SITE TECHNICAL DOCUMENTATION

myC-4

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APPENDIX 1 – COMPOSITION TABLE

CHAPTER 1 - FOREWORD

This document is common to all phones in the SAGEM. It is composed of independent sheets:

- Symptom sheets = Symp Sheet XX
- Test and check sheet = Test Sheet XX
- Maintenance procedure sheet = Proc Sheet X XX

The applicability of a procedure is indicated in the independent sheets title block:

- All types = GSM 850/900, GSM 1800/1900 and dual band.

These sheets are updated from time to time in Technical Information Bulletins (TIB).

The information contained in this document is non-contractual, since phone characteristics can change.

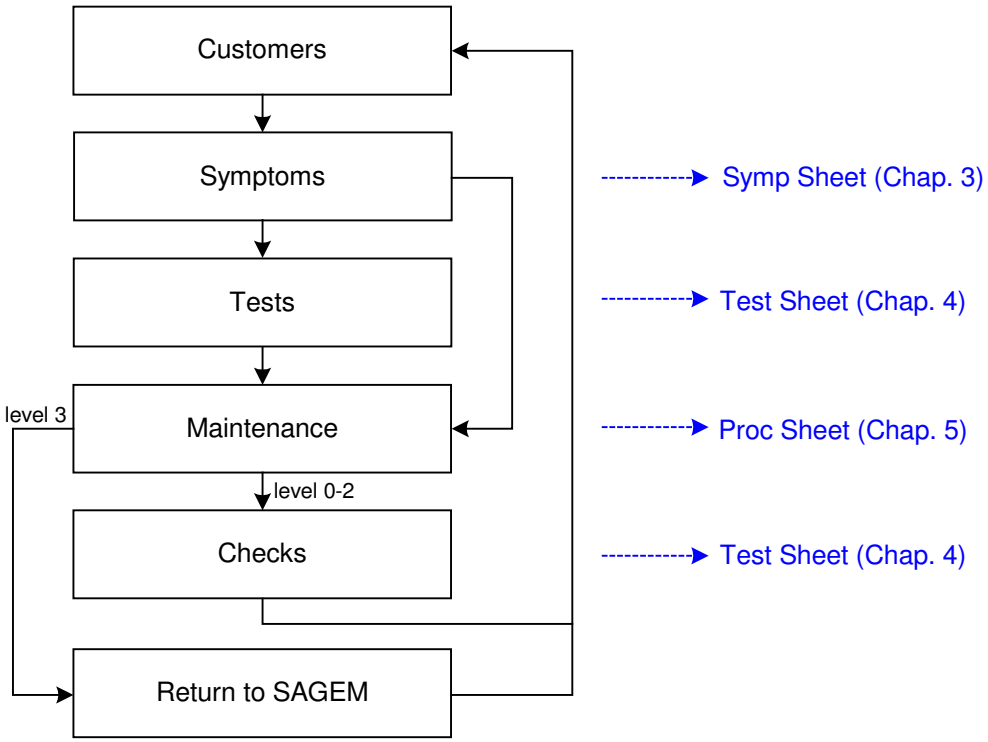
Phones are managed based on *SAGEM* handset codes; any order for spare parts must refer to these codes (typical code 25 xxx xxx-x).

1.1 HOW TO USE THE SITE TECHNICAL DOCUMENTATION

This is a modular document. Each sheet is unique and independent. In some cases several sheets may have to be used in order to determine the complete procedure to be applied.

A troubleshooting chapter (chapter 3) is provided and is sorted according to the type of reported fault, to determine the maintenance procedure to be carried out.

These sheets describe the procedure to be followed. They refer to test sheets or removal and replacement maintenance sheets. Maintenance ,executed by the repair centre, terminates either by returning the product to the customer, or by dispatching it to level 3 maintenance (return to factory).



All sheets include illustrations to make it easier to read the procedure.

- **Chapter 1 : Foreword**, describes general data about this document.
- **Chapter 2 : Description - Operation**, describes general data and options available in the myC-4.
- **Chapter 3 : Symptoms**, contains troubleshooting procedures to be carried out on equipment.
- **Chapter 4 : Tests and checks,** contains tests and check procedures to be performed on the equipment.
- **Chapter 5 : Maintenance procedures**, contains level 0 to 2 maintenance procedures to be carried out on the equipment, and the procedure to return to SAGEM level 3.
- **Chapter 6: Accessories**, describes the characteristics of accessories for myC-4 phones.
- **Chapter 7: Technical Information Bulletins**, contains the various modifications made to this documentation.
- **Chapter 8: Illustrated Parts Catalogue**, contains the various reference for spare parts.
- **Appendix 1**: **Composition table**, contains the various SAGEM references codes for equipment described in this document.

1.2 ABREVIATIONS

AAC	Advanced Audio Coder
ADPCM	Adaptive Differential Pulse Codec Modulation
ALS	Alternative Line Services
AOC	Advice Of Charge
CCD	Charged Coupled Device
CLI	Calling Line Identification
CLIP	Calling Line Identification Presentation
CSTN	Colored Super Twisted Nematic
DCS	Digital Cellular System
EFR	Enhanced Full Rate
EMS	Enhanced Message Service
FDN	Fix Dial Number
GPRS	General Packet Radio Service
GSM	Global System for Mobile
IMEI	International Mobile Equipment Identity
ISO	International Standard Organisation
LCD	Liquid Crystal Display
LU	Livret d'Utilisation (User's guide)
MMS	Multimedia Message Service
PCS	Personnal Communication Service
PIN	Personal Identity Number
PUK	PIN Unlocking Key
RF	Radio Frequency

SAR	Specific Absorption Rate
SIM	Subscriber Identify Module
SMS	Short Message Service
SMS CB	Short Service Message Cell Broadcast
SMT	Sagem Mobiles Tools
TFT	Thin Film Transistors
USSD	Unstructured Supplementary Service Data
VGA	Video Graphics Array
WAP	Wireless Application Protocol
WiFi	Wireless Fidelity
WSP	Wireless Session Protocol

1.3 COMMENTS SHEET

Broad experience is very beneficial in several respects. Please let us know your comments so that we can improve the contents and presentation of this document.

Your suggestions will be read carefully by:

- the design laboratory,
- production,
- the purchasing department,
- the after sales service,
- all users of this document.

All your suggestions are valuable, they will help us to better satisfy you.

Please photocopy and fill in the sheet 1-4.

Document title: **Site Technical Document for myC-4**

Reference : **SCT U38 SSC DTS 0023**

Date :

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Document outline				
Document presentation and appearance				
Quality of illustrations				
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- ❒ Improve the overall view
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- ❒ Improve the structure
- ❒ Add illustrations
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CHAPTER 2 - DESCRIPTION - OPERATION

2.1 REMINDERS ABOUT THE GENERAL NETWORKS CHARACTERISTICS

Table 1 below gives the characteristics of the radio interface for the GSM 850 / 900, GSM 1800 systems :

	GSM 900	**GSM 1800**
Frequency Band (MHz)	890 - 915 925 - 960	1710 - 1785 1805 - 1880
Number of time intervals per TDMA frame	8	
Width 2 x W simplex (MHz)	2 x 25	2 x 75
Duplex spacing (MHz)	45	95
Modulation speed (kbit/s)	271	
Speech throughput (kbit/s)	13 (5,6)	
Maximum data throughput (kbit/s)	12	
Multiple access	Frequency and temporal multiplexing / frequency duplexing	
Cell radius (km)	0,3 to 30	0,1 to 4
SAGEM terminal power (W)	2	1

Table 1 : Radio Interface

Table 2 shows powers as a function of the network :

	GSM 900		**GSM 1800**	
Class number	Maximum nominal power (W)	Allowable interval (W)	Maximum nominal power (W)	Allowable interval (W)
1	-	-	1	[0,63 ; 1,6]
2	8	[5,0 ; 12,7]	0,25	[0,16 ; 0,4]
3	5	[3,2 ; 7,9]	4	[2,5 ; 6,3]
4	2	[1,3 ; 3,2]		
5	0,8	[0,5 ; 1,3]		

Table 2: Terminals power class

Table 3 shows power classes :

	Class 1	Class 2	Class 3	Class 4	Class 5
GSM 900	43 dBm	39 dBm	37 dBm	33 dBm	29 dBm
GSM 1800	30 dBm	24 dBm	36 dBm	-	-

Table 3: RF power classes

2.2 REMINDERS ABOUT THE CHARACTERISTICS AND OPTIONS OF myC-4

Remark: This information is given for guidance, and is in no way contractual characteristics vary according to customers and countries.

GENERAL CHARACTERISTICS	
Size	
Dimension (LxWxH, mm)	89.7x44.5x22.9mm (L= 129.7mm when open)
Weight (g)	91g
Volume (cm3)	90
Power Management	
Battery type	Li-ion 700mAh
Charging time	2h
Talk time (TW.09)	Up to 3,5h
Standby time (TW.09)	Up to 320h
Display and User Interface	
Screen type	CSTN
Colours	65536
Number of lines	Up to 8 lines
Screen size LxH (mm)	28x28
Screen resolution (pixels)	128x128
Backlight	yes
Soft keys / navigation	Yes, 2 programmable keys
Sub LCD (clam design)	n/a
Customisation	
Handset colours	Bright red
Interchangeable covers	No
Radio	
GSM Band	900, 1800 MHz
Automatic switching between bands	Yes
Voice codecs	EFR,HR,FR,AMR (voice memo only)

CONNECTIVITY	
Radio	
GPRS	Yes, class 10 (4+1 & 3+2)
UMTS	No
Internet	
Browser	WAP 1.2.1
Push	Yes, factory previsioning
Built-in data / fax Modem	Yes
Data Transfer	
Serial	No
IrDA (Obex or other standard)	No
Bluetooth	No
USB	Yes, USB cable as optional accessory
WiFi (802.11b,a)	No
PC/MAC directory synchronisation	yes

MULTIMEDIA	
Messaging	
SMS	MO/MT/CB
EMS	Yes, v5

MMS	Yes, v4
MULTIMEDIA (cont'd)	
Notification	Yes
Predictive text input	T9
Video & Images	
Camera	No
Video Player	No
Image features	Yes
Image Format	BMP, WBMP, PNG, JPEG, GIF
Audio	
Audio Recorder	Yes
Polyphonic ringtones	Yes
Hi-Fi ringtones	Yes
Audio formats	IMELODY, MIDI, WAV (PCM, ADPCM), AMR, C-MIDI
Entertainment	
Wallpaper	Yes
Screensaver	Yes
Clock display	Yes, analog or digital
Icons	Yes
Embedded games	Yes
JAVA	Yes, MIDP 2.0
OTA Downloads	
Protocol supported	EMS, MMS, WSP-Get, WAP save as, PC sync
Wallpaper / screensaver	Yes, via EMS, MMS, WAP, PC download (MPAS)
Animation	Yes, via EMS, MMS, WAP, PC download (MPAS)
Menu icon	Yes
Ringing melodies	Yes
Music	no
Java application	Yes
Game	Yes
CALL MANAGEMENT	
Voice features	
Mute mode	Yes
Integrated handsfree mode	Yes
Address book features	
Call group	Yes
Personal information management (V-card)	Yes
Ringtone / Icon customisation	Yes
Advanced Features	
Conference call	Yes
Call list (dialled, received and missed)	Yes
Caller ID	Yes
Anonymous mode	Yes
Call wait / call hold / call transfer	Yes
Call forwarding	Yes
Sim toolkit	Yes
Vibrate mode	Yes
Speed dialling	Yes, voice mail only by long press on 1
Automatic redial	Yes
Any key answer	no
Active flap/ active slide	yes
SPECIAL FEATURES	
Bio Features	

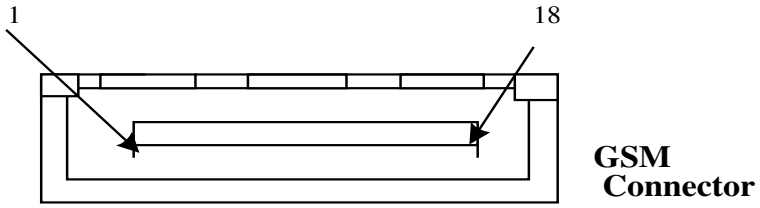
Bio-Rhythm	No
Bio-Calendar	No
SPECIAL FEATURES (cont'd)	
Keyboard Features	
Scroll key	No , navigator only
Keypad lock	Yes
Silent key	Yes, by long press on *
International access key	Yes, by long press on 0
Personal Management Features	
Calculator	Yes
Alarm Clock	Yes
Organizer	Yes
To Do	Yes
Voice memo	Yes, AMR codec
Currency converter	Yes
Languages	Up to 8 languages embedded
Compatible Accessories	
Data cord	Yes, only as accessory
Universal charger	Yes
Hands free kit	Yes

MEMORY	
Internal phone book (positions)	Depending on available free memory
Messaging memory SMS/EMS/MMS/Email	Depending on available free memory
Redial list (positions)	Depending on available free memory
Additional multimedia memory	No
Embedded memory (Max size for total user objects)	4,7Mbytes

2.3 DATA/AUDIO/CHARGE CONNECTOR

2.3.1 Connector description

This connector is located at the bottom of the transmission module and enable the connection to various accessories. It comprises power supply pins and signals.



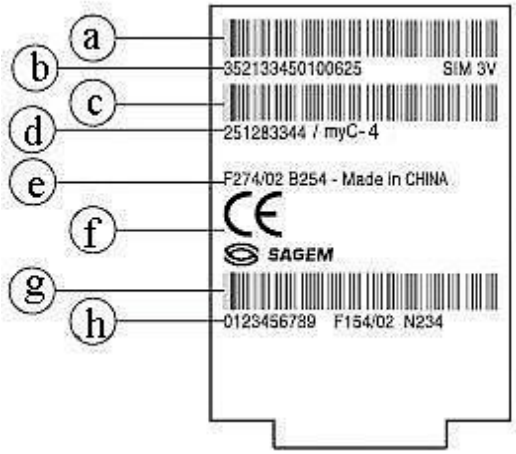
2.3.2 Signal description

SYMBOL	PIN No.	SIGNAL FUNCTION
BFTXP	1	Differential input from microphone
BFTXN	2	Differential input from microphone
BFRXP	3	Differential output to earphone
BFRXN	4	Differential output to earphone
VBAT	5	POWER SUPPLY IMAGE VOLTAGE, connect this signal to «CHARGER» (pin n°1) to switch the module on.
DETECT	6	Accessories detection
CTS	7	Clear To Send
RTS	8	Request To Send
DSR	9	Data Send Ready
DTR	10	Data Terminal Ready
TXD1	11	UART transmit 1
TXD2	12	UART transmit 2
GND	13	ZERO VOLT
RXD1	14	UART receive 1
RI	15	Ring Indicator
DCD	16	Data Carrier Detect
RXD2	17	UART receive 2
CHARGER	18	Phone set power ON and power supply signal.

2.4 IDENTIFICATION

All phones are identified with an identification label sticked on the antenna.

2.4.1 Illustration



2.4.2 Description

a : IMEI (bar code),

b : IMEI (15 characters)

c : Reference of product / aesthetic used (bar code)

d: Reference of product / aesthetic used (9 characters)

e : Date code + Manufacturing level + Production area Indication,

Ex. F274/02 = (*F*) fabrication area (F : Fougères), (*274*) day of year, (*02*) last digit of year (02→2002).

Ex: B254: Manufacturing level

Ex: Made in China: Production area Indication

f : Product designation

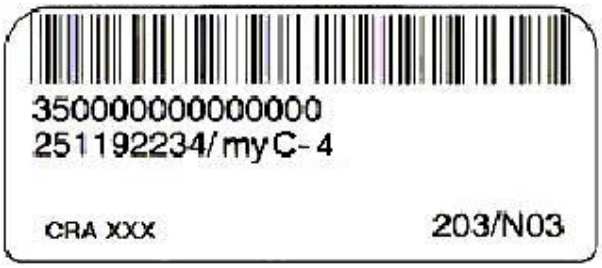
g :Module serial number (bar code)

h: Module serial number (10 characters),

i: Sim card Indication (Sim 3V…)

2.4.3 Description after repair

A new sticker is positioning by Repairing Centre near the sim card connector:

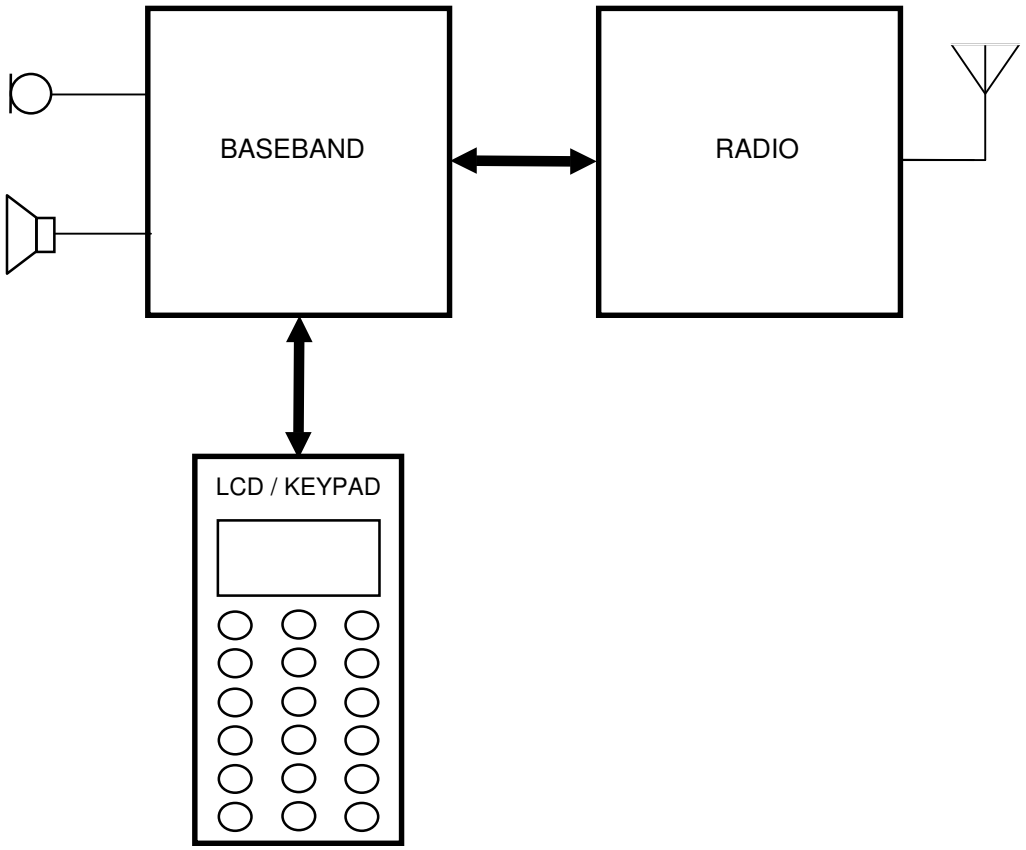


This extra line will appear if the mobile has already been repaired.

- **CRA XXX** ⇒ N° of CRA,
- **203/N03** ⇒ Date of repair: (203) repairing day, (03) last digit of year (03→2003).

2.5 PHONE BLOCK DIAGRAM

2.5.1 myC-4 block diagram



2.5.2 Standards and environment

Conformance Document

SAGEM SA declare under its sole responsibility that the product Dual Band GSM/DCS Type B2003 conforms to the

requirements of the following EEC directives:

EEC Directive	1999/5/CE
Safety	EN 60950
EMC	EN 301 489-1 / EN 301 489-7
Low voltage directive	73/23/CEE
Network	3GPP TS 51.010-1 v 5.2.0 selected with GCF-CC v 3.10.0 included
Requirements	GT01 v 4.7.0 / TBR 19 Edition 5 /TBR 20 Edition 3 / TBR 31 Edition 2
	TBR 32 Edition 2 / EN 301 419-1 /EN 301511
Health	EN 50360 / EN 50361

2.6 EQUIPEMENTS

The description and operation of SAGEM myC-4 are given in the "User's handbook" supplied with the phone. This chapter only describes equipment that operates with the myC-4 phones .

2.6.1 Battery packs

Over view

2.6.1.1 Characteristics

Technology	Weight	Voltage capacity
Li-ion	24g	700mAh

2.6.1.2 Description

Li-ion type batteries are used. They are rechargeable using:

- mains power supply modules,

Batteries caution use:

- Store the batteries in a dry and cool place (excessive cold and heat damage the batteries reliability).
- They must never be stored in bulk, even the rejects, to avoid any short circuits.
- Do not dismantle the battery packs. (Li-Ion regulations).
- Only use original mains power supply module.
- **All the out of order batteries must be returned to SAGEM.**

2.6.1.3 Charging time

The following table shows typical charging times for different batteries.

