

Trouble Shooting Guide, Mechanical

Applicable for Z310

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1 General

This document outlines the mechanical repairs that should be made in an attempt to fix the common failures that are seen in the field. To gain a complete understanding of how to test and repair a specific failure, this document should be used in conjunction with the Test Instructions, Mechanical and the Working Instructions, Mechanical.

1.1 Service functions in the software

The service menu will be accessed with the following key combination. Use the joystick.

⇒*←←*←*

They are as follows:

Service info

Service tests

Text labels

The phones software has a built in service functionality that allows you to test some of the phones functions. (See point 2 above) It looks like this:

Main display

LED/illumination

Keyboard

Speaker

Earphone

Microphone

Vibrator

Camera

Flash LED

Memory Stick

Real time clock

FM radio (You need a headset to test)

Total call time

NOTE: Different names may occur depending on language setting and customization.

1.2 Misuse and other no warranty issues

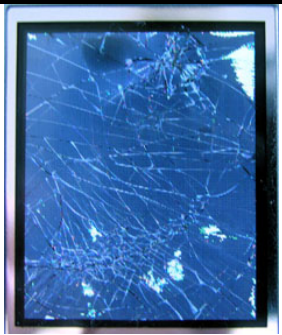
Misuse is not covered by warranty. This chapter will explain what's not covered by warranty. Phones that have been exposed to misuse will not be covered by warranty.

This means: if it is possible to repair the phone, the customer will have to pay for the repair. SEMC will not allow any of these phones to be claimed into WCMS. Some local perspectives may interfere with this. Please reference to local directives.

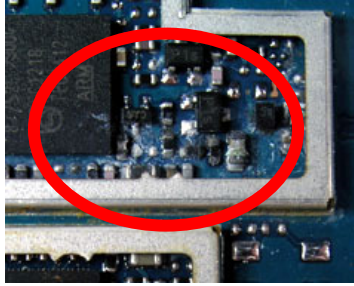
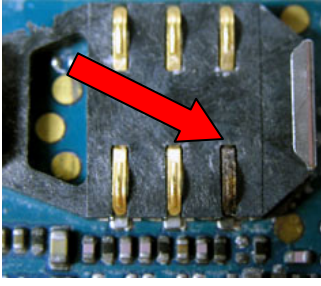
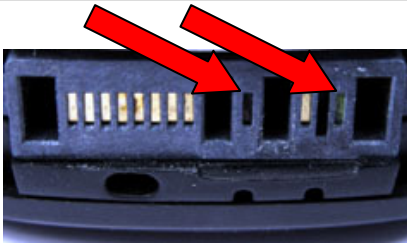
1.2.1 Action

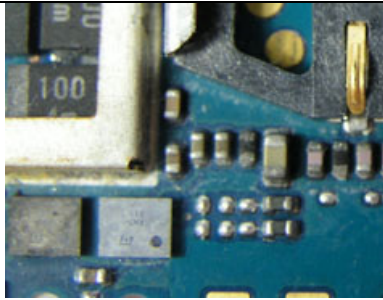
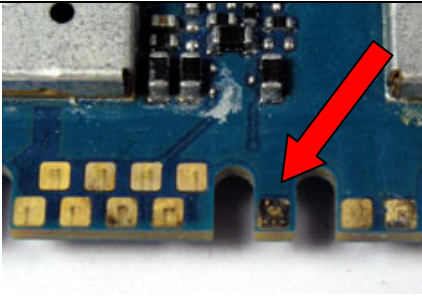
Make a general visual inspection for misuse.

Below are some **examples** of what is not covered by warranty.

				
Front window broken due to misuse.	LCD cracked due to drop.	Clear scratches	Mark after drop	Corrosion components on the PCB.

