55P0110202W	1.00000	ME/PT 33	MB58 NICKEL VC
302	253BMB6001W	1.00000	RING	MB60-PC-BLACK-TRACK BALL-GP
303	2511MB6002W	1.00000	UPP-ASSY	MB60-NICKEL-UPPER CASE ASSY
304	2307000052W	1.00000	TACT SW	EVQWJN005 NAIS
305	3115MB6001W	1.00000	SEND-KEY	MB60-P+R-NCVM-1KEY-SEND-LEFT
306	3116MB6001W	1.00000	END-KEY	MB60-P+R-NCVM-1KEY-END-RIGHT
307	3118MB6001W	1.00000	POWER-KEY	MB60-PC+METAL-LICORICE-1KEY
311	3023MB6001W	1.00000	MIC-HOLD	MB60-RUBBER-BLACK-PIONEER
312	3056MB6002W	1.00000	MAGNET	MB60-MAGNET-9888T
313	3068MB6001W	1.00000	GASKET	MB60-GASKET-LCM
315	3052MB6007W	1.00000	SHIELD-C	MB60-SUS304-RF-COVER-R
316	303MMB6002W	1.00000	SPONGE	MB60-SPON-ZIF CONN
317	3012MB6002W	1.00000	SHIELDASY	MB60-YUANDENG-3M CAMERA
319	303MMB6001W	1.00000	SPONGE	MB60-SPON-MAIN ANT
320	2512MB6002W	1.00000	LOW-ASSY	MB60-NICKEL-LOWER CASE ASSY
321	3106MB6001W	1.00000	VOL-KEY	MB60-P+R-NCVM-2KEY

Table 3: A3000 Exploded View Parts List

Subs	Son-parent/ Comp	Qty-per	Description	Specification
322	3123MB6001W	1.00000	HOLD-KEY	MB60-P+R-NCVM-1KEY-CAMERA
325	254JMB6003W	1.00000	COVER	MB60-PC+TPE-NICKEL-USB
327	8610MB6002W	1.00000	PROT-TAPE	MB60-MEMBRANC-PANEL
328	2545MB6001W	1.00000	MARK	MB60-PC+ABS-CHROME-GP
330	302AMB6001W	1.00000	RUBBER	MB60-RUBBER-S/B
331	3068MB6003W	1.00000	GASKET	MB60-GASKET-BB-SHIELD
333	2311000211W	1.00000	AUDIOJACK	AJP21-5KD000 H4.4 D3.6 ACON
334	302AMB6002W	1.00000	RUBBER	MB60-RUBBER-POWER-KEY
335	306CMB6001W	2.00000	RIBBON	MB60-BTB-RIB
336	3068MB6006W	1.00000	GASKET	MB60-GASKET-3M-CAMERA-R
337	3068MB6007W	1.00000	GASKET	MB60-GASKET-3M-CAMERA-L
338	3068MB6005W	1.00000	GASKET	MB60-GASKET-3M-CAMERA-UP
340	303MMB6009W	3.00000	SPONGE	MB60-SPONGE-BB_SHIELD-4PCS
342	306BMB6002W	2.00000	KAPTON	MB60-KAPTON-3M-CAMERA
343	303MMB6010W	1.00000	SPONGE	MB60-SPONGE-BB_SHIELD_3.5*3.5
385	3501635102W	4.00000	SCREW_G	TORX-P.35*3.5-BLK-NYLO-SAE1018



There is a danger of explosion if the Lithium ion battery pack is replaced incorrectly. Replace only with the same type of battery or equivalent as recommended by the battery manufacturer. Dispose of used batteries according to the manufacturer's instructions.

To order parts please use the following Link:

<https://servicelink3.motorola.com>

(Password is required)

For information on ordering parts please contact EMEA at +49 461 803 1638.

Accessories

The design partner must test the accessories listed in below to ensure they are fully supported by the product. The kit number suffix is used for version control. The design partner must record the full kit number (including the suffix) when submitting the report for compatibility tests. The latest released version should be used when available.

Table 4: List of Accessories

Accessory	Motorola Kit Number
Charger / Mini-USB plug Accessories	
EMU Switch Mode Midrate (PRC)	SPN5188
EMU Switch Mode Midrate (US)	SPN5185
EMU Switch Mode Midrate (Taiwan)	SPN5216
EMU Switch Mode Midrate (Euro)	SPN5189
EMU Switch Mode Midrate (HK/UK)	SPN5190
EMU Switch Mode Midrate (Australia)	SPN5193
EMU Switch Mode Midrate (India)	SPN5194
EMU Switch Mode Midrate (Mexico)	SPN5186
EMU Switch Mode Midrate (Brazil)	SPN5187
EMU Switch Mode Midrate (Arg)	SPN5192
EMU Switch Mode Dual Rate (Brazil)	SPN5196
EMU Switch Mode Dual Rate (Arg)	SPN5197
EMU Switch Mode Dual Rate (PRC)	SPN5198
EMU Switch Mode Dual Rate (HK)	SPN5199
EMU Switch Mode Dual Rate (Mex)	SPN5200
EMU Switch Mode Dual Rate (US)	SPN5202
EMU Switch Mode Dual Rate (Twn)	SPN5270
Travel Charger EMU Standard New ID-US	SPN5404
Motorola Phone Tools Phase 5	SVN5576
EMU / EMU (Y-cable)	SKN6222
Mini USB/USB Data Cable	SKN6371
EMU Right-Angle Adapter	SKN6182
Bluetooth Accessories	
Bluetooth Car Kit - High Tier, Selfinstall, T5	SYN1717
Pro Install Bluetooth Carkit T605 Americas	98799N
Bluetooth ProInstall Carkit IHF1700 OEM	CKG171V010
T305 Mid Tier Car Kit	SYN1716
iHF1000r Pro Car Kit	98676K
BT Headset and Charging case H680 Espresso	SYN2238
BT Headset and Charging Case H680 Frost	SYN2237
BT Headset and Charging case H680 Midnight	SYN2168
BT HSET,H375,FLSH BLK	SYN2257
Bluetooth Headset Black H375 Low Tier	SYN2162
Bluetooth Headset H505 EZ Pair - Black Gloss	SYN1949
Bluetooth Headset H555 Black/Black (RAZR)	SYN1854
Bluetooth Headset H555 Silver/Black (RAZR)	SYN1821
Bluetooth Headset - MiniBlue H9 (Includes headset, charger base, and extra eartips)	SJ0095