Battery	500 mA travel chargers	"Simple" unregulated chargers 230 V Nom. (110 V Nom.)
Li-ion	230 V (110 V)	254 V (121 V)
	2h	1h45

2.6.2 Mains modules

2.6.2.1 Description

These mains power supply modules accept large dynamic variations in the power supply network. They are available for a number of connector types:

- E.U,
- United Kingdom
- United States,

2.6.2.2 Mains modules

Reference	Weight (g)	Vol (cm^3)	Primary voltage
SIMPLE UNREGULATED MAINS POWER SUPPLY MODULES 1.5 V. 300 mA.			
EC MAINS MODULE	180	85	230 V
UK MAINS MODULE	180	120	230 V
US MAINS MODULE	210	105	110 V

CHAPTER 3 - SYMPTOMS

3.1 GENERAL

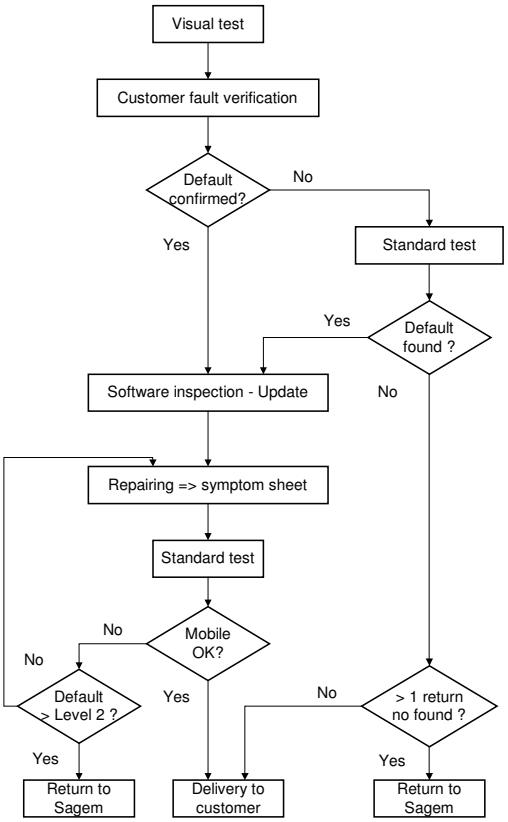
After you have received the **customer return sheet** (Proc Sheet 3 02), carry out the troubleshooting procedure.

This chapter will help you to identify the defective element(s), using the troubleshooting table.

It contains flow charts broken down by fault type. Each flow chart describes the procedure to be followed and contains cross references to tests or maintenance.

The conclusion of each troubleshooting procedure is :

- Return to SAGEM =The Return to the SAGEM centre can concern either the card, or the radiotelephone according to instructions given to the Centres of repair.
- Delivery to the customer



Visual test :

- Glass state
- Keypad state (elastomer, inscription)
- Connector state (data/audio/charge ,battery, SIM)
- Plug and position of battery
- SIM card position
- Oxidation

Standard test :

- Display test : Hot Line menu
- Contrast control
- All keypad keys test (check bips keys)
- Audio and radio test
- MMS and GPRS test
- Battery charge test
- Vibrating device test : Hot Line menu
- Charger test
- Real call with a operator SIM card

Software inspection :

These flow charts should be followed in full. After a reference to a removal/replacement sheet or to a test to be carried out, you should return to the initial flow chart and continue the search until reaching a final conclusion.

3.2 LIST OF REPORTED DEFECTS

The following is a list of defects that may be reported :

Code	Indicated fault	Procedure
A0	Display malfunction	Symp Sheet 04
A1	No power up	Proc Sheet 1 15 or 3 01
A2	No display up	Symp Sheet 04
A3	Freezes up	Proc Sheet 1 15 or 3 01
A4	Back lights problem	Proc Sheet 1 15 or 3 01
A5	Broken LCD	Symp Sheet 04
A6	Line or digit missing	Symp Sheet 04
B0	Power supply / no charge	Symp Sheet 01
B1	Defective battery contact	Proc Sheet 0 01
B2	Defective charger connector	Proc Sheet 1 15 or 3 01
B3	Defective board power supply	Proc Sheet 1 15 or 3 01
B4	Defective charge icon display	Proc Sheet 1 15 or 3 01
B7	Autonomy	Symp Sheet 01
B8	Electrically defective battery	Test Sheet 03
B9	Mechanical lock problem on battery	Proc Sheet 0 01
B10	Broken battery	Test Sheet 03
B11	Defective charger	Test Sheet 02
B12	Broken charger	Test Sheet 02
B13	Intermittent cut with reboot	Proc Sheet 1 15 or 3 01
B14	Intermittent cut without reboot	Proc Sheet 1 15 or 3 01
C1	Not functioning keyboard	Symp Sheet 05
C2	Lateral key problem	Symp Sheet 05
D1	Sim missing	Proc Sheet 1 15 or 3 01
D2	Other messages	Proc Sheet 1 15 or 3 01
D3	EEPROM pb	Proc Sheet 1 15 or 3 01
D4	Untuned mobile	Proc Sheet 1 15 or 3 01
D5	Hard failure	Proc Sheet 1 15 or 3 01
D6	Sim lock	Proc Sheet 1 15 or 3 01
D7	Post code	Test Sheet 01
D8	Return SAV	Proc Sheet 1 15 or 3 01
D9	Unknown battery	Test Sheet 03

Code	*Indicated fault*	*Procedure*
E1	Defective loudspeaker (hails)	Symp Sheet 08
E2	Loudspeaker voice distortion	Symp Sheet 08
E3	Defective microphone	Symp Sheet 08
E4	Microphone voice distortion	Symp Sheet 08
E5	Vibrating device malfunction (depending on models)	Symp Sheet 07
E6	Defective audio connector	Symp Sheet 08
F1	No network localisation	Symp Sheet 02
F2	Intermittent calls drop	Symp Sheet 02
F3	Network temporary drop	Proc Sheet 1 15 or 3 01
F4	Radio test not ok	Proc Sheet 1 15 or 3 01
F5	Outgoing call failure	Symp Sheet 02
F6	Incoming call failure	Symp Sheet 02
G1	Broken or damaged glass	Proc Sheet 1 07
G2	Broken or damaged cover	Proc Sheet 1 02 /1 09
G5	Broken or damaged keyboard	Proc Sheet 1 03
H1	DATA PROBLEM (SMS, EMS, SMS,GPRS, WAP, DOWNLOADING GAMES, RINGING TONES, SCREEN SAVER, NO COMMUNICATION WITH A PC, POCKET PC or PALM)	Without object
H2	Video function	Without object
H3	INFRARED function (IRDA)	Without object
I1	Oxidation marks	Proc Sheet 1 15 or 3 01
I2	FM function	Proc Sheet 1 15 or 3 01
I3	Monetic function	Proc Sheet 1 15 or 3 01
I4	Broken or damaged accessory	Proc Sheet 1 15 or 3 01
I5	Defective SIM connector	Proc Sheet 1 15 or 3 01
I6	Malfunction of the menu	Proc Sheet 1 15 or 3 01
I7	Lack function in the menu	Proc Sheet 1 15 or 3 01
I8	No fault found	Symp sheet 03

3.3 ERROR MESSAGES DURING START UP

Message	Meaning	Procedure
WARNING UNTUNED RADIO	Invalid EEPROM field (SAGEM)	SAGEM Factory Return
PB IMEI	Consistency problem at IMEI level	SAGEM Factory Return
SIM MISSING	SIM card missing or badly inserted	Insert the SIM card
IMEI ERROR	Consistency problem at IMEI level	SAGEM Factory Return
UNTUNED	Mobile not configured	SAGEM Factory Return (except electronic SWAP boards sent by SAGEM Factory which only need a SMT process)
UNKNOWN BATTERY	Battery not recognised by the mobile	Replace the battery
MOBILE PHONE LOCKED	Number of seizures of sim locked code exceeded	SAGEM Factory Return Not repair under warranty
SIM BLOCKED	Three bad PIN codes have been input	Contact the operator
SIM LOCKED (with SIM)	SIM card not adapted to the operator	Replace the SIM card
SIM LOCKED (without SIM)	Attempt of corruption (EEPROM fields)	SAGEM Factory Return Not repair under warranty
BATTERY TOO LOW	Battery state	Replace the battery

3.4 OTHER ERROR MESSAGES

Message	Meaning
"LINE INCIDENT"	Fax & PC link type "Problems"
"FULL MEMORY"	Fax & PC link type "Problems"
"CLEARING REJECTED"	Fax & PC link type "Problems"
"CHECK CONNECTION"	Fax & PC link type "Problems"
"NOT CONSULTED DOCUMENT"	Fax & PC link type "Problems"
"DEVICE PROBLEM"	Fax & PC link type "Problems"
"VERIFY APPLICATION"	Fax & PC link type "Problems"
"BUSY"	"Problems" related to the network and Communications
"K.PAD LOCKED PRESS *V"	Keypad locked
"OPTION NOT AVAILABLE"	Menu not available for this product version
"PROG.KEY NOT VALID"	Input "Problems"
"ERROR!!"	Calculation error with the calculator (division by zero)
"NOT REACHABLE"	Call forwarding if the mobile is not reachable
"NOT AVAIL."	Not available
"PIN ERROR"	" PIN input problems "
"PIN2 BLOCKED"	Following input errors

"PUK ERROR"	Following input errors
Message	***Meaning***
"PUK2 BLOCKED"	Following input errors
"CODE ERROR"	The phone code input for locking the mobile is incorrect
"NOT AVAIL."	Service not implemented in the network
"TRY AGAIN"	Following a network problem
"NETWORK BUSY"	"Problems" related to the network and Communications
"WAIT"	"Problems" related to the network and Communications
"UNBLOCK?"	"Problems" related to the SIM card
"MEMO REC. CUT"	Save during storage in the answering machine truncated due to lack of space
"FUNCTION NOT ALLOWED"	Prohibited function requested
"NOT FOUND"	Unsuccessful search (on directory, etc.)
"BUSY"	"Problems" related to the network and Communications
"REJECTED"	The requested operation was refused by the network
"EMPTY"	Empty (note pad, memo, etc.)
"NOT IN GROUP"	Error display following an error code returned from the network (CUG menus)
"CREDIT END"	“Credit end” information (paying call prohibited)
"CREDIT TOO LOW"	“Credit too low” information (CUG menus)
"NO AUTHORIZED ACTION DURING A WAP CALL"	Not available action during a wap call
"NOT CONFIGURED ACCESS"	Selection of a not configured provider
"UNKNOWN ACCESS"	Selection of a not fully configured provider
"UNKNOWN CALL IN PROGRESS"	Selection of a provider during a call in progress
"NO RESPONSE OF THE SERVER"	" Problems" related to the server
" NO RESPONSE OF THE NETWORK"	"Problems" related to the network and Communications
"NOT AVAILABLE NETWORK"	"Problems" related to the network and Communications
"TOO LONG URL ADDRESS"	The address typed is too long

3.5 LIST OF OBSERVED DEFECTS

A SAGEM code is assigned to each confirmed defect. This code should be entered on **Proc Sheet 3 01, SAGEM Factory Return**, if the phone to be repaired is returned to SAGEM **(see chapter 5).**

3.6 INFORMATION ABOUT NEW NOTICED FAULTS

Detection by the repair center of new fault shall induce to respect the following procedure

a) The concerned technician fills a precise report using the document NPD report **SAV GSM 277 V1**

b) Then, this document is transmitted by email to the concerned Area Manager or Support Engineers for approval. Accordingly, 2 ways are possible :

- The problem is already known by SAGEM, then the mobile have to follow the normal process in ARC with eventual additional data given by AM or SE

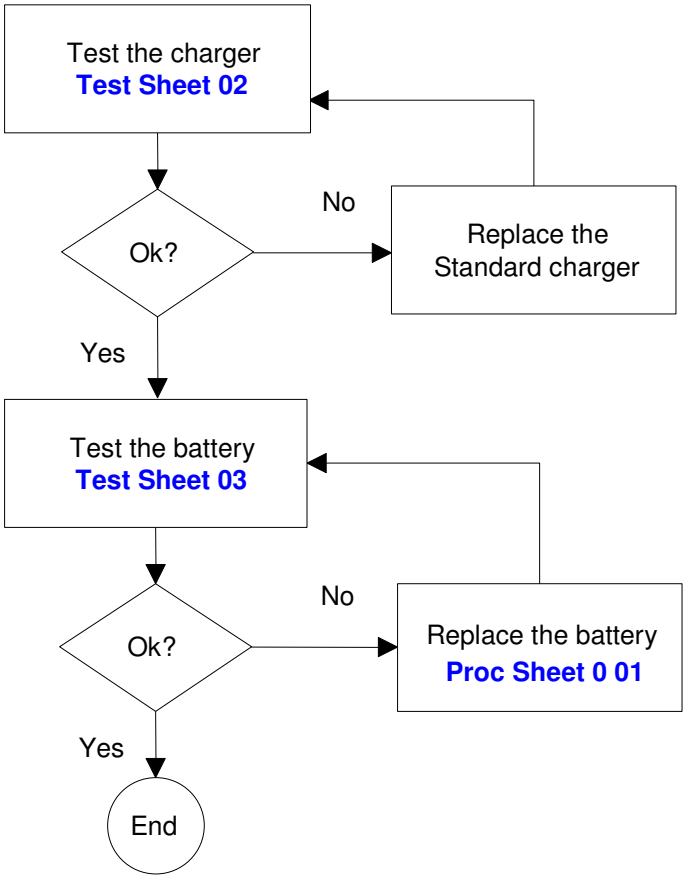
- Return of mobile to MTB is requested.

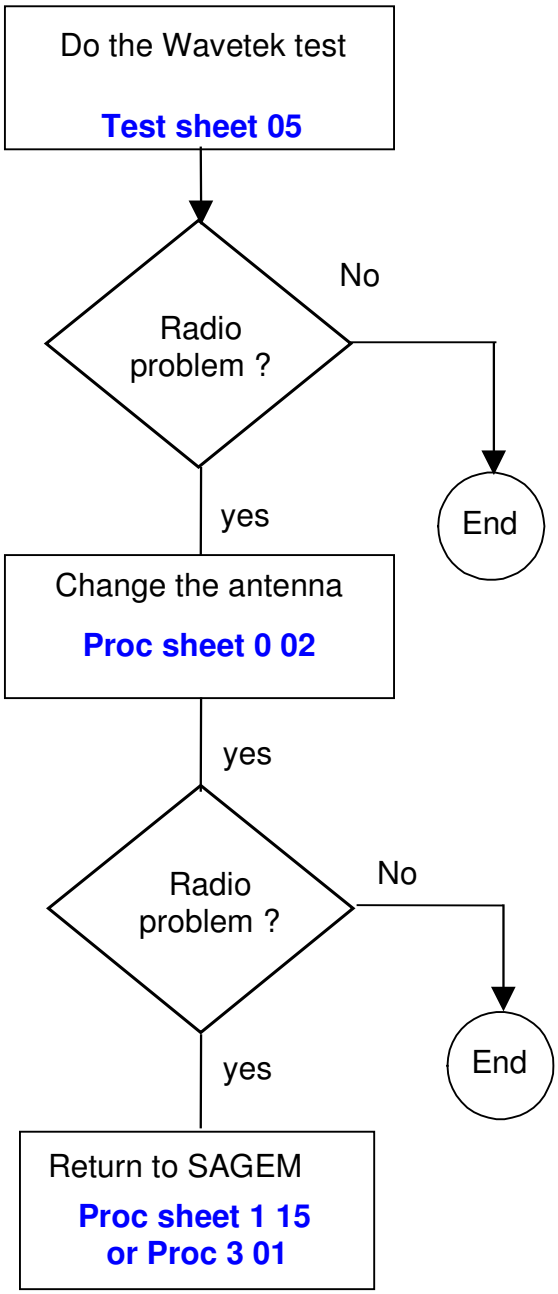
c) In that second case, the ARC will have to request a specific RMA number for this mobile in order to facilitate the treatment when arriving in SAGEM.

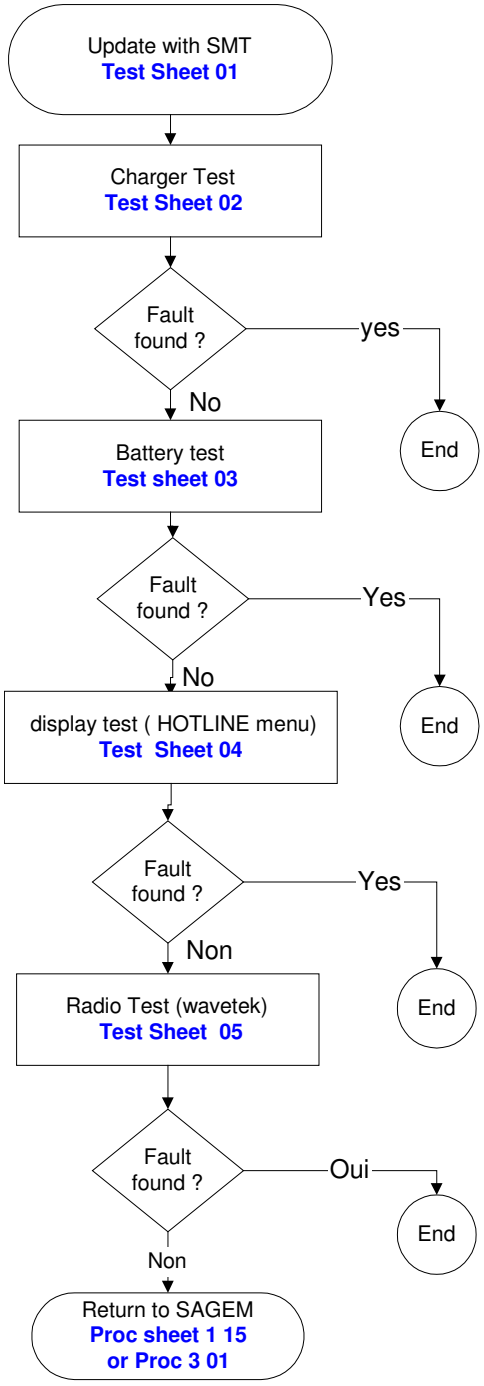
d) This mobile returned to SAGEM will be swapped following ARCs habitual process for MTB return but will be MANDATORY linked to a paper version of the document filled by the technician.