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Corrosion components on the PCB.	Corrosion components on the PCB.	SIM reader damaged by liquid.	System connector damaged by liquid

	
Components around system connector damaged by liquid	System connector pad(s) damaged by liquid

1.2.2 Liquid damage sticker

In the phone there are placed two stickers that can give you a hint to see if the phone is damage by liquid or not. These stickers are located near the SIM reader, which is possible to see without disassemble the phone, and the LCM, Main and Sub LCD, which is possible to see when the U-Cover.

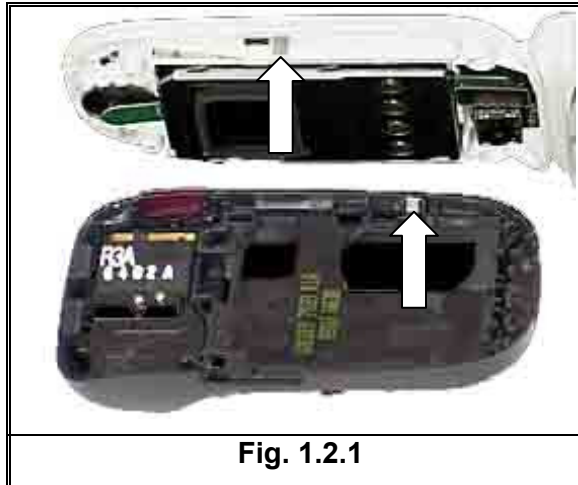
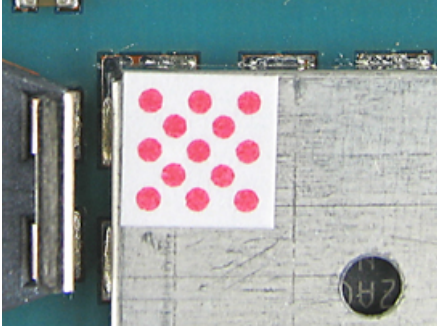
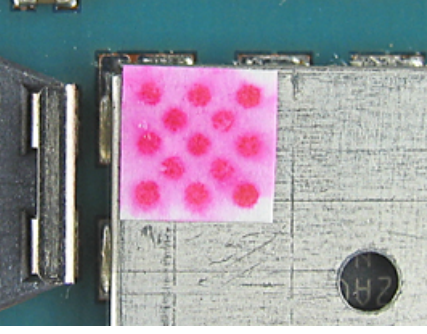


Fig. 1.2.1

On the pictures below you will see the different between a sticker that has been in contact with liquid (Fig. 1.2.3) and with one that hasn't (Fig. 1.2.2).

This sticker is ok	This sticker <u>is not</u> ok	
		The white sticker that has been in contact with liquid turns into a red or pink sticker. In this case you should check the phone for liquid damage (See point 1.1.1). Note: There must be clear marks after liquid on the PCB before rejecting the phone for repair.
Fig. 1.2.2	Fig. 1.2.3	

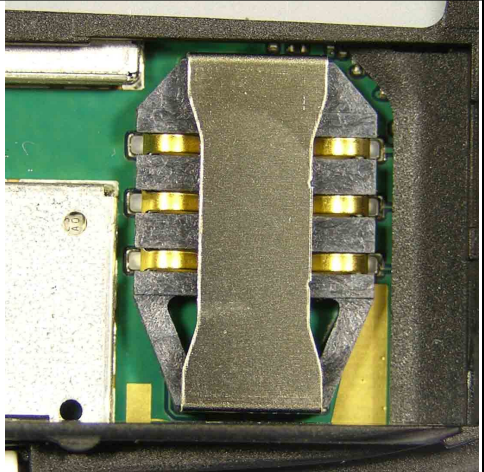
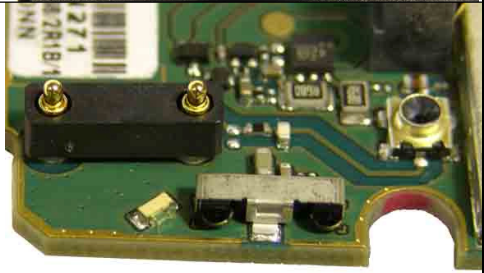
1.2.3 Action

Make a general visual inspection for misuse, corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged phone. Handle the unit according to local directives.