Table 4: List of Accessories

Accessory	Motorola Kit Number
Bluetooth Headset -Black Licorice-H800	SYN1626
Bluetooth Headset H12	SJ0607
Bluetooth Headset H710	SYN2305
H700 Headset (Aphrodite)	SYN1311
H300 Headset (Medusa) (Pearl Dark Grey)	SYN1297
H300 Headset (Medusa) (Pink)	SYN1417
H300 Headset (Medusa) (Pure White)	SYN1416
H605 Headset (Persephone)	SYN1303
H850 Headset (Paladin RF) (Black)	SYN1107
H850 Headset (Paladin RF) (Blue)	SYN1226
H3 Headset (H3) (Cherry Red)	SYN1736
H3 Headset (H3) (Dark Pearl Grey)	SYN1507
H3 Headset (H3) (Black)	SYN1437
H3 Headset (H3) (Silver)	SYN1438
H350 Headset (Apollo) (Dark Pearl Grey)	SYN1763
H350 Headset (Apollo) (Sapphire Blue)	SYN1738
H350 Headset (Apollo) (Silver Quartz)	SYN1765
H350 Headset (Apollo) (Silver Sail)	SYN1764
H350 Headset (Apollo) (Black)	SYN1439
H500 Headset (Artemis Up) (Nickel)	SYN1290
H500 Headset (Artemis Up) (Black ST)	SYN1685
H500 Headset (Artemis Up) (Bubble Gum)	SYN1671
H500 Headset (Artemis Up) (Celery)	SYN1732
H500 Headset (Artemis Up) (Cosmic Blue)	SYN1617
H500 Headset (Artemis Up) (Fire Red)	SYN1667
H500 Headset (Artemis Up) (Hot Pink)	SYN1525
H500 Headset (Artemis Up) (Oi)	SYN1735
H500 Headset (Artemis Up) (Pumpkin)	SYN1733
H500 Headset (Artemis Up) (Spa Blue)	SYN1527
H500 Headset (Artemis Up) (Steel Teal)	SYN1734
H500 Headset (Artemis Up) (White)	SYN1526
H500 Headset (Artemis Up) (Gloss Black)	SYN1375
H500 Headset (Artemis Up) (Nickel Japan)	SYN1441
H500 Headset (Artemis Up) (Pink)	SYN1436
H500 Headset (Artemis) (Black ST)	SYN1374
Bluetooth Class 1 USB Adapter PC850	SYN1244
BT Sunglasses Oakley RAZRWIRE (Mercury: NA) - H7	
BT Sunglasses Oakley RAZRWIRE (Pewter/Black: NA) - H7	98677H
BT Sunglasses Oakley RAZRWIRE (Plantinum/Rootbeer: NA) - H7	98678H
In-Vehicle Accessories	
Hi Performance VPA	SPN5401
P310 EMU MidRate	SYN1630
VC700 EMU Power Adapter	SYN0847
Audio Accessories	

Table 4: List of Accessories

Accessory	Motorola Kit Number
Mono Earbud Headset (Black)	SYN8390
Mono Earbud Headset (Silver)	AAYN4264
One-Touch Headset	SYN8419
S212 Wired Stereo Headset	SYN1462
Stereo One-Touch Earbud Headset	CHYN4516
Stereo One-Touch Earbud Headset	SYN1603
JBL On Tour Mobile Speaker (Euro)	OnTour MBBLKE
JBL On Tour Mobile Speaker (US)	OnTour MBBLK
JBL On Tour Mobile Speaker (PRC)	CH1414
JBL On Tour Mobile Speaker (UK)	OnTour MBBLKU
Audio Converter 2.5mm to 3.5mm	SKN6183
Portability Accessories	
Silver Lanyard (Asia except PRC)	AAYN4402A
Silver Lanyard	CHYN4546
Lanyard - Universal (Gray)	SYN9855
Universal Armband Black PU w/ White Detailing	SYN2099
Belt Clip - All Plastic - Cost Reduced (Black)	SYN9853
Black Patent Screen Cleaner	SYN2029
Black Patent Wrist Strap	SYN2028
Batteries	
Battery BK91 (PF4 Ltd) Li-Ion 1480 mAh	SNN5758
	SYN2238
Cleaner - Screen - V3	

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