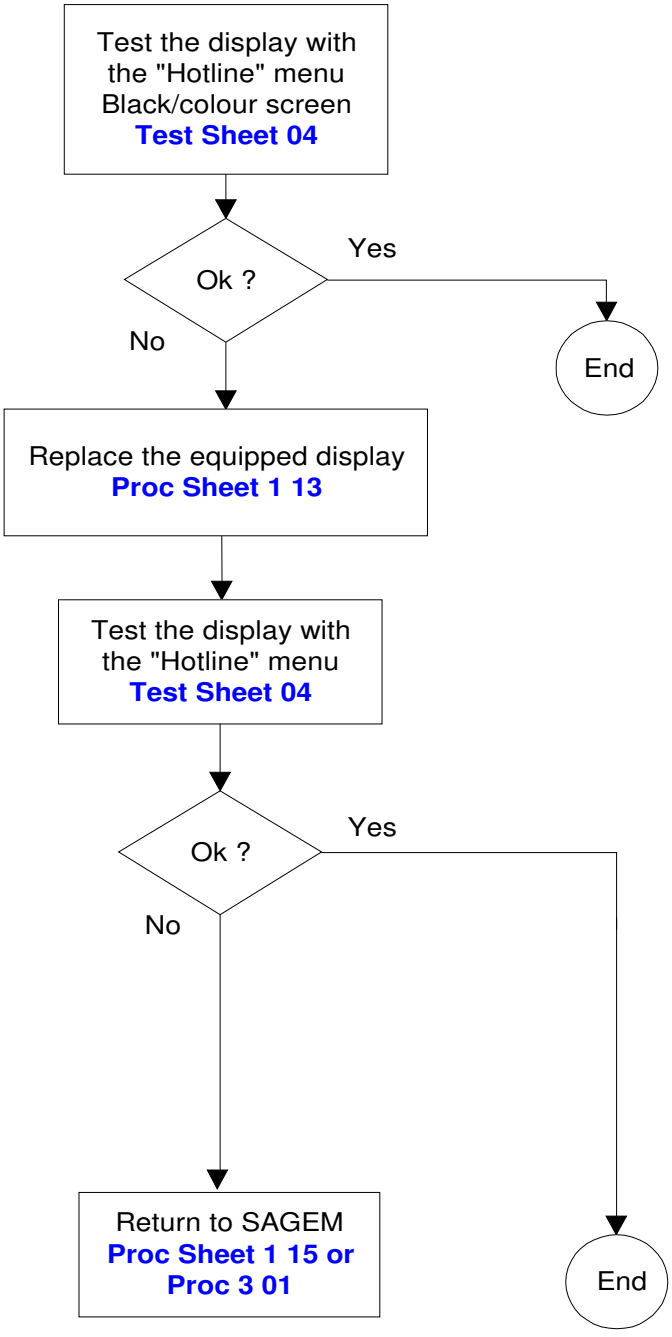
e) The treatment will have to be reproduced on the daily report and will be considered as level 3. Specified fault code will be then the technically closest one of the noted one, in the grid given by SAGEM

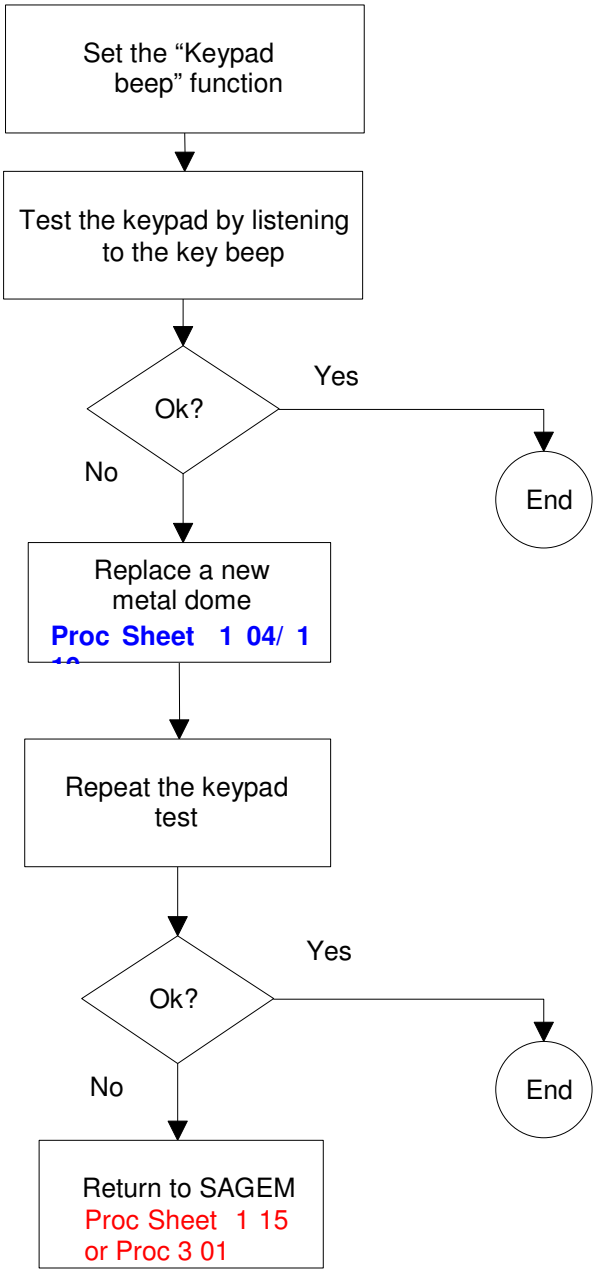
SYMPTOM SHEETS

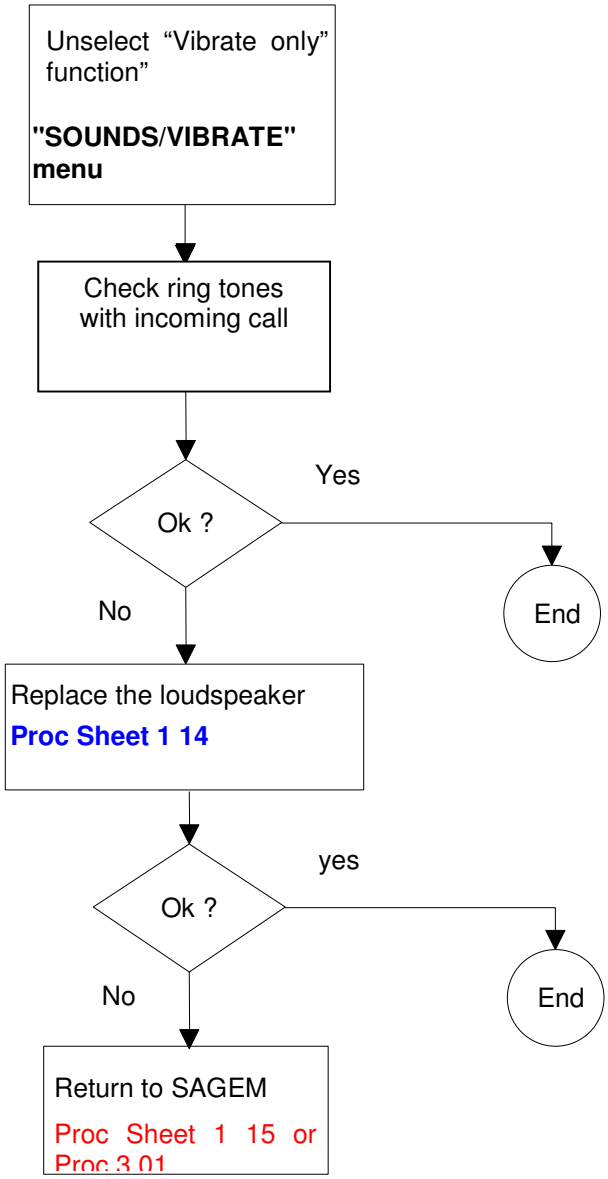

Test the charger
Test Sheet 02
Ok?
No
Replace the Standard charger
Yes
Test the battery
Test Sheet 03
Ok?
No
Replace the battery
Proc Sheet 0 01
Yes
End

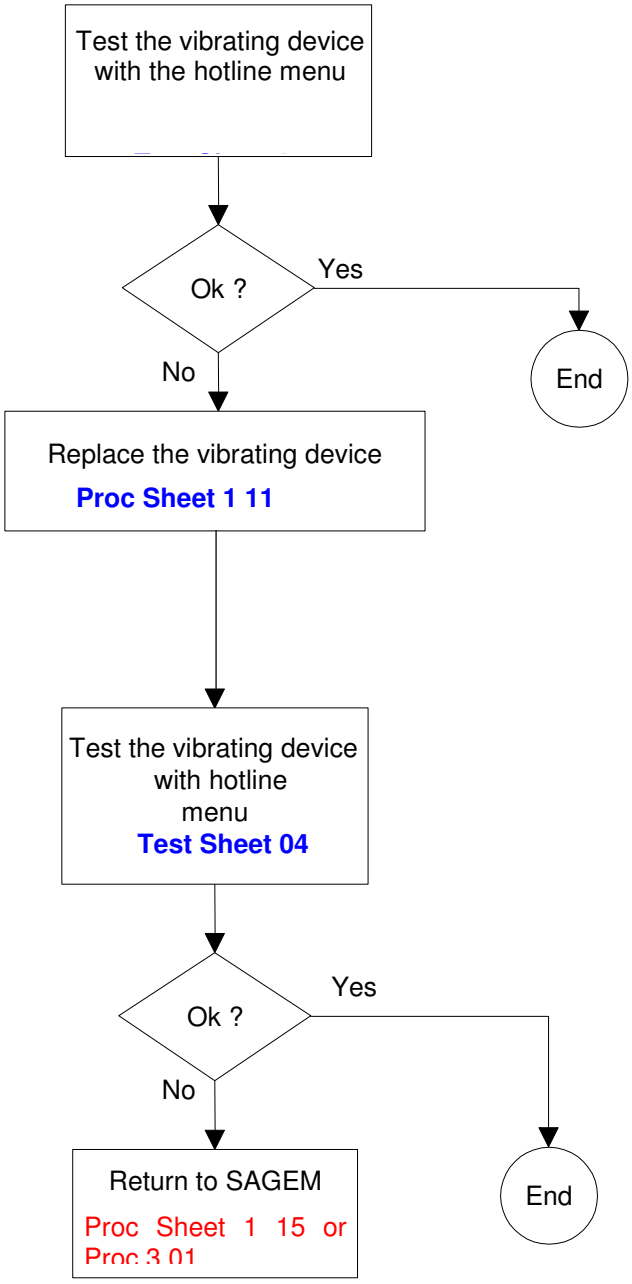

Do the Wavetek test
Test sheet 05
Radio problem ?
No
End
yes
Change the antenna
Proc sheet 0 02
yes
Radio problem ?
No
End
yes
Return to SAGEM
Proc sheet 1 15
or Proc 3 01

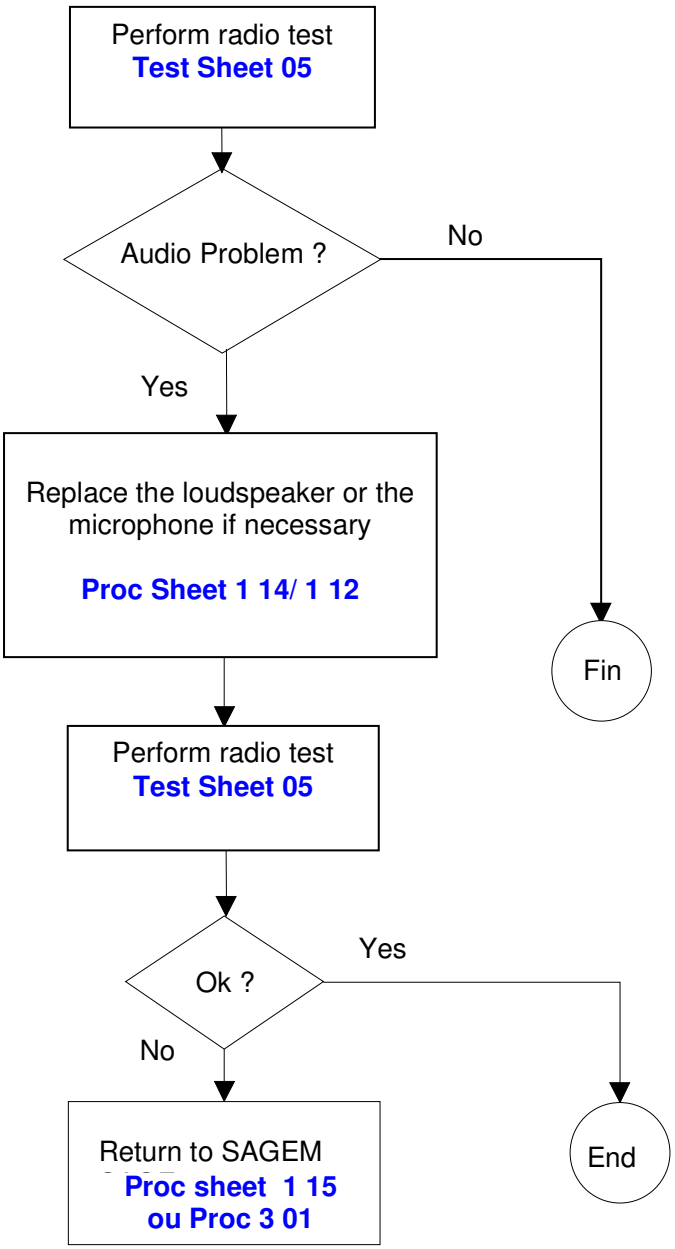

Update with SMT
Test Sheet 01
Charger Test
Test Sheet 02
Fault found ?
yes
End
No
Battery test
Test sheet 03
Fault found ?
Yes
End
No
display test (HOTLINE menu)
Test Sheet 04
Fault found ?
Yes
End
Non
Radio Test (wavetek)
Test Sheet 05
Fault found ?
Oui
End
Non
Return to SAGEM
Proc sheet 1 15
or Proc 3 01


Test the display with the "Hotline" menu Black/colour screen
Test Sheet 04
Ok ?
Yes
No
End
Replace the equipped display
Proc Sheet 1 13
Test the display with the "Hotline" menu
Test Sheet 04
Ok ?
Yes
No
Return to SAGEM
Proc Sheet 1 15 or
Proc 3 01
End


Set the “Keypad beep” function
Test the keypad by listening to the key beep
Ok?
Yes
No
End
Replace a new metal dome
Proc Sheet 1 04/ 1
Repeat the keypad test
Ok?
Yes
No
End
Return to SAGEM
Proc Sheet 1 15
or Proc 3 01


Unselect “Vibrate only” function”
"SOUNDS/VIBRATE" menu
Check ring tones with incoming call
Ok ?
Yes
End
No
Replace the loudspeaker
Proc Sheet 1 14
Ok ?
yes
End
No
Return to SAGEM
Proc Sheet 1 15 or Proc 3 01


Test the vibrating device with the hotline menu
Ok ?
Yes
End
No
Replace the vibrating device
Proc Sheet 1 11
Test the vibrating device with hotline menu
Test Sheet 04
Ok ?
Yes
No
Return to SAGEM
Proc Sheet 1 15 or
Proc 3 01
End



CHAPTER 4 - TESTS AND CHECKS

4.1 ABOUT TESTS

Tests and checks are made after the troubleshooting procedures (chapter 3) and before the maintenance procedures (chapter 5).

They are broken down into modules and are sorted by types of confirmed faults. The user must be equipped with special test tools in order to carry out the tests.

4.2 TEST TOOLS

The references of SAGEM tools, listed hereafter, are given in Appendix 1 : Composition table.

The following test tools are necessary :

1. the **ARC downloading kit**, including the test case provided with:
   - the data cable (to PC),
   - the retrofit cable,
   - the mains power supply module.
   - Retrofit adapter
2. the **radio test bench**, provided with:
   - SIM card of test.
   - MyC-4 calibration tool
   - Adjustable regulate power supply 0-15V / 4A
   - Wavetek 4107

– **CADEX C7000** / **C7200** / **ASTRATEK** with myC-4 adapter
   - Charger test kit
   - Voltmeter (minimum impedance : 20 KΩ per Volt in DC)
   - Ammeter

3. an **IMEI labels printing station**, including :
   - Printer,
   - Roll of labels,
   - Connecting cable for PC (parallel printer cable),
   - Printing software,

4.3 INSTALLING ON A WORKSTATION

4.3.1 Minimum required configuration

The minimum configuration of the workstation is :

4. Processor 1Ghz,
5. 128 Mbytes of RAM,
6. Windows 2000, Windows XP,
7. 2.1 Gbytes hard disk (1 Gbytes available),
8. 1 parallel port and 2 serials port.
9. Network card, sound card.
10. 1 internet access,

4.3.2 Installing the ARC downloading kit

The ARC downloading kit interfaces the SMT software with the phone to be repaired.

11. Connect the 9-pin SUB-D connector to the PC serial port (COM1).
12. Connect the power supply module to the mains power outlet.
13. Connect the phone to be repaired to the system connector.

4.3.3 SMT functions

The SMT maintenance software can:

14. Download new software if needed
15. Configure default values and checks them.
16. Unblocked the " PHONE CODE "
17. Delete the customer directory and SMS
18. Print identification labels.
19. Make a electronic board exchange
20. Adjust the display contrast
21. Read the Site Technical Documentation (manual of repair)
22. Select a test sequence

The procedures for using these functions are described in **TEST Sheet 01**.

TEST SHEET

To run the functions described below, run the SMT application from the desktop icon.

Notice: The active connection with SMT (via the serial port), validate in itself the data functionality of the handset.

Download the latest software

1. Click on DOWNLOAD button.
2. Follow the procedures on the screen.
3. Make sure that the mobile phone is not in the sleep mode (press the Start key)

Configure and check default values

1. Click on the CONFIGURE popup menu and then VERIFY (Verfab).
2. Follow the procedures on the screen.

Release the " POST CODE"

3. Click on the CONFIGURE popup menu and then on RELEASE
4. Follow the procedures on the screen.

Print identification labels

5. Click on the on LABEL popup menu and then PRINT LABEL .
6. Follow the procedures on the screen

- **Audio parameters setting**

7. Click on the AUDIO popup menu
8. Follow the procedures on the screen

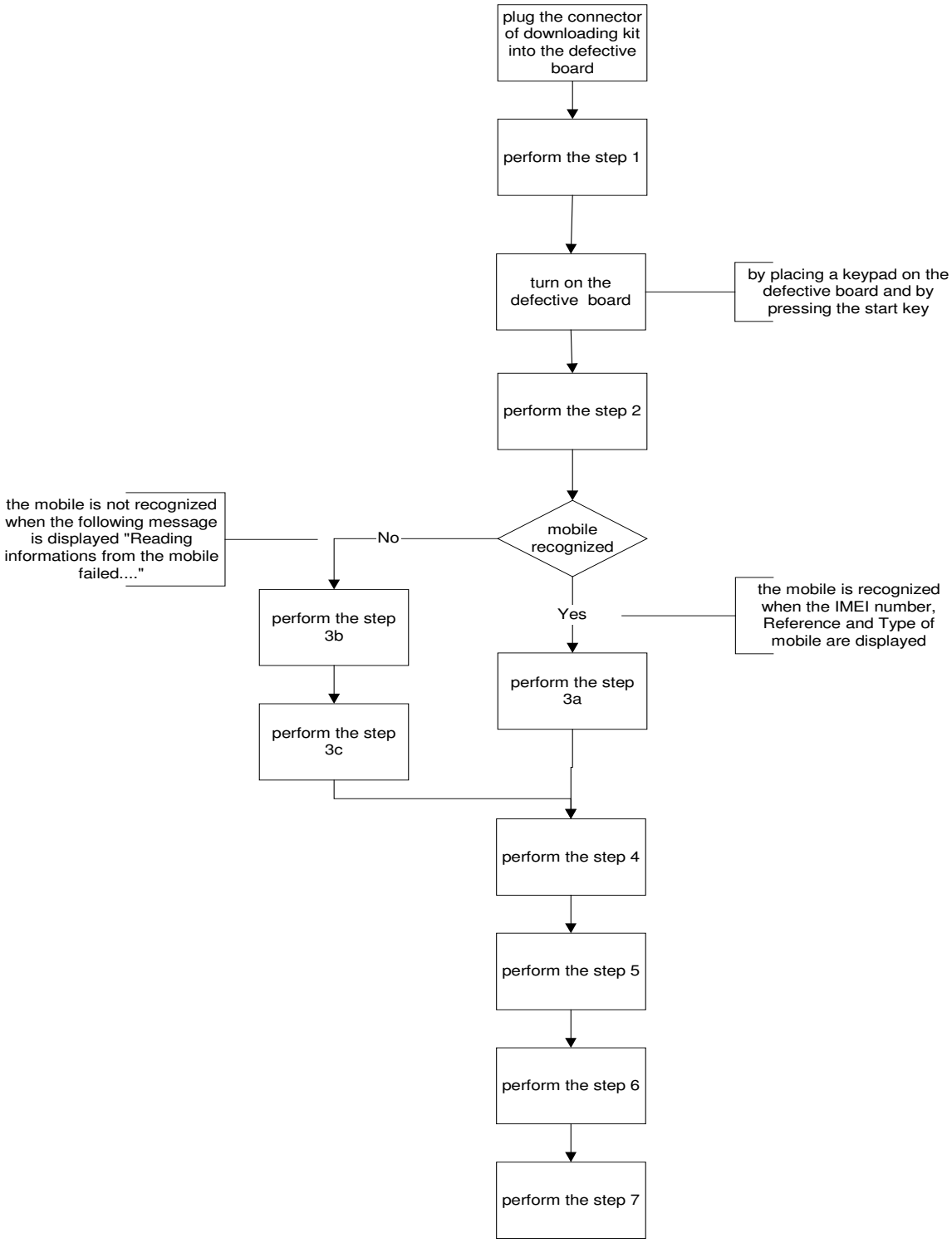
SMT SEQUENCE: Series of the different functions under SMT (sequence of tests)

1. Click on SMT SEQUENCE popup menu.
2. Select the different functions you want to carry out then click on LAUNCH button.

- **Electronic board exchange**

9. Click on the SWAP popup menu , then SWAP
10. Follow the procedures on the screen

SWAP : Electronic board Configuration

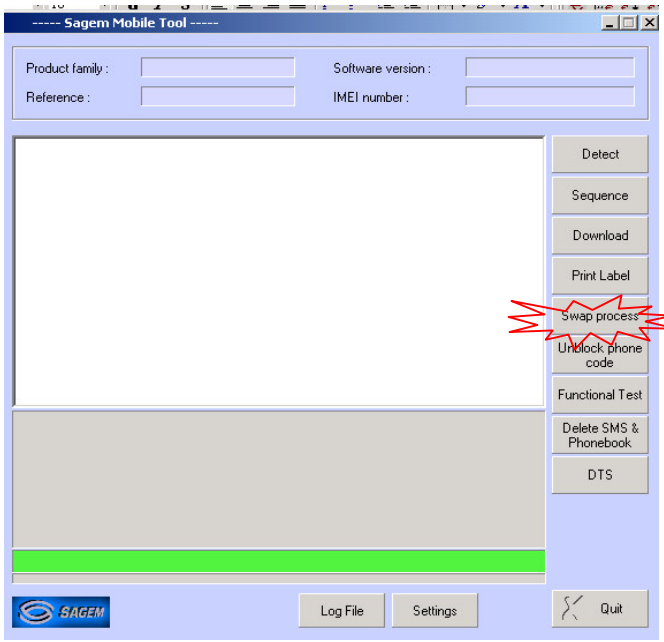


Step 1

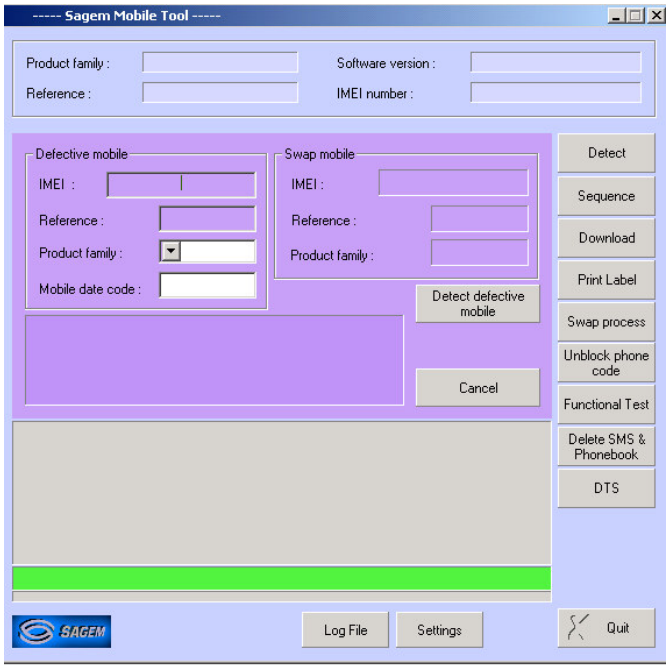
SMT Front page

Click on the « SWAP Process » menu.

Example

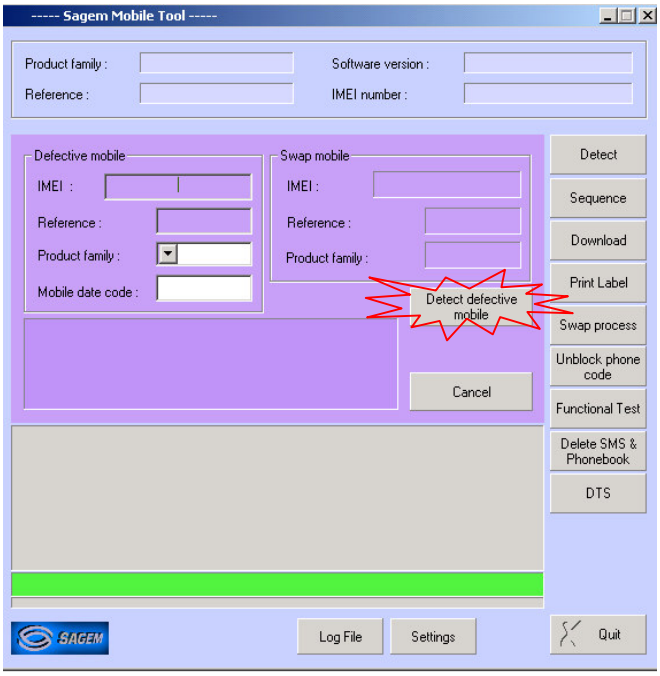


The following screen appears :



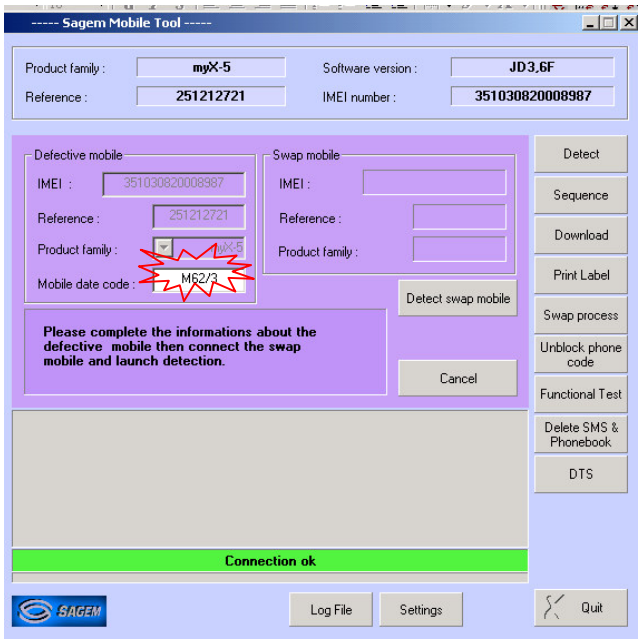
Step 2

Please click on « Detect defective mobile » button



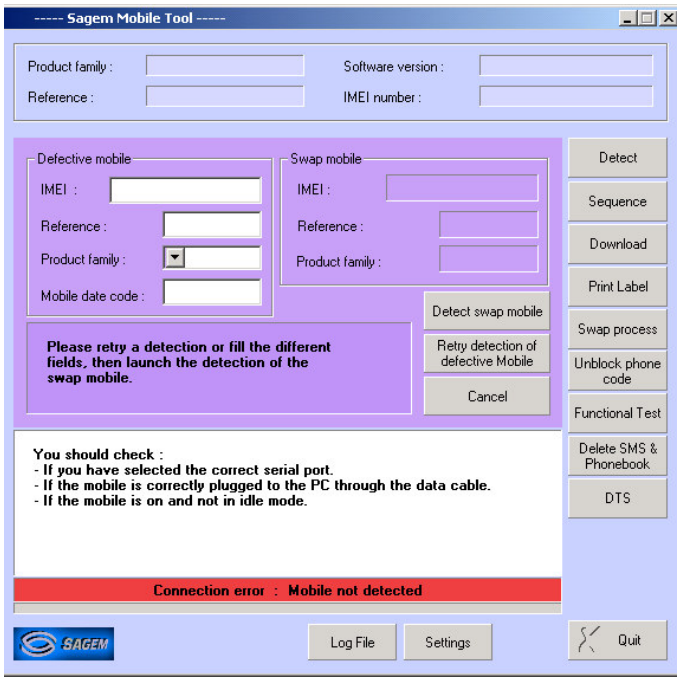
Step 3a

The following screen appears : the mobile is recognized. Then, enter the mobile date code



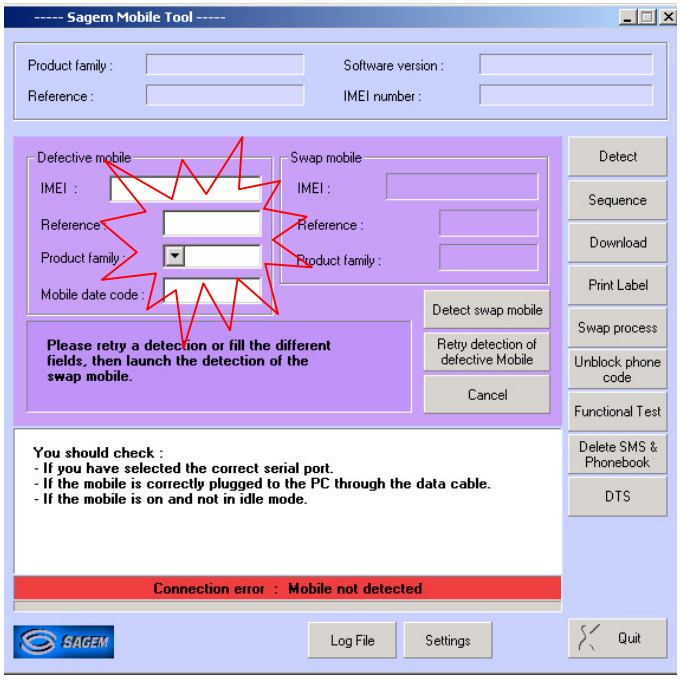
Step 3b

If this screen appears, the mobile is not recognized.



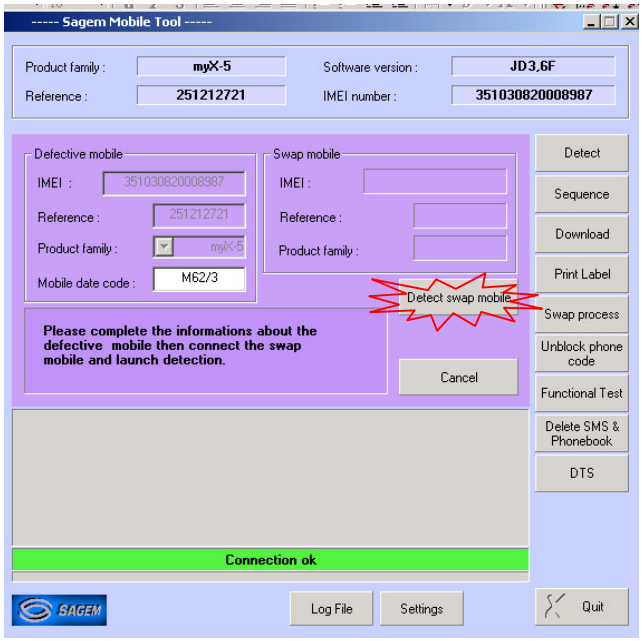
Step 3c

You must fill in the empty blanks requested according to the information written on the production label



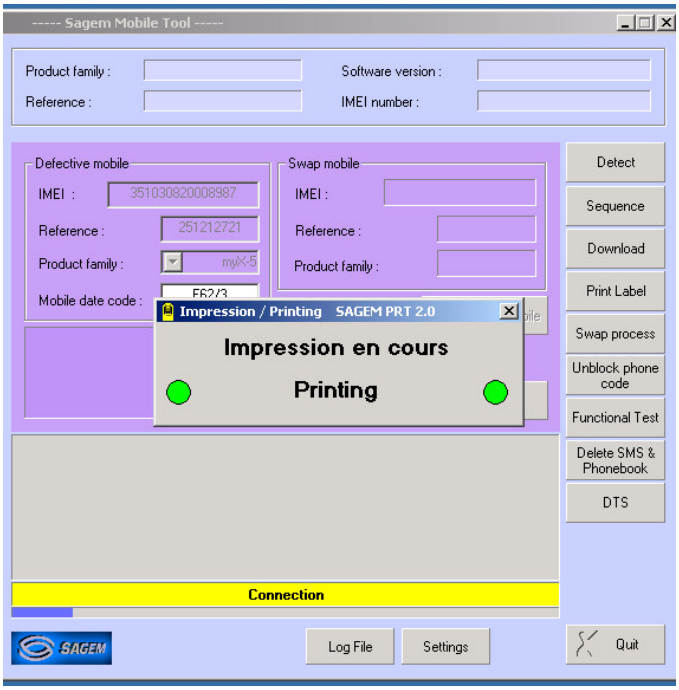
Step 4

Plug and switch on the new mobile, then push on the "Detect Swap mobile" button



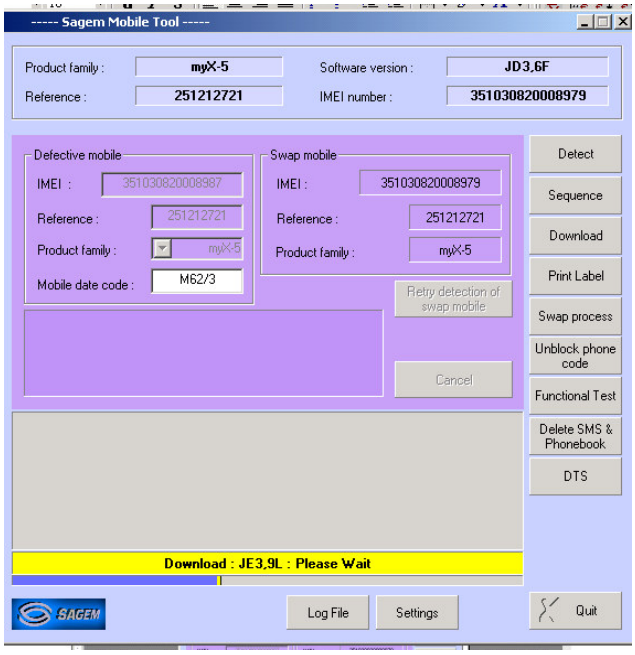
Step 5

After clicking on "OK", SMT prints the label which will be used to close the ESD bag of the defective board.



Step 6

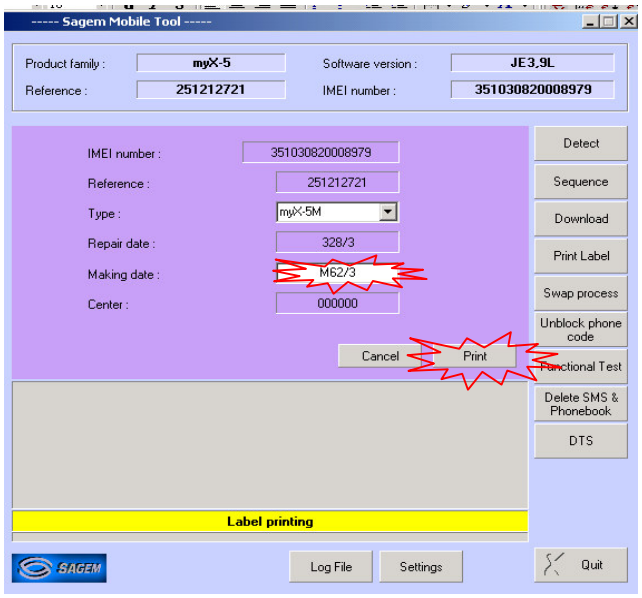
The downloading is starting if the mobile need to be updated



Etape 7

SMT opens the following screen to print the new label : please dial the "MAKING DATE" (Production date) written on the label of the defective mobile.

Then stick the new label on the functional mobile

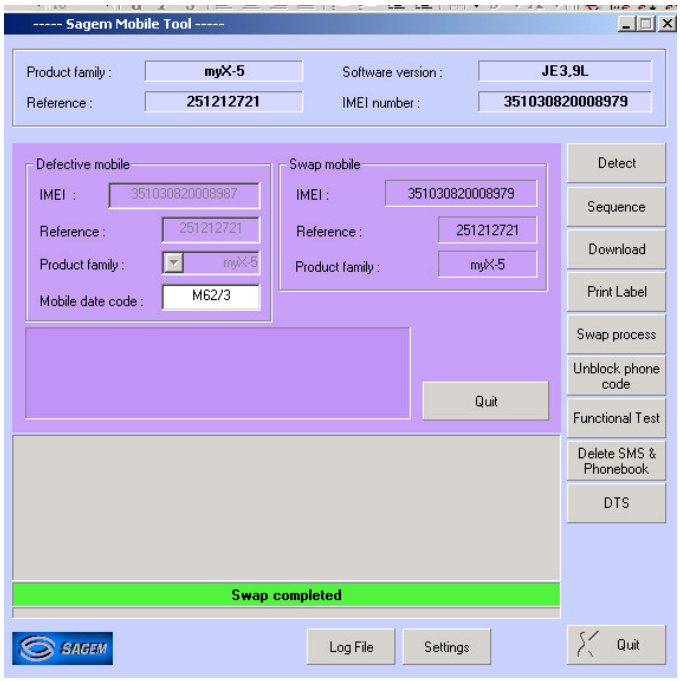


The swap board sequence is completed.

RESULTS

When old mobile is recognized, the audio parameters from the defective mobile have been sent to the functional mobile.

When old mobile is not recognized, the DEFAULTS audio parameters are sent to the functional mobile



Test description

This test checks the various battery chargers.

Test procedure

1. Check visually the charger connector.
2. Connect the charger to be tested to the mobile .
3. Access to the "HOTLINE" menu by pressing on SETTINGS MENU in the MENU key and then HOTLINE MENU.
4. Select the APPLICATION menu and the BATTERY STATUS to check that the battery voltage is increasing

Test description

This test allows to test the various batteries.

Required tools

- CADEX C7000 / C7200 / ASTRATEK
- Flex arm or myC-4 adapters,
- a voltmeter (minimum impedance 20 kΩ per Volt in DC).

Test procedure

1. Measure the battery voltage between the V poles, **the voltage shown must be between 2.5V and 4.5V**.

- If the voltage < 4v ,load the battery for 30 minutes with a universal charger and follow the instructions below
- If the voltage > 4V Measure the internal resistance with a CADEX or ASTRATEK batteries testers
- **Notice:** Choose on the batteries tester ,the battery type (Li-ion) ,the nominal battery voltage (3,6V) and the battery capacity (700 mAh)
- Read the result :If the internal resistance < 300 mOhms the battery is **OK**
- If the internal resistance = 300 mOhms the battery is **defective**

Access to the "HOTLINE" menu

Access to the "HOTLINE" menu is possible with a powered up mobile.

The "HOTLINE" menu is accessed by pressing on the SETTINGS menu in the MENU key and then, HOTLINE MENU.

Enter the corresponding code (bold) to choose the menu to be viewed.

To go out the "HOTLINE" menu, press successively on the **C** key to return at the operational screen of the mobile.

Description of the myC-4 "HOTLINE" menu

1 APPLICATION

- BATTERY : gives the value of the battery voltage.
- VERSION : reads the installed software version and the IMEI code.

2 PROM : Not used

3 SIM LOCK : accesses the "SIM LOCK" menu (password required).

4 TESTS LCD

- BLACK DISPLAY : displays the screen in black.
- WHITE DISPLAY.
- RED DISPLAY
- GREEN DISPLAY
- BLUE DISPLAY
- WHITE CHECKERBOARD
- PHOTO DISPLAY : functions on the screen to showing a picture.
- VIBRATE: tests the vibrating device.

NOTE : The "HOTLINE" menu is only accessible with a valid SIM card.

Test description

This test tests myC-4 phones during a call.

Required tools

- A Wavetek
- A RF coupler
- A myC-4 calibration tool
- –

Test procedure

1. Position the calibration tool first on the RF coupler to calibrate it
2. Position the myC-4 module on the RF coupler
3. Switch the Wavetek on and press on "AUTOTEST".
4. Choose the corresponding program using the "UP" and "DOWN" arrows.
   Mobile :**myC-4**
   Frequency range : **GSM, DCS or GSM/DCS**,
   Coupling type : **ANTENNA**.
5. Press on "ENTER" and wait until the end of the calibration.
6. Follow the instructions shown on the Wavetek.

CHAPTER 5 - MAINTENANCE PROCEDURES

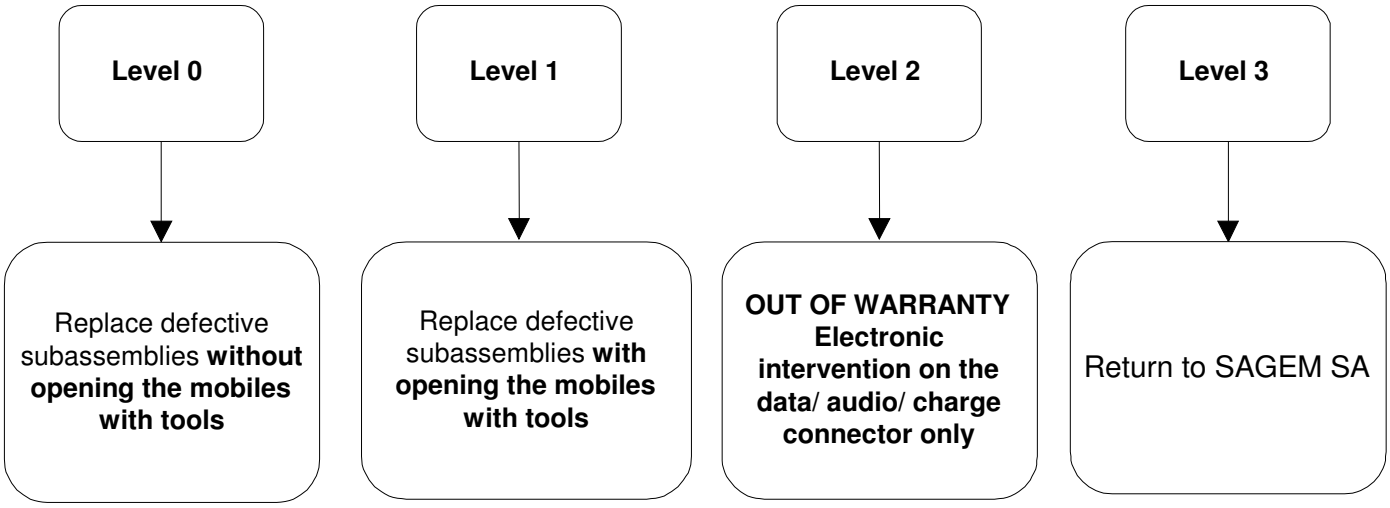
23. TECHNICAL WORK LEVELS

There are four technical work levels:

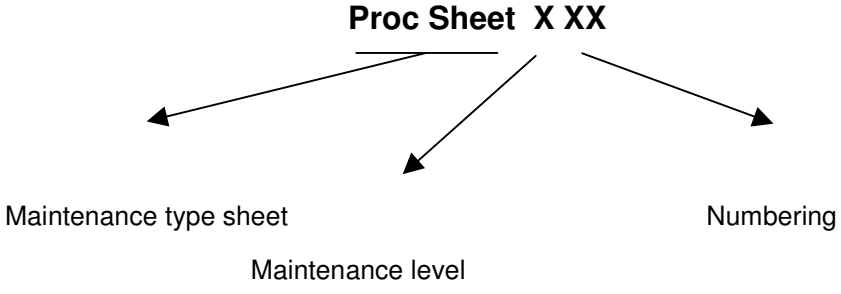
- Level 0,
- Level 1,
- Level 2,
- Level 3.

Each level represents a maintenance degree that depends on which elements are to be removed.

Note: Presence or use on the radiotelephone of non genuine element (material and software) leads automatically the exclusion from SAGEM warranty



Maintenance procedure sheets are coded as follows :



5.2 SHORT LOOP PROCESS

1. Initialisation

From the communication by Sagem and the reception of the concerned products by the short loop process, the Repair Centre shall comply with the above procedure. The application of the Short loop process will end when received the authorisation of repairing given by Sagem.

2. Administrative checks to be done by the Repair Centre

- Authorisation from Sagem for treating the reference received (Part number)

- Process to be applied : short loop process or normal process (DTS, Normal, etc…). The Repair Centre shall check if the product received has to be treated according to the short loop process.

- Controls on the warranty conditions and DOA conditions (if the Repair Centre is authorised) communicated by Sagem.

3. Tests and controls :

- Checks if there are no external shocks or oxidation marks (the covers shall be dismantled in case of exchangeable covers)

- Checks and confirmation of the defect (real call with SIM, functional test keypad , display, vibrating device, etc…)

- Check the concordance between the defect declared by the end-user and the defect observed

- Call back of the end-user or dealer (as far as possible) either in case of misunderstanding of the defect declared by the end-user or in case of the non observation of the defect. (see the appendix “Additional information about the No Fault Found –NFF-> at the end of this document allowing according to the case to understand the return of the product)

If any doubts occurred concerning out of warranty products received, the Repair Centre shall send to Sagem Montauban (with knowledge to the Area Manager and Support Engineer) the photo of the defect.

N.B :

- The handsets shall not be dismantled (by using screwdrivers) except previous request from Sagem.
- The Repair Centre will not make any Repair (such as spare parts exchange or software upgrade) except previous communication of Sagem. The exchanges of handsets or accessories are the only intervention authorised.

4. Exchange by the Repair Centre

- The Repair Centre will use the products delivered for swap to the Repair Centre for exchanging the products to the end-users (except particular process defined by Sagem).

- The under- warranty handsets and accessories received shall be exchanged to the end-user.

- The under- warranty handsets and accessories declared No Fault Found (NFF) shall be exchanged to the end-users except previous communication of Sagem.

- The Out of warranty handsets and accessories (oxidation, shocks, …) will be repaired by the Repair Centre after acceptation by the customer of an estimate according to the Sagem out of warranty repair prices communicated.

- The under- warranty and out of warranty handsets shall be sent to Sagem Montauban.

- In the frame of the Short loop process, there is no level 1 (L1) intervention

5. Reports

An exchange of an handset and its accessories shall be codified Level 3 (L3)

An accessory exchange shall be codified Level 0 (L0).

The Repair Centre shall capture all the information required for issuing and sending the Repair Reports and Status reports according to the Contractual frequency defined. The Reports shall includes the products treated by the Repair Centre under- warranty or out of warranty.

6. Procedure

From the beginning date of the Short loop process application and **minimum each week, the Repair Centre shall ship the products (handsets and accessories) to Sagem Montauban.**

6.1. Handsets :

- MRA Procedure for the after-Sales products (one MRA number for the products concerned by the short loop).

- MRA Procedure for DOA products (one MRA DOA number for the products concerned by the short loop) if the Repair Centre is authorised to treat the DOA products.

The MRA request shall be sent to Sagem Montauban (with knowledge to the Area Manager and Support Engineer).

The shipment of products to Sagem Montauban shall comply with the MRA procedure. Furthermore each products shall be sent with the Return Product Sheet filled in indicating the defect declared by the end-user and the defect observed by the Repair Centre (Sagem Defect codes).

The NFF products sent to Sagem Montauban shall be identified by using separate package. Furthermore this products shall be sent with the complete description of the defect declared by the end-user (not codified).

The accessories received by the Repair Centre shall be sent to Sagem Montauban sent back attached with the handset (not connected to the handset).

6.2. Accessories :

For the accessories received without the handsets, the procedure is the following:

Accessories return procedure to Sagem Montauban to be used. The Repair Centre shall indicate on the parcel Accessories + model (ex : myC-4) for the accessories received in the Repair Centre without the handsets.

7. Sagem Montauban

Sagem Montauban will ship back to the Repair Centre the same quantity of handsets and accessories as the quantity received.

8 Additional information about the no fault found

In any case: Ask to the end-user the frequency of the defect and the circumstances of its apparition (during an incoming or out-going call, while playing, while downloading, etc.). Try to answer the questions: Where? When? How?

- If the customer complains about a **"Power supply / charging"** failure : (shutting down of the mobile, problem of booting, etc.);
  - During which operation ? In which circumstances ?
  - What is the state of the battery and the charger before shipment to the repair centre ?
  - If the mobile shuts down by itself, must he enter his code pin, adjust the date and the hour when rebooting the phone?

- If the customer complains about a communication problem:
  - What are his residence zone and the reception level of the mobile (Number of receipt bar);
  - What is the state of the battery when the defect appears?
  - In case of loss of communication :
    - With or without total extinction of the mobile?
    - Does the loss of communication occur always in the same place and with the same person?
    - Does the loss of communication occur while browsing in the menus, during the communication, or during playing or downloading?

- If the customer complains about a problem of blockage of key of the keyboard:
  - In which circumstances does the problem occur?
  - Did he activate the keypad locking ?
  - Did he change or remove the upper cover ?
  - Which are the non functioning keys ?

5.3 MAINTENANCE TOOLS

The following tools are necessary to carry out maintenance operations :

– Electrical screwdrivers with tightening torque settings **(0.25 NM)**.

– Metal dome jig.

– Plastic Tweezers.

– Gloves

– ESD protection strap

– Soldering iron

– Solder wick

– Cross shaped screwdriver .00x75

– Flat screwdriver 2x75

LEVEL 0 MAINTENANCE

4.4 Tools :

4.5 - Not applicable

4.6 Preliminary operation :

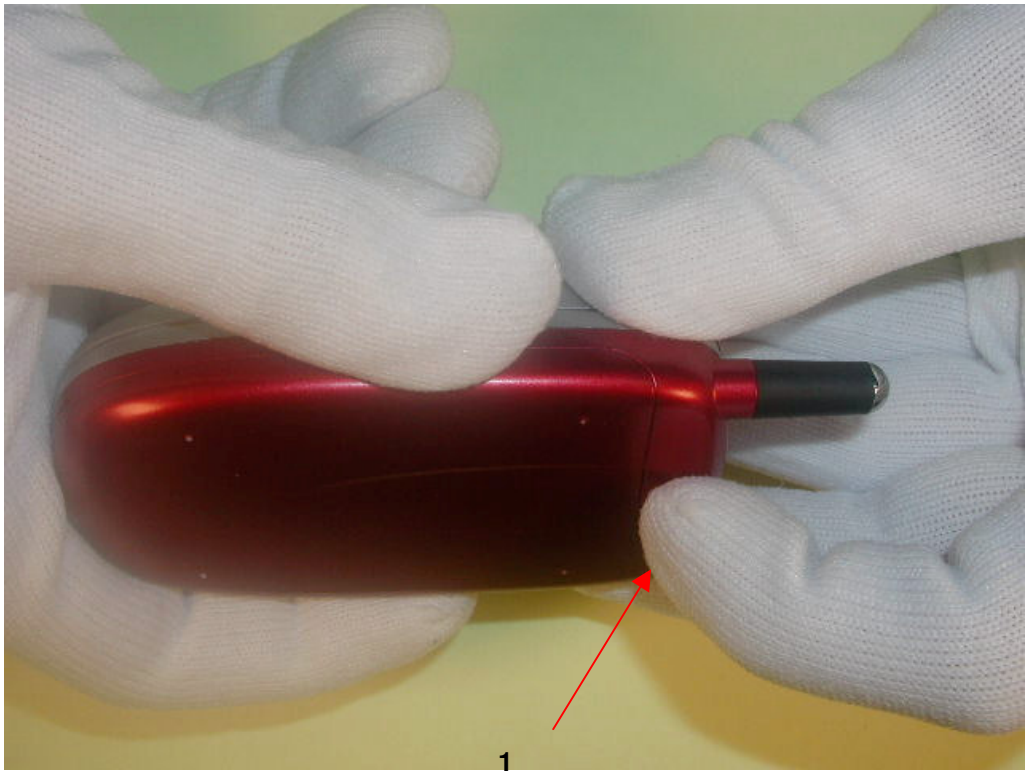
4.7 - Switch off the mobile phone

4.8 Removal procedure :

1. Remove the battery cover by pushing the lock (1)
2. Push on the battery pack (2) lower side (3) and lift up to liberate the battery.

4.9 Placement procedure :

1. Replace the battery pack (2) by engaging top hooks first .
2. Push the lock (1) and slide the battery cover into locked position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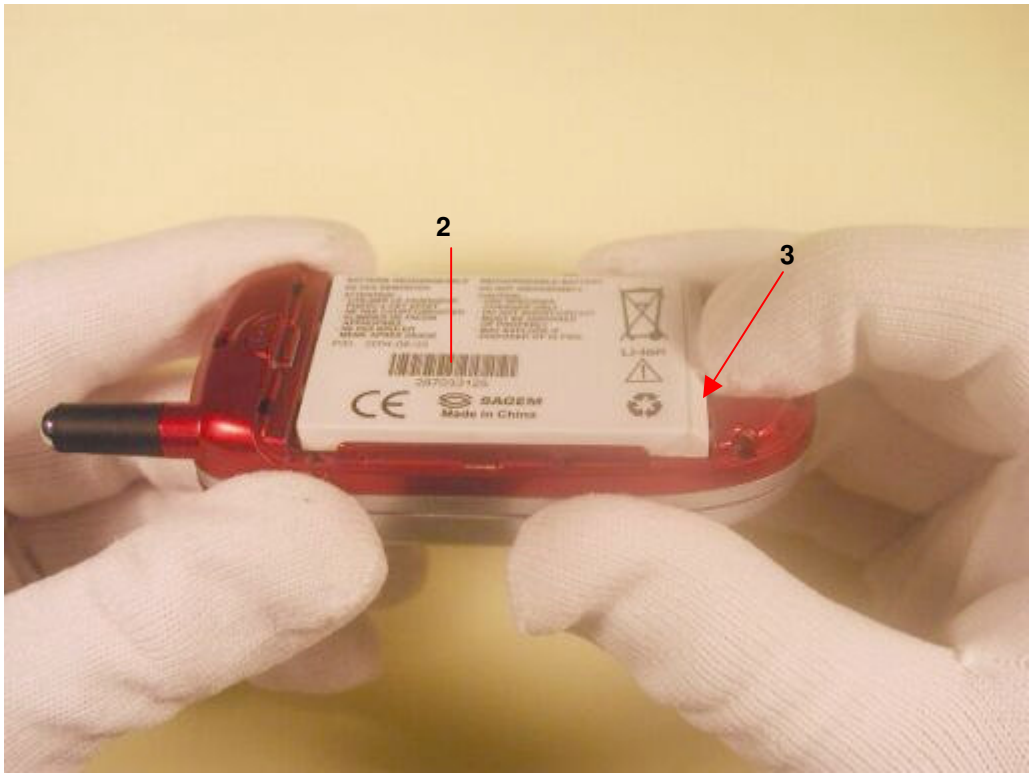
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SAGEM
Made in China

4.10 ***Tools :***

- Not applicable

4.11 Preliminary operation :

4.12 - Switch off the mobile phone

4.13 Removal procedure :

1. Unscrew the antenna (1) from the back cover

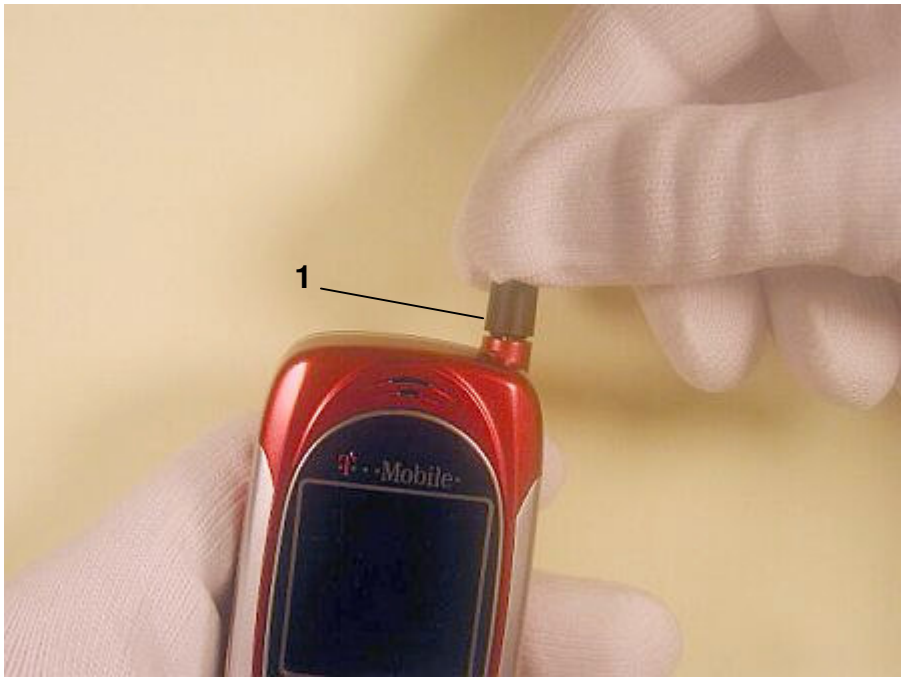
4.14 Placement procedure :

1. Screw the new antenna (1) on the back cover

4.15 Further operations

1. Replace the battery pack (Proc sheet 0 01)
2. Carry out radio test (Test Sheet 04).

4.16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LEVEL 1 MAINTENANCE

4.17 ***Tools :***

- Cross shaped screwdriver

4.18 Preliminary operation

1. Remove the battery pack (Proc sheet 0 01).

4.19 Removal procedure :

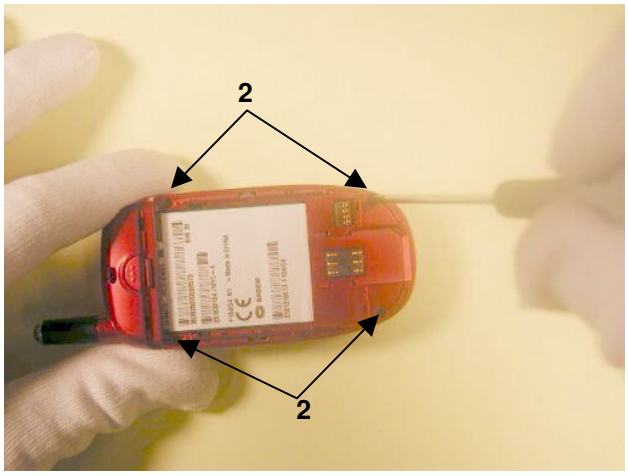
1. On the back cover (1), unscrew the four attachment screws (2) .
2. Press the two stop pins (3) to liberate the back cover (1)
3. Lift delicately the back cover (1) up beginning by the back side
4. Remove the elastomer number keypad (4)

4.20 Placement procedure :

1. Clean the elastomer number keypad (4) with compressed air .
2. Push down back of rear cover and screw the four attachment screws (2) with **0,1 N.m** torque**.**

4.21 Further operations :

1. Replace the battery pack (Proc sheet 0 01)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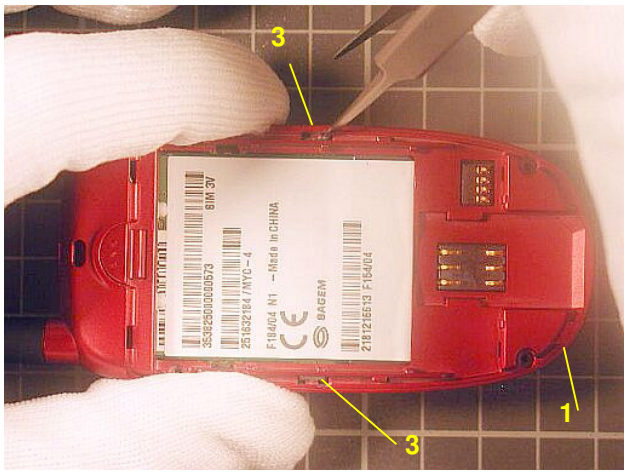
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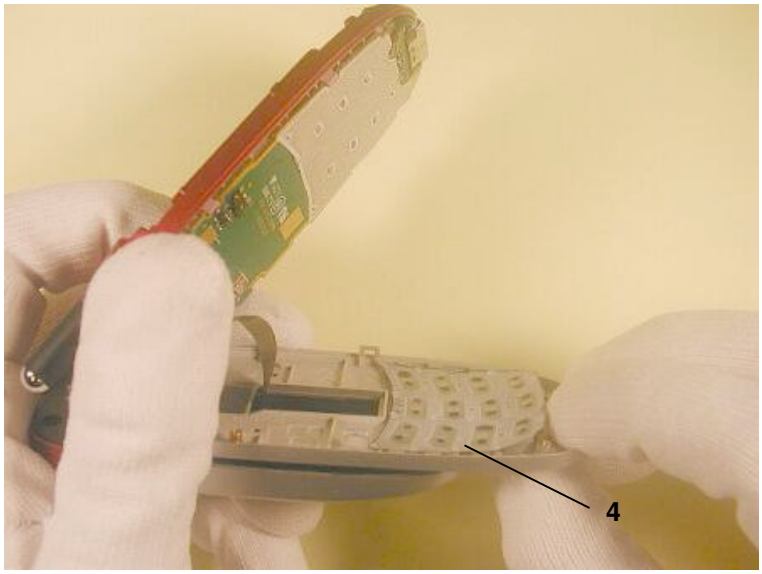
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4.22 ***Tools :***

- Cross shaped screwdriver

4.23 Preliminary operation

1. Remove the battery pack (Proc sheet 0 01).

4.24 Removal procedure :

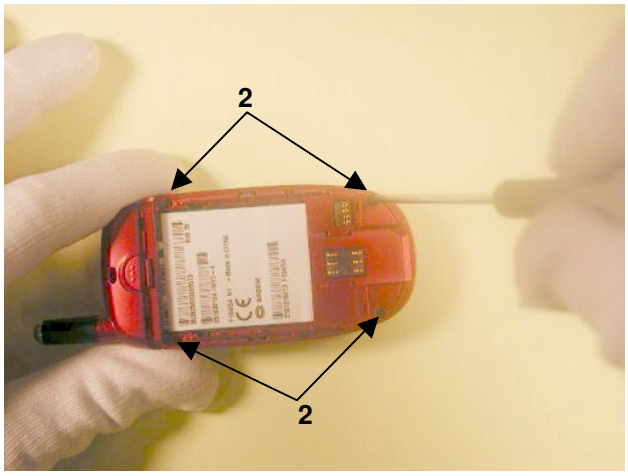
1. On the back cover (1), unscrew the four attachment screws (2) .
2. Press the two stop pins (3) to liberate the back cover (1)
3. Lift delicately the back cover (1) up beginning by the back side
4. Remove the board to board connector (4) on the electronic board
5. Liberate the electronic board from the back cover by pressing outside the four stop pins (4)
6. Unstuck delicately the vibrating device (6) from the back cover (1)
7. Remove the back cover (1)

4.25 Placement procedure :

1. Position the vibrating device (6) into the new back cover (1)
2. Position the electronic board in its housing
3. Connect the flex on the electronic board
4. Replace the equipped back cover in its housing by engaging top hooks first.
5. screw the attachment screw (2) with **0,1 N.m** torque.

4.26 Further operations :

1. Replace the battery pack (Proc sheet 0 01).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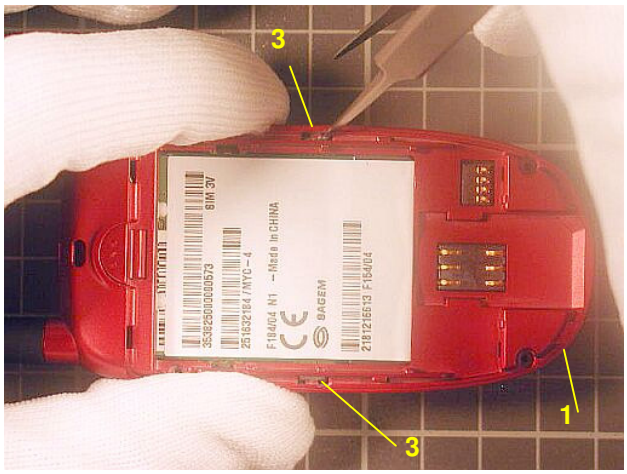
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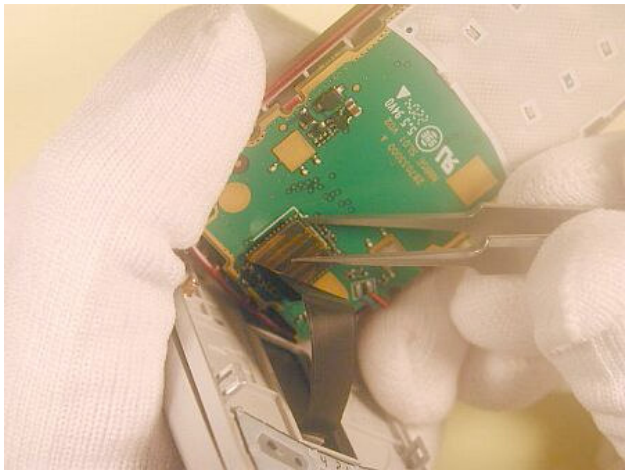

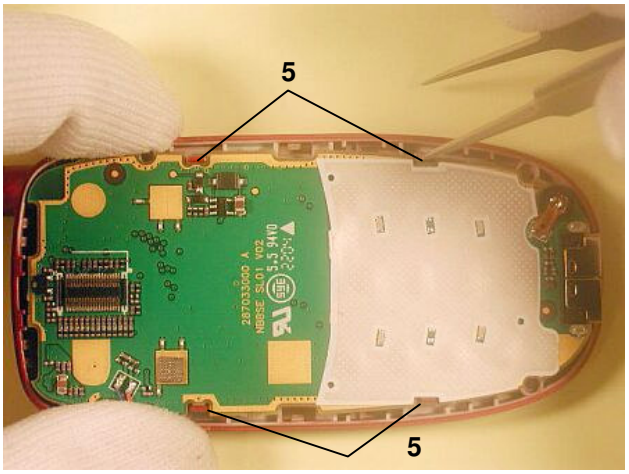
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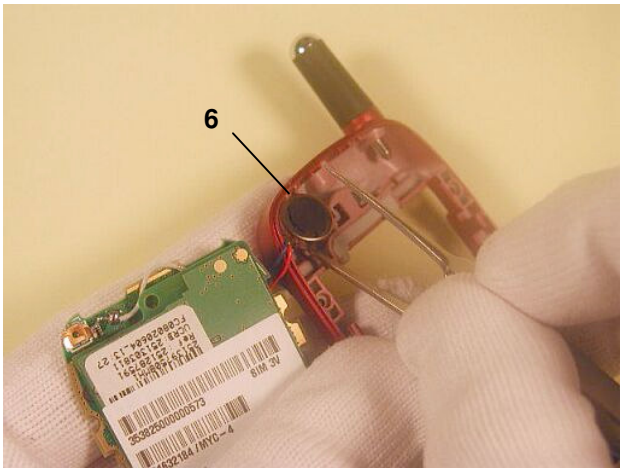
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4.27 ***Tools :***

- Cross shaped screwdriver

4.28 Preliminary operation

1. Remove the battery pack (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02).

4.29 Removal procedure :

1. Remove the equipped electronic board (1)

4.30 Placement procedure:

1. Position the equipped electronic (1) board in its housing.

4.31 Further operations:

1. Replace the back cover (Proc sheet 1 02).
2. Replace the battery pack (Proc sheet 0 01).

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4.32 Tools :

- Cross shaped screwdriver
- Gloves
- Metal dome Jig
- Tweezers

4.33 Preliminary operation

This procedure must be performed by a technician with gloves.

1. Remove the battery pack (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02).

4.34 Removal procedure :

1. Remove the metal dome (2) of the equipped electronic board (1)

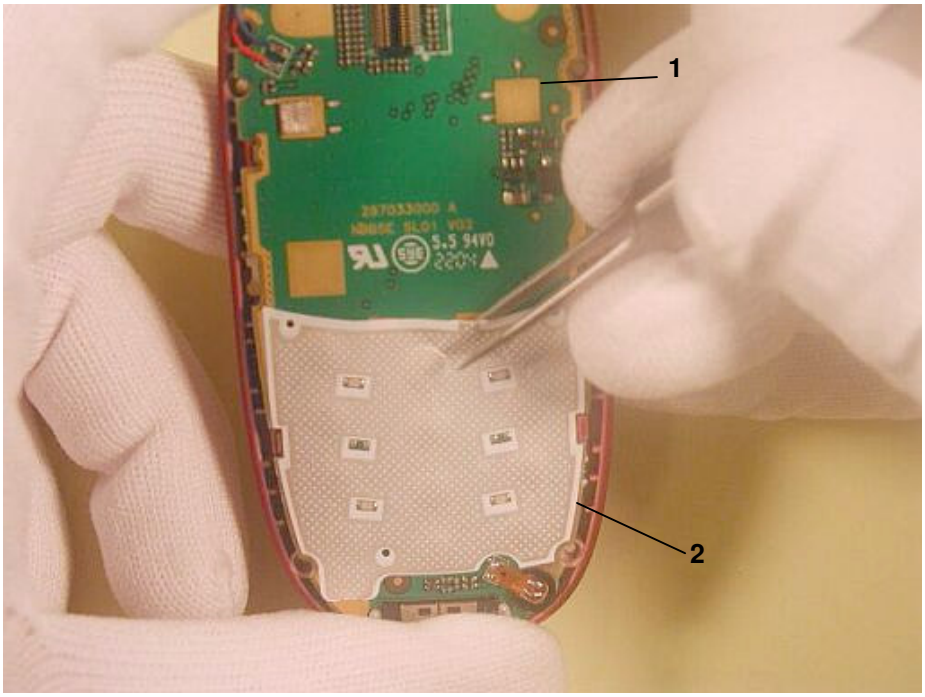
4.35 Placement procedure :

Warning : The metal dome is not reusable, it must be necessarily replaced by a new metal dome, unless the board is swapped and sent as level 3

1. Replace the new metal dome (2) on the equipped electronic board (1), using the metal dome jig.

4.36 Further operations :

1. Replace the back cover (Proc sheet 1 02).
2. Replace the battery pack (Proc sheet 0 01).
3. Carry out the radio test (Test Sheet 04).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4.37 ***Tools :***

- Cross shaped screwdriver
- Tweezers

4.38 Preliminary operation :

1. Remove the battery pack (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02).

4.39 Removal procedure :

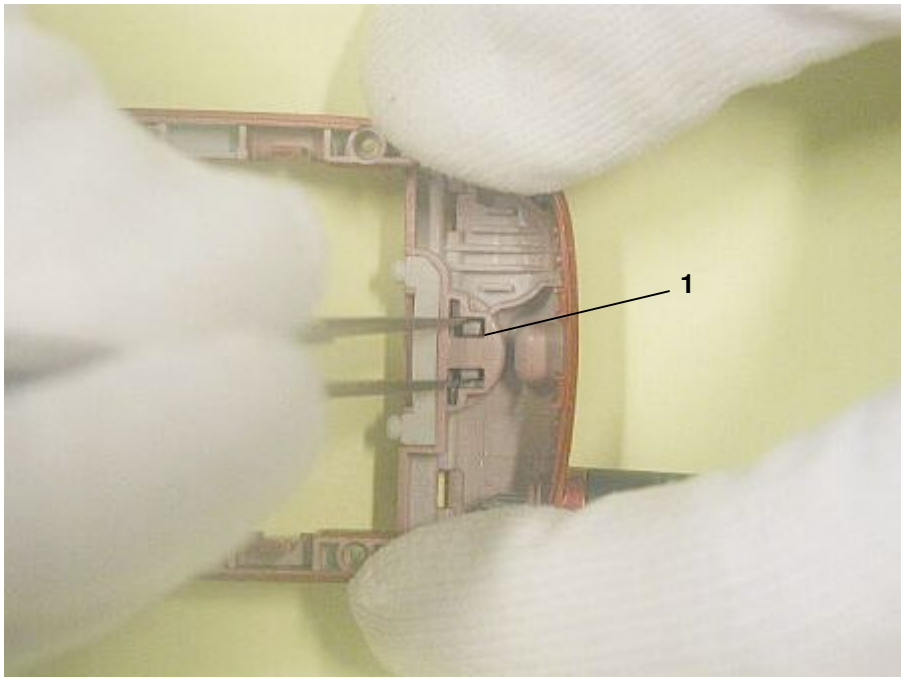
1. Push on the two stop pins by means of tweezers, to liberate the battery lock (1).
2. Remove the battery lock (1) and battery lock spring.

4.40 Placement procedure :

1. Position the battery lock spring in its housing
2. Position the battery lock in its housing and push it until locked position

4.41 Further operations :

1. Replace the back cover (Proc sheet 1 02).
2. Replace the battery pack (Proc sheet 0 01).
3. Carry out the radio test (Test Sheet 04).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4.42 Tools :

- Cross shaped screwdriver
- Tweezers

4.43 Preliminary operation

1. Remove the battery (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02).

4.44 Removal procedure :

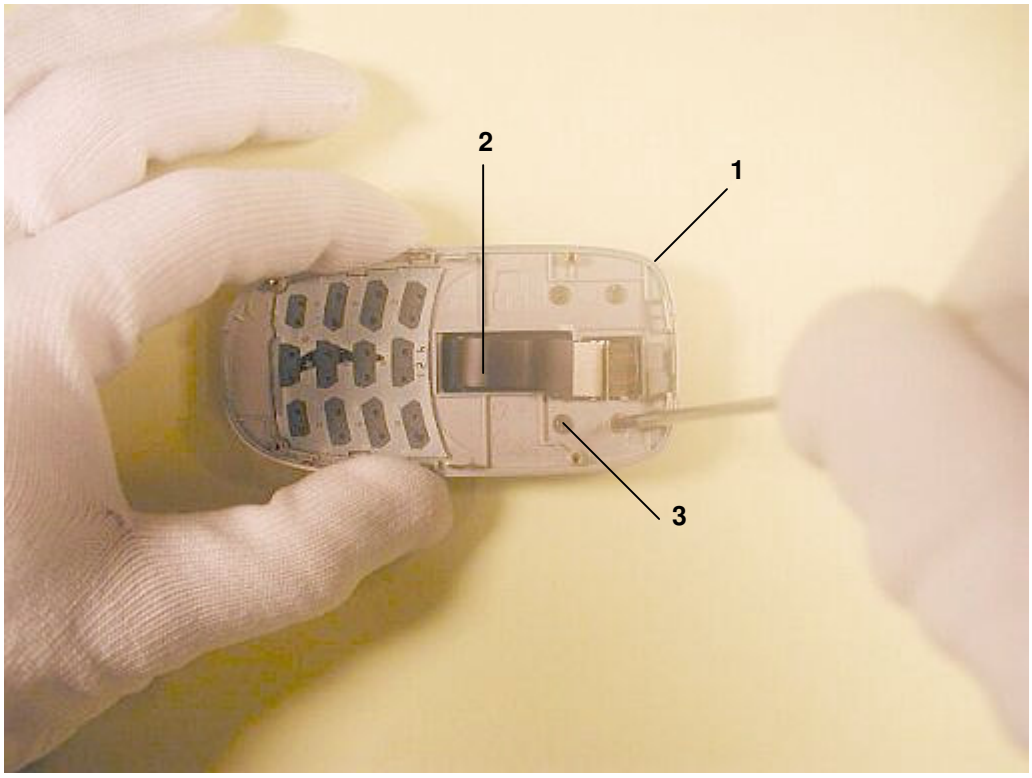
1. Unscrew the four attachment screws (3) on the front cover of the lower slide (1)
2. Remove the front cover (1)

4.45 Placement procedure :

1. Insert the flex PCB (2) on the new front cover (1)
2. Position and screw the attachment screw (3) with **0,1 N.m** torque.

4.46 Further operations :

1. Replace the back cover (Proc sheet 1 02).
2. Replace the battery pack (Proc sheet 0 01).
3. Carry out the radio test (Test Sheet 04).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4.47 Tools :

- Cross shaped screwdriver
- Tweezers

4.48 Preliminary operation

1. Remove the battery (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02).
3. Remove the front cover of the lower slide (Proc sheet 1 06).

4.49 Removal procedure :

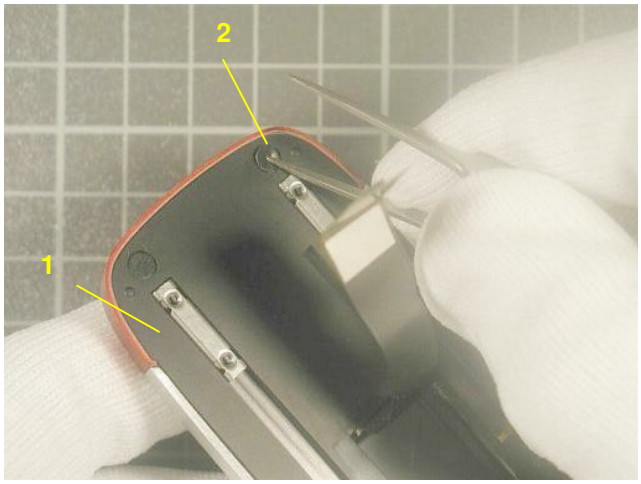
1. Remove the two screws covers (2) on the back cover (1) by piercing them at the centre with tweezers and by acting as a lever.
2. Unscrew the four attachment screws of the back cover
3. Push on the two stop pins (4) to liberate the back cover of the upper slide (1)

4.50 Placement procedure :

1. Replace the back cover of the upper slide (1) by engaging top hooks first
2. Position and screw the attachment screw (3) with **0,1 N.m** torque.
3. Position two news screw covers (2) on the back cover of the upper slide

4.51 Further operations :

1. Replace the front cover of the lower slide (Proc sheet 1 06).
2. Replace the back cover (Proc sheet 1 02).
3. Replace the battery pack (Proc sheet 0 01).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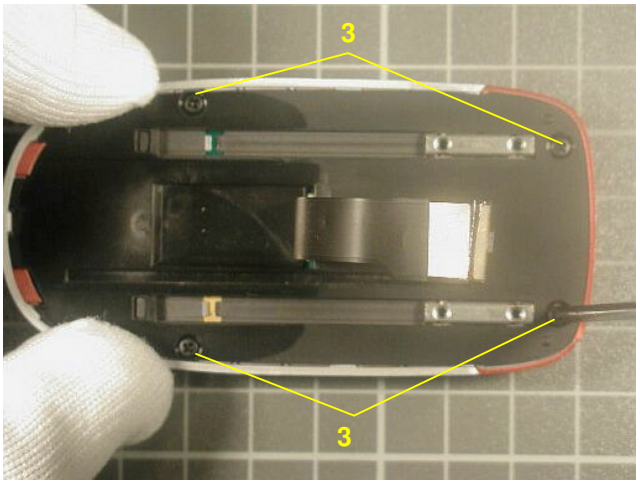
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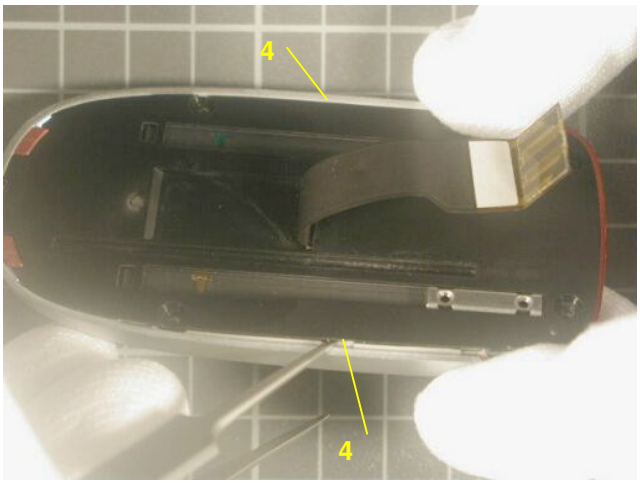
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4.52 Tools :

- Soldering iron
- Cross shaped screwdriver
- Tweezers

4.53 Preliminary operation

1. Remove the battery pack (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02)
3. Remove the front cover of the lower slide (Proc sheet 1 06).
4. Remove the back cover of the upper slide (Proc sheet 1 07).

4.54 Removal procedure :

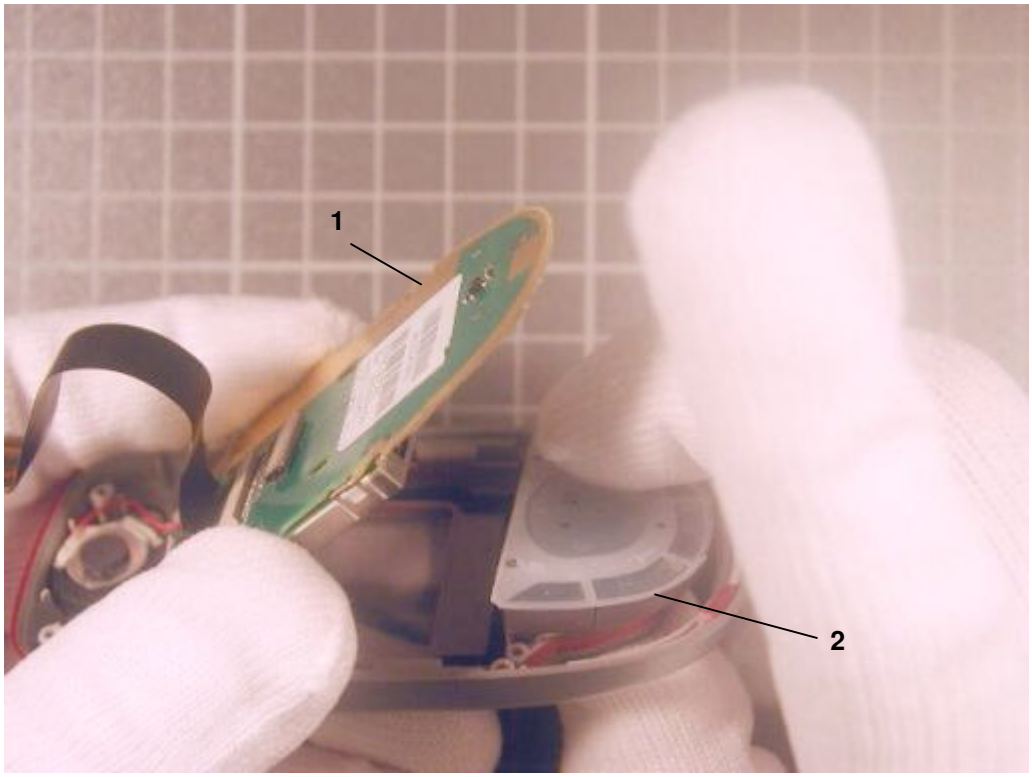
1. Lift delicately the display module (1) up to remove the navigator keypad (2)

4.55 Placement procedure :

1. Clean the navigator keypad (2) with compressed air.
2. Position the navigator keypad in its housing

4.56 Further operations :

1. Replace the back cover of the upper slide (Proc sheet 1 07).
2. Replace the front cover of the lower slide (Proc sheet 1 06).
3. Replace the back cover (Proc sheet 1 02)
4. Replace the battery pack (Proc sheet 0 01).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4.57 Tools :

- Cross shaped screwdriver
- Tweezers

4.58 Preliminary operation

1. Remove the battery pack (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02)
3. Remove the front cover of the lower slide (Proc sheet 1 06).
4. Remove the back cover of the upper slide (Proc sheet 1 07).

4.59 Removal procedure :

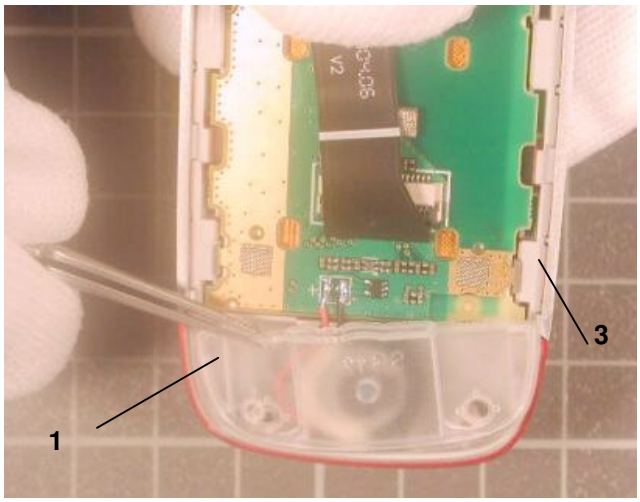
1. Remove the audio gasket (1) from the front cover (3)
2. Unstuck the loudspeaker (2) from the front cover (3)
3. Remove the front cover (4)

4.60 Placement procedure :

1. Position the loudspeaker in its housing, respecting wires placement (5)
2. Position the audio gasket (1) on the loudspeaker (2)
3. Position the display module (3) on the front cover (4)

4.61 Further operations :

1. Replace the back cover of the upper slide (Proc sheet 1 07).
2. Replace the front cover of the lower slide (Proc sheet 1 06).
3. Replace the back cover (Proc sheet 1 02)
4. Replace the battery pack (Proc sheet 0 01).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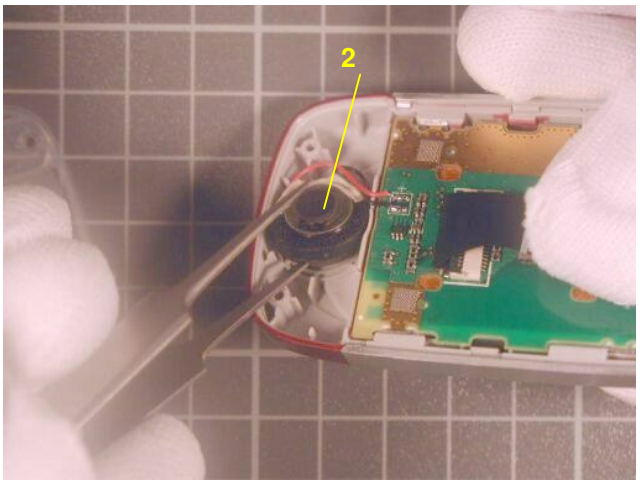
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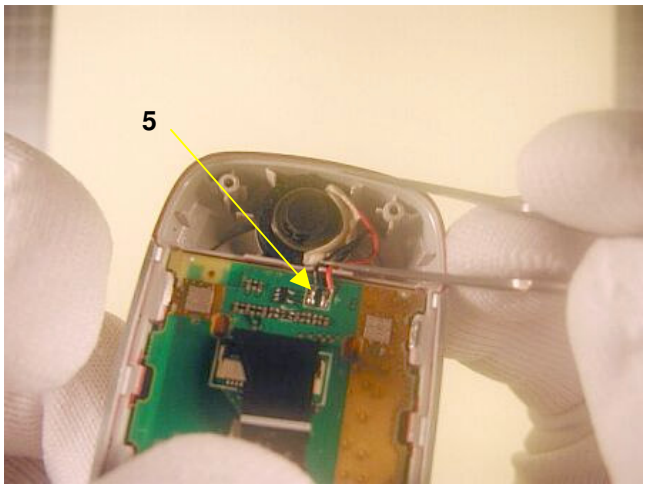
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4.62 Tools :

- Cross shaped screwdriver
- Gloves
- Metal dome Jig
  Tweezers

4.63 Preliminary operation

This procedure must be performed by a technician with gloves.

1. Remove the battery pack (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02)
3. Remove the front cover of the lower slide (Proc sheet 1 06).
4. Remove the back cover of the upper slide (Proc sheet 1 07).
5. Remove the front cover (Proc sheet 1 09).

4.64 Removal procedure :

1. Remove the metal dome (2) of the equipped electronic board (1)

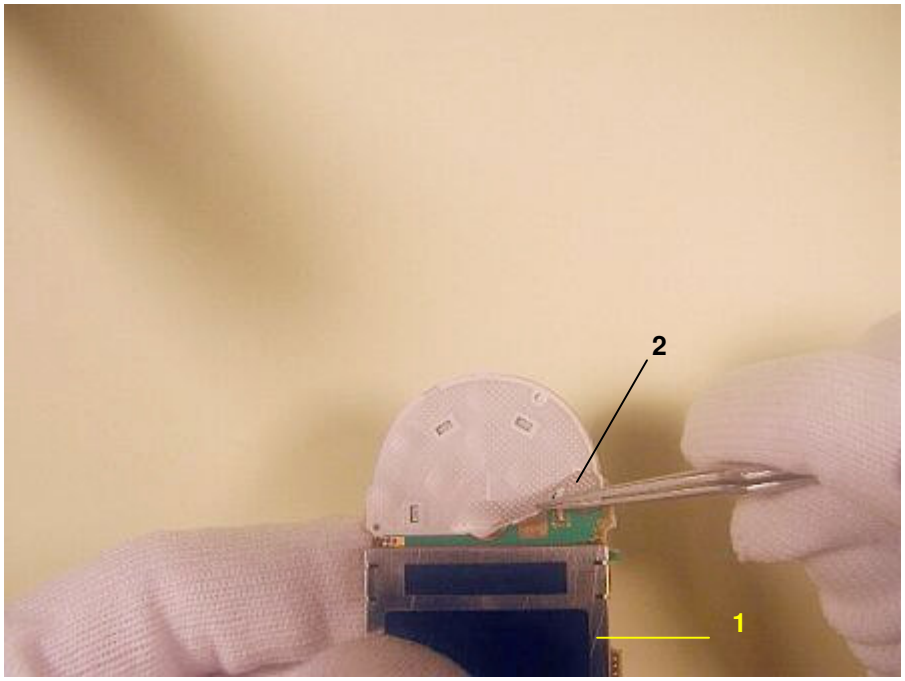
4.65 Placement procedure :

Warning : The metal dome is not reusable, it must be necessarily replaced by a new metal dome, unless the board is swapped and sent as level 3

1. Replace the new metal dome (2) on the equipped electronic board (1), using the metal dome jig.

4.66 Further operations :

1. Replace the front cover (Proc sheet 1 09)
2. Replace the back cover of the upper slide (Proc sheet 1 07).
3. Replace the front cover of the lower slide (Proc sheet 1 06).
4. Replace the back cover (Proc sheet 1 02)
5. Replace the battery pack (Proc sheet 0 01).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4.67 ***Tools :***

- Cross shaped screwdriver
- Soldering iron
- Solder wick
- Flat screwdriver

4.68 Preliminary operation

1. Remove the battery pack (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02).

4.69 Removal procedure :

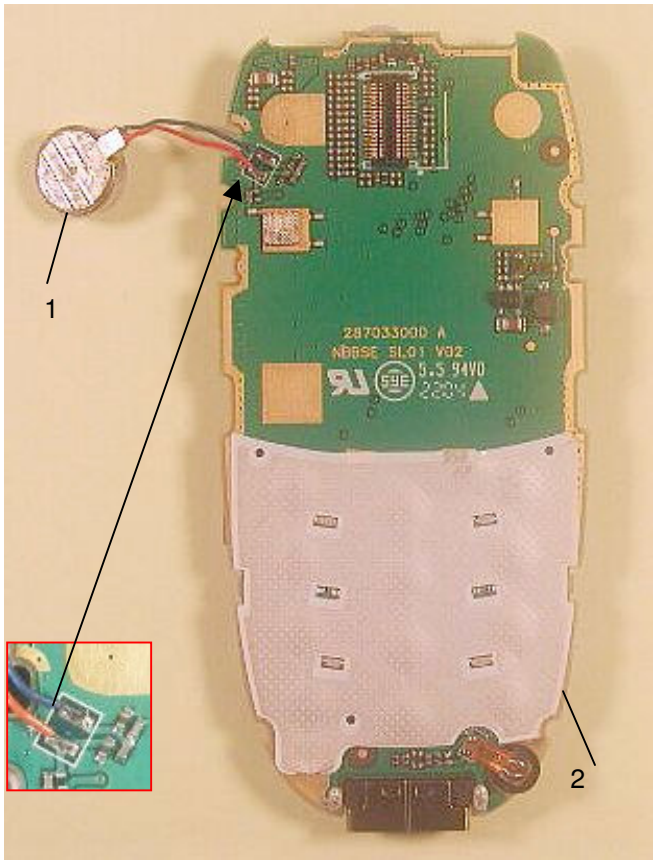
1. Unsolder the vibrating device (1) on the equipped electronic board (2)

4.70 Placement procedure :

1. Flux the place of the vibrating device (1) and solder it on the equipped electronic board (2), respecting the wiring sense
2. Position the vibrating device (1) in its housing

4.71 Further operations :

1. Remove the back cover (Proc sheet 1 02).
2. Remove the battery pack (Proc sheet 0 01).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4.72 ***Tools :***

- Cross shaped screwdriver
- Soldering iron
- Solder wick
- Flat screwdriver

4.73 Preliminary operation

3. Remove the battery pack (Proc sheet 0 01).
4. Remove the back cover (Proc sheet 1 02).

4.74 Removal procedure :

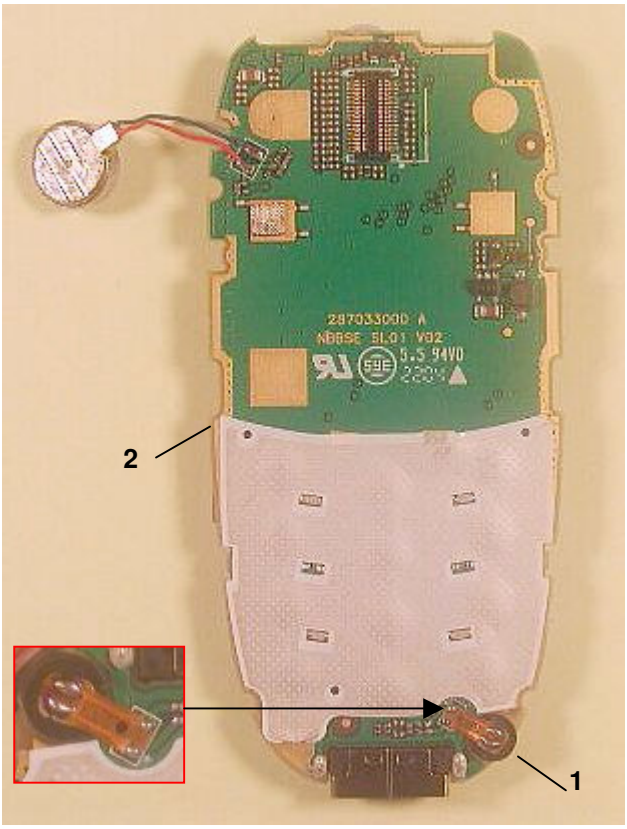
2. Unsolder the microphone (1) on the equipped electronic board (2)

4.75 Placement procedure :

3. Flux the place of the microphone (1) and solder it on the equipped electronic board (2), respecting the wiring sense (flex PCB upward)

4.76 Further operations :

3. Remove the back cover (Proc sheet 1 02).
4. Remove the battery pack (Proc sheet 0 01).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4.77 Tools :

- Cross shaped screwdriver
- Tweezers

4.78 Preliminary operation

1. Remove the battery pack (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02)
3. Remove the front cover of the lower slide (Proc sheet 1 06).
4. Remove the back cover of the upper slide (Proc sheet 1 07).

4.79 Removal procedure :

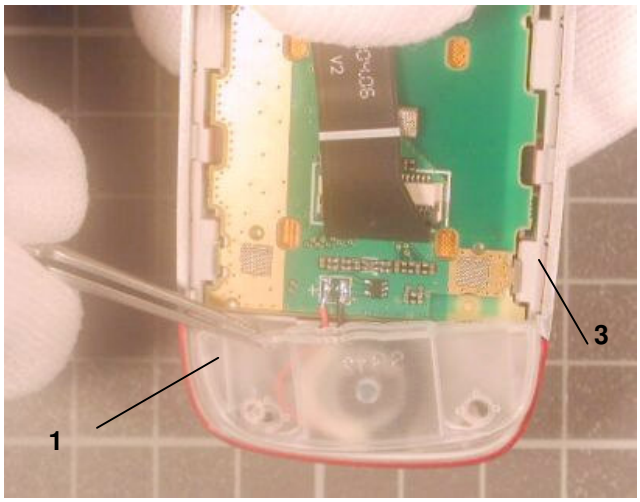
1. Remove the audio gasket (1) from the front cover (3)
2. Unstuck the loudspeaker (2) from the front cover (3)
3. Remove the display module (4)
4. Unsolder the loudspeaker (2) on the display module (4)

4.80 Placement procedure :

1. Flux the place of the loudspeaker (2) and solder it on the new display module (4)
2. Position the loudspeaker in its housing, respecting wires placement (5)
3. Position the audio gasket (1) on the loudspeaker (2)
4. Position the display module (4) on the front cover (3)

4.81 Further operations :

1. Replace the back cover of the upper slide (Proc sheet 1 07).
2. Replace the front cover of the lower slide (Proc sheet 1 06).
3. Replace the back cover (Proc sheet 1 02)
4. Replace the battery pack (Proc sheet 0 01).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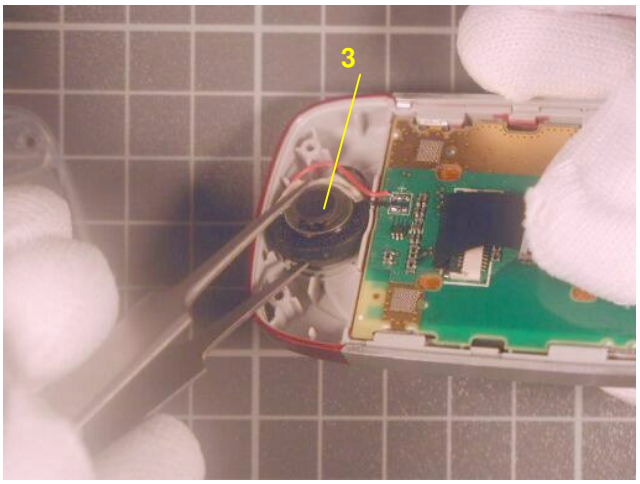
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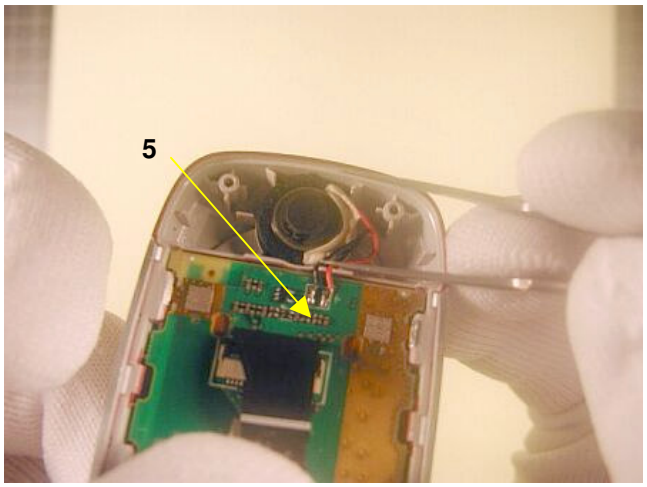
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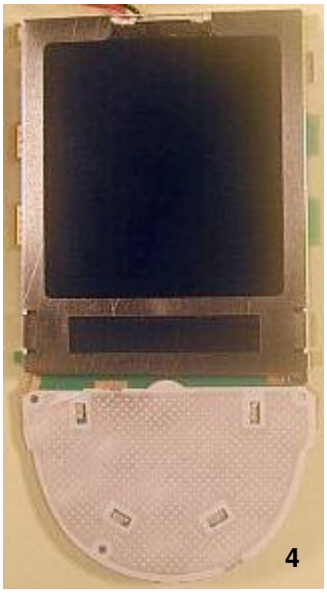

4

4.82 Tools :

- Cross shaped screwdriver
- Soldering iron
- Solder wick

4.83 Preliminary operation

1. Remove the battery pack (Proc sheet 0 01).
2. Remove the back cover (Proc sheet 1 02)
3. Remove the front cover of the lower slide (Proc sheet 1 06).
4. Remove the back cover of the upper slide (Proc sheet 1 07).
5. Remove the display module (Proc sheet 1 13)

4.84 Removal procedure :

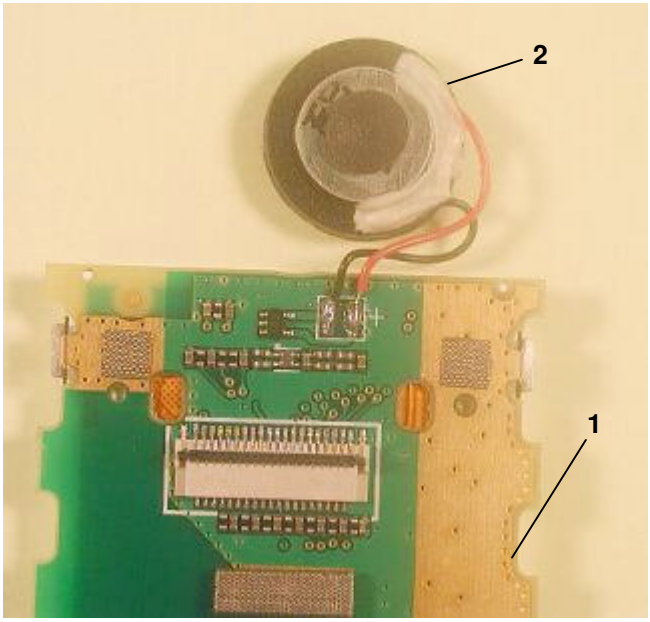
1. Unsolder the loudspeaker (2) from the display module (1)
2. Remove the loudspeaker (2)

4.85 Placement procedure :

1. Flux the place of the loudspeaker (2) and solder on the display module (1), respecting the wiring sense

4.86 Further operations :

5. Replace the display module (Proc sheet 1 13)
6. Replace the back cover of the upper slide (Proc sheet 1 07).
7. Replace the front cover of the lower slide (Proc sheet 1 06).
8. Replace the back cover (Proc sheet 1 02)
9. Replace the battery pack (Proc sheet 0 01).


2
1

4.87 Preliminary operation

1. Control of the IMEI label integrity
2. Remove the equipped electronic board (**Proc sheet 1 03**)
3. Control of any oxidation marks (on the equipped electronic board and under the metal dome)

4.88 Return procedure :

(a) The equipped electronic boards are packaged in individual electrostatic envelopes. They must be stocked in their original package of reception , to insure a good protection against external attacks (see enclosed photos)

(b) During the equipped electronic boards manipulation, gloves and electrostatic strap must be worn at all times.

(c) The defective equipped electronic boards have to be returned to SAGEM factory, packaged individually, in the original package (see enclosed photos) , in the appropriate ESD box : One box per Sagem reference (check reference written on the box).

(d) The defective board should display the defect code written on a sticker (placed on the shielding) and written on the ESD bag label too (printed with SMT).

Note :

- **On the defective boards , it is necessary to check visually under the metal dome to discover if it shows oxidation marks. The defective boards should be returned with their original metal dome**
- **Boards with oxidation should not to set in conformance with the warranty**
- **The defective boards must never be mixed with the complete mobiles**

4.89 Placement procedure :

1. Take a board in the stock of swap boards from the same Sagem reference.

4.90 Further operations :

1. Place the new equipped electronic board on the assembly plate. .(**Proc sheet 1 03**)
2. Follow stages (see enclosed photos)

Example of equipped electronic boards packaging :

Equipped electronic board with metal dome and microphone

ESD shielding bag

Humidity absorber

Boards packaging SAGEM -> ARC

Boards packaging ARC -> SAGEM

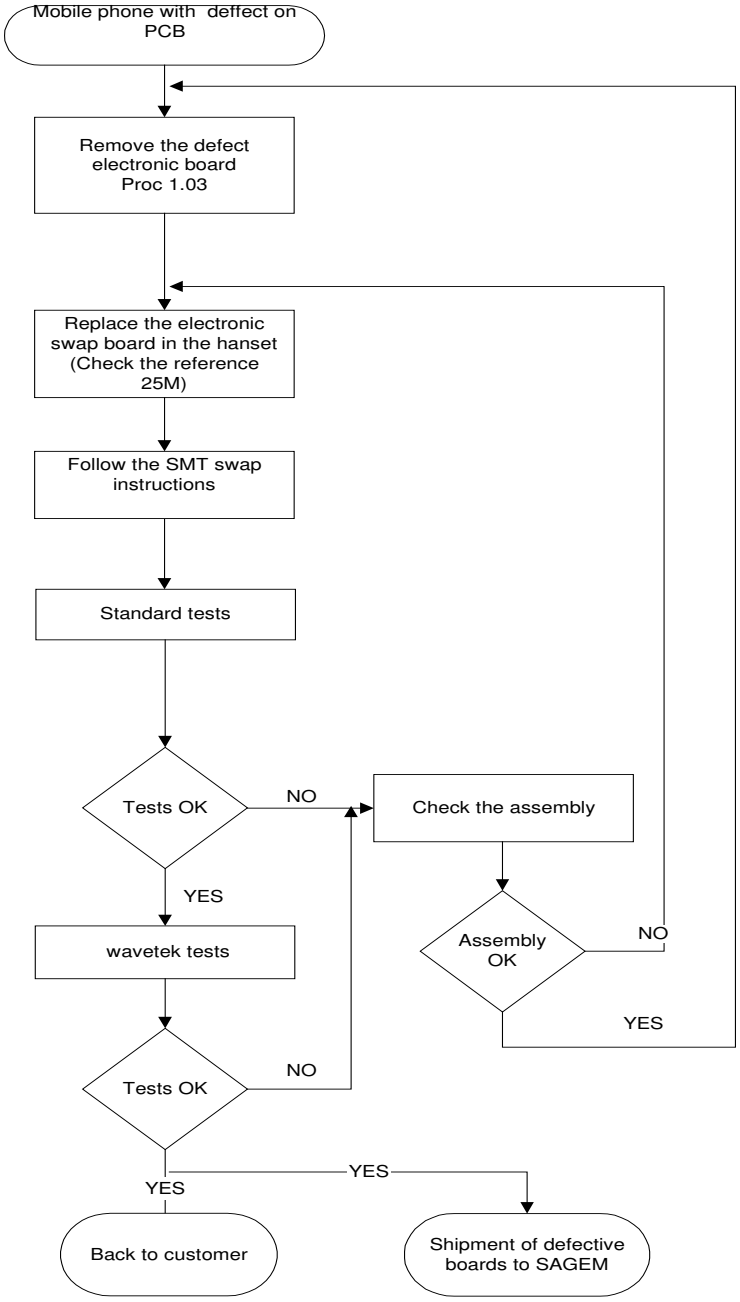
ESD shielding bag closed by the product label

Write the defect code on the label

ESD shielding bag closed by the IMEI label

SAGEM electrostatic shielding box
Reference 20 boards: 25 141059-6
Reference 100 boards: 25 141060-3

Electronic board exchange process



Detection of N3 defect : See the Technical documentation

-Check oxidation under the metal dome .

- Audio parameters written on the new swap board

- Display test : Hot Line Menu
- Keypad test
- Vibrating device test

- See Technical documentation (test sheet 05)

- Follow return instructions page 5-39

LEVEL 3 MAINTENANCE

IMPORTANT

Mobile packaging sent to SAGEM S.A. :

Follow the Proc sheet 1 15

Packaging for swap or mobile components storage :

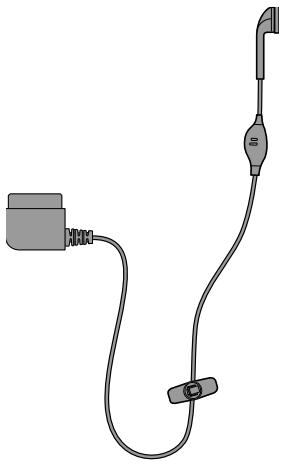
The swap and the mobile components must be stored with a particular care especially for the most sensible component (Display , loudspeaker etc…).

TECHNICIAN DEFECT CODE LIST		LISTE DES CODES DEFAUTS TECHNICIENS	
Code SAGEM	**Type of fault**	**Code SAGEM**	**Type de défauts**
	DISPLAY PROBLEM		**PROBLEME D'AFFICHAGE**
A1	NO POWER UP - DEFECTIVE INTERNAL LCD	A1	PAS D'AFFICHAGE - LCD INTERNE DEFECTUEUX
A3	FREEZES UP INTERNAL LCD	A3	BLOCAGE DE L AFFICHAGE LCD INTERNE
A5	BROKEN INTERNAL LCD	A5	AFFICHEUR CASSE LCD INTERNE
A6	MISSING LINE, DIGIT or PIXEL, CONTRAST, COLOR INTERNAL LCD	A6	LIGNE, DIGIT OU PIXEL MANQUANT, CONTRASTE, COULEUR LCD INTERNE
A7	BACKLIGHTS PROBLEM INTERNAL LCD	A7	PB RETROECLAIRAGE LCD INTERNE
A11	NO POWER UP - DEFECTIVE EXTERNAL LCD	A11	PAS D AFFICHAGE LCD EXTERNE DEFECTUEUX
A13	FREEZES UP EXTERNAL LCD	A13	BLOCAGE DE L AFFICHAGE LCD EXTERNE
A14	BROKEN EXTERNAL	A14	AFFICHEUR CASSE LCD EXTERNE
A15	MISSING LINE, DIGIT or PIXEL, CONTRAST, COLOR EXTERNAL LCD	A15	LIGNE, DIGIT OU PIXEL MANQUANT, CONTRASTE, COULEUR LCD EXTERNE
A16	BACKLIGHTS PROBLEM EXTERNAL LCD	A16	PB RETROECLAIRAGE LCD EXTERNE
	ANTENNA PROBLEM		**PROBLEME D'ANTENNE**
A10	BROKEN / MISSING ANTENNA	A10	ANTENNE CASSEE / ABSENTE
	POWER SUPPLY / CHARGING PROBLEM		**PROBLEME D'ALIMENTATION / CHARGEUR**
B1	DEFECTIVE MOBILE BATTERY CONTACT	B1	CONTACT BATTERIE DU MOBILE DEFECTUEUX
B2	DEFECTIVE MOBILE CHARGER CONNECTOR	B2	CONNECTEUR DE CHARGE DU MOBILE DEFECTUEUX
B3	DEFECTIVE POWER SUPPLY OF THE BOARD	B3	ALIMENTATION CARTE DEFECTUEUSE
B4	DEFECTIVE CHARGE ICON DISPLAY	B4	AFFICHAGE CHARGE DEFECTUEUX
B5	CURRENT CONSUMPTION WITH PHONE OFF	B5	CONSOMMATION MODE ETEINT
B7	INSUFFICIENT BATTERY DURATION	B7	PROBLEME D'AUTONOMIE
B8	ELECTRICALLY DEFECTIVE BATTERY	B8	BATTERIE DEFECTUEUSE
B9	MECHANICAL LOCK PROBLEM ON BATTERY	B9	TENUE MECANIQUE BATTERIE
B10	BROKEN BATTERY	B10	BATTERIE CASSEE
B11	DEFECTIVE CHARGER	B11	CHARGEUR DEFECTUEUX
B12	BROKEN CHARGER	B12	CHARGEUR CASSE
B13	INTERMITTENT SWITCH OFF WITH REBOOT	B13	COUPURE INTERMITTENTE AVEC REDEMARRAGE
B14	INTERMITTENT SWITCH OFF WITHOUT REBOOT	B14	COUPURE INTERMITTENTE SANS REDEMARRAGE
	KEYBOARD PROBLEM		**PROBLEME DE CLAVIER**
C1	NOT FUNCTIONING BODY KEYBOARD	C1	CLAVIER INOPERANT CORPS PRINCIPAL
C2	SIDE KEY PROBLEM	C2	PROBLEME TOUCHE LATERALE
C3	NOT FUNCTIONING FLIP OR SLIDE KEYBOARD	C3	CLAVIER INOPERANT FLAP/SLIDE
	ERROR MESSAGE		**MESSAGE D'ERREUR**
D1	SIM MISSING	D1	SIM ABSENTE
D2	OTHER MESSAGES	D2	AUTRES MESSAGES
D4	UNTUNED MOBILE	D4	MOBILE NON REGLE
D6	SIM VERROU	D6	SIM VERROU
D7	POST CODE BLOCKED	D7	CODE POSTE
D8	SAV RETURN	D8	RETOUR SAV
	AUDIO PROBLEM		**PROBLEME AUDIO**
E1	DEFECTIVE LOUDSPEAKER (hails)	E1	HP DEFECTUEUX
E3	DEFECTIVE MICROPHONE	E3	MICRO DEFECTUEUX
E5	VIBRATING DEVICE PROBLEM	E5	PROBLEME DE VIBREUR
E6	DEFECTIVE AUDIO CONNECTOR	E6	CONNECTEUR AUDIO DEFECTUEUX
	COMMUNICATION PROBLEM		**PROBLEME DE COMMUNICATION**
F1	NO NETWORK RETRIEVAL	F1	PAS DE LOCALISATION RESEAU
F2	INTERMITTENT CALLS DROP	F2	COUPURE DE COMMUNICATION
F4	TEST RADIO NO OK	F4	TEST RADIO NON OK
F5	OUTGOING CALL FAILURE	F5	ECHEC APPEL SORTANT
F6	INCOMING CALL FAILURE	F6	ECHEC APPEL ENTRANT
F7	NETWORK TEMPORARY DROP	F7	PERTE TEMPORAIRE DE RESEAU
	COSMETIC PROBLEM		**PROBLEME COSMETIQUE / DEFAUT VISUEL**
G1	BROKEN OR DAMAGED BODY GLASS	G1	VITRE CASSEE OU ABIMEE CORPS PRINCIPAL
G2	BROKEN OR DAMAGED COVER	G2	COQUE CASSEE OU ABIMEE
G3	BROKEN OR DAMAGED FLIP	G3	FLAP CASSE OU ABIME
G5	BROKEN OR DAMAGED BODY KEYBOARD	G5	CLAVIER CASSE OU ABIME CORPS PRINCIPAL
G6	DEFECTIVE LOCK BUTTON	G6	BOUTON VERROU DEFECTUEUX
G7	BROKEN OR DAMAGED GLASS FLIP/SLIDE	G7	VITRE CASSEE OU ABIMEE FLAP/SLIDE
G8	BROKEN OR DAMAGED FLIP/SLIDE KEYBOARD	G8	CLAVIER CASSE OU ABIME FLAP/SLIDE
	OTHER PROBLEM		**AUTRES PROBLEMES**
H1	BROKEN OR DAMAGED ACCESSORY (PEDESTRIAN HEADSET, BLUETOOTH KITS…)	H1	KIT ACCESSOIRES HS (KIT PIETON CLASSIQUE, KITS BLUETOOTH…)
H2	FM OR MP3 FUNCTION (Mobile)	H2	FONCTION FM (MOBILE) OU MP3
I1	OXYDATION MARKS	I1	TRACE D OXYDATION
I3	NO FAULT FOUND	I3	PAS DE DEFAUT CONSTATE
I10	NO FAULT FOUND SECOND RETURN (**excepted during short loop process**)	I10	PAS DE DEFAUT CONSTATE SECOND RETOUR (sauf pendant la boucle courte)
I5	LACK FUNCTION IN THE MENU	I5	MANQUE FONCTION DANS MENU
I6	DEFECTIVE SIM CONNECTOR	I6	CONNECTEUR SIM DEFECTUEUX
I7	MALFUNCTION OF THE MENU	I7	DYSFONCTIONNEMENT D'UNE FONCTION DU MENU
I8	MOBILE RETROFIT	I8	RECONFIGURATION DU MOBILE
I9	BLACK LIST	I9	BLACK LISTE
	MULTIMEDIA PROBLEM		**PROBLEME MULTIMEDIA**
K2	VIDEO FUNCTION	K2	FONCTION VIDEO
K4	WAP FUNCTION	K4	FONCTION WAP
K5	GPRS FUNCTION	K5	FONCTION GPRS
K6	SMS, EMS, MMS FUNCTION	K6	FONCTION SMS, EMS, MMS.
K7	NO COMMUNICATION WITH A PC	K7	NE COMMUNIQUE PAS AVEC UN PC
K8	NO COMMUNICATION WITH A POCKET PC or PALM	K8	NE COMMUNIQUE PAS AVEC UN POCKET PC OU PALM
K9	DATA (MESSAGE "NO CARRIER DETECTED")	K9	LIAISON DATA (MESSAGE "AUCUNE PORTEUSE DETECTEE")
K10	DOWNLOADING GAME	K10	TELECHARGEMENT JEUX
K11	DOWNLOADING PICTURE / RINGTONE / SCREEN SAVER	K11	TELECHARGEMENT IMAGE / SON / ECONOMISEUR D'ECRAN
K12	WIRELESS DATA FUNCTION PB (IRDA, BLUETOOTH…)	K12	PB DATA SANS FIL (IRDA, BLUETOOTH…)
K13	SLOT I/O PB (SD/MMC)	K13	PB CONNECTIQUE SLOT I/O (SD/MMC)

CUSTOMER DEFECT CODE LIST		LISTE DES CODES DEFAUTS CLIENTS (SYMPTOMES)	
Code SAGEM	Type of fault	Code SAGEM	Type de défaut
A0	DISPLAY MALFUNCTION INTERNAL LCD	A0	AFFICHAGE DEFECTUEUX LCD INTERNE
A18	DISPLAY MALFUNCTION EXTERNAL LCD	A18	AFFICHAGE DEFECTUEUX LCD EXTERNE
A10	ANTENNA BROKEN / MISSING	A10	ANTENNE CASSEE / ABSENTE
B0	POWER SUPPLY / NO CHARGE	B0	ALIMENTATION/CHARGE
B7	AUTONOMY	B7	PROBLEME D'AUTONOMIE
B8	BROKENBATTERY	B8	BATTERIE DEFECTUEUSE
B11	CHARGER MALFUNCTION	B11	CHARGEUR DEFECTUEUX
C0	BODY KEYBOARD MALFUNCTION	C0	PROBLEME CLAVIER CORPS PRINCIPAL
C2	LATERAL TOUCH PROBLEM	C2	PROBLEME TOUCHE LATERALE
C3	FLIP / SLIDE KEYBOARD PROBLEM	C3	PROBLEME CLAVIER OU SLIDE
D0	ERROR MESSAGE	D0	MESSAGE D'ERREUR
D1	SIM MISSING	D1	SIM ABSENTE
D7	POST CODE BLOCKED	D7	CODE POSTE
E0	AUDIO PROBLEM	E0	PROBLEME AUDIO
E5	VIBRATING DEVICE MALFUNCTION	E5	PROBLEME DE VIBREUR
F0	COMMUNICATION MALFUNCTION	F0	PROBLEME DE COMMUNICATION
G1	BROCKEN GLASS	G1	VITRE CASSEE OU ABIMEE
G2	BROCKEN COVER	G2	COQUE CASSEE OU ABIMEE
G3	BROKEN FLIP	G3	FLAP CASSE OU ABIME
G5	BROCKEN KEYBOARD	G5	CLAVIER CASSE OU ABIME
G6	DEFECTIVE LOCK BUTTON	G6	BOUTON VERROU DEFECTUEUX
H1	DEFECTIVE OR BROCKEN ACCESSORIES	H1	KIT ACCESSOIRES HS
H2	FM OR MP3 FUNCTION	H2	FONCTION FM OU MP3 (MOBILE)
I5	LACK FUNCTION IN THE MENU	I5	MANQUE FONCTION DANS MENU
I7	MALFUNCTION OF THE MENU	I7	DYSFONCTIONNEMENT D'UNE FONCTION DU MENU
I8	MOBILE RETROFIT	I8	RECONFIGURATION DU MOBILE
I9	BLACK LIST	I9	BLACK LISTE
I0	OTHERS / TO BE PRECISED	I0	AUTRES DEFAUTS A PRECISER
K2	VIDEO FUNCTION	K2	FONCTION VIDEO
K4	WAP FUNCTION	K4	FONCTION WAP
K5	GPRS FUNCTION	K5	FONCTION GPRS
K6	SMS, EMS, MMS FUNCTION	K6	FONCTION SMS, EMS, MMS.
K10	DOWNLOADING GAME	K10	TELECHARGEMENT JEUX
K11	DOWNLOADING PICTURE / RINGTONE / SCREEN SAVER	K11	TELECHARGEMENT IMAGE / SON / ECONOMISEUR D'ECRAN
K12	WIRELESS COMMUNICATION FUNCTION (IRDA;BLUETOOTH…)	K12	FONCTION COMMUNICATION SANS FIL (IRDA;BLUETOOTH…)
K13	DATA CABLE COMMUNICATION PROBLEM	K13	PROBLEME COMMUNICATION PAR CABLE DATA

CHAPTER 5 - ACCESSORIES

5.1 PEDESTRIAN HANDSFREE KIT



5.1.1 Description

Ear support with microphone on the cable for handsfree conversation.

5.1.2 Characteristics

Item	Dimensions	Loudspeaker impedance	Microphone
PEDESTRIAN HANDSFREE KIT	Length: 1.25 m Dist. micro/loudspeaker: 25 cm	150 Ω 119 dB SPL	2,2 kΩ -42 dB SPL

CHAPTER 6 - TECHNICAL INFORMATION BULLETIN

6.1 PURPOSE

The purpose of the Technical Information Bulletin (TIB) is to complete the maintenance operations described in this document. They give to the repair centers the complementary technical informations and the corrective procedures to be applied to maintain the product following it's evolution.

6.2 APPLICATION

The Technical Information Bulletin (TIB) are reference and must be applied by the repair centers.

The Technical Information Bulletin (TIB) will be sent only to the concerned repair centers. The Technical Data Bulletin will not be received by the repair centers with a reference number in sequence.

The follow up of the Technical Information Bulletin (TIB) and the action being to be performed are under the responsibility of the repair centers.

CHAPTER 7 - ILLUSTRATED PART CATALOG

8.1 myC-4 spare parts

ASSEMBLY	QTY	DESIGNATION
10	1	Battery cover
15	1	Battery
20	1	Antenna
25	1	Back cover
30	1	Battery lock
35	4	Cruciform screw
40	1	Vibrating device
45	1	Equipped electronic board
50	1	Metal dome of the number keypad
55	1	Microphone
60	1	Front cover of the lower slide
65	4	Cruciform screw
70	1	Elastomer number keypad
75	4	Cruciform screw
80	2	Screw cover
85	1	Back cover of the upper slide
90	1	Loudspeaker
95	1	Audio gasket

100	1	Display module
105	1	Metal dome of the navigator keypad
110	1	Flex
115	1	Front cover
120	1	Elastomer navigator keypad

8.2 myC-4 exploded view

CHAPTER 8 - COMPOSITION TABLE

8.1 PURPOSE

This chapter contains the SAGEM codes of articles mentioned throughout the Site Technical Documentation.

8.2 LIST OF ARTICLES

TEST TOOLS	
Designation	**Reference**
4 number keypad metal dome jig	251 721 43-1
4 slide keypad metal dome jig	251 721 44-9
4 calibration tool	25 160 242-0
4 cable	25 150 283-1

PEDESTRIAN HANDSFREE KIT	
Designation	**Reference**
Pedestrian handsfree kit	25-130 173-9

CHAPTER 9 - COMPOSITION TABLE

9.1 PURPOSE

This chapter contains the SAGEM codes of articles mentioned throughout the Site Technical Documentation.

9.2 LIST OF ARTICLES

TEST TOOLS	
Designation	**Reference**
4 number keypad metal dome jig	251 721 43-1
4 slide keypad metal dome jig	251 721 44-9
4 calibration tool	25 160 242-0
4 cable	25 150 283-1

PEDESTRIAN HANDSFREE KIT	
Designation	**Reference**
Pedestrian handsfree kit	25-130 173-9