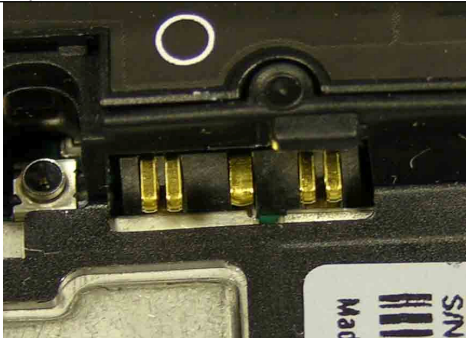
2 Appearance Problems

Problem Area	Items to Check	Repair Action	Reference Image
Appearance	Visually inspect the cosmetic quality of all user viewable surfaces	• If dirty – Clean parts as necessary. • If unacceptably scratched or damaged – Replace damage parts as necessary. Note: Misuse is not covered by warranty. Refer to chapter 1.2.	
	Visually inspect all keys	• If dirty – Clean parts as necessary. • If unacceptably scratched or damaged – Replace damage parts as necessary. Note: Misuse is not covered by warranty. Refer to chapter 1.2.	
	Visually inspect for improper gap between seams	• Reassemble or replace damaged parts as necessary.	

3 Network/Signal Problems

Problem Area	Items to Check	Repair Action	Reference Image
No Signal or Poor Signal	Before proceeding →	Perform an update content refresh.	
	Visually inspect SIM Holder	• If dirty or oxidized – Clean it. • If damaged – Send it to electrical repair location.	
	Visually inspect antenna connectors	• If damage – Send the unit to an electrical repair location.	

4 On/Off Problems

Problem Area	Items to Check	Repair Action	Reference Image
Problem area	Check whether the phone vibrates 10 to 15 seconds after pressing the power key and whether the keypad illuminates	If activation of the vibrator or keypad is detected, refer to the “Display Problems”, chapter 7.	
	Before proceeding →	Perform an update content refresh.	
	Visually inspect the contact pads on the Battery	- If dirty or oxidized – Clean them. - If damaged – Replace the Battery.	
	Visually inspect the Battery Connector	- If dirty or oxidized – Clean it. Note: Be careful not to damage the Connector pins. - If damaged – Send the unit to an electrical repair location.	

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Problem Area	Items to Check	Repair Action	Reference Image
	Visually inspect the power key	If damaged – Replace the keypad.	
	Visually inspect the Dome Foil	If damaged – Replace it.	
	If the issue has not been resolved	Handle the unit according to local directives.	

5 Audio Problems

Problem Area	Items to Check	Repair Action	Reference Image
Microphone	Before proceeding →	Perform an update content refresh.	
	Visually inspect the microphone external port	If clogged – Clean or replace the Keyboard.	
	If the issue has not been resolved →	Replace the Microphone.	
	If the issue has not been resolved →	Handle the unit according to local directives	

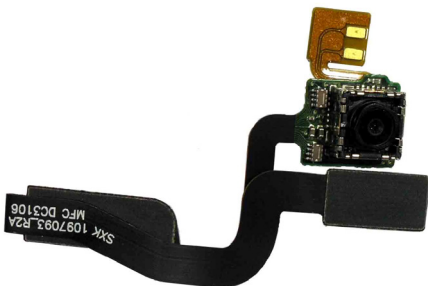
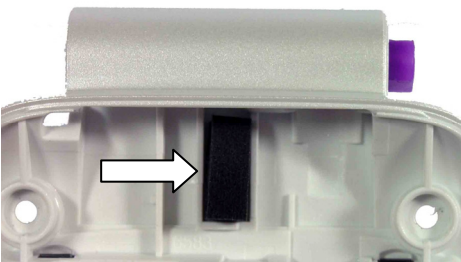
Problem Area	Items to Check	Repair Action	Reference Image
Ear Speaker	Before proceeding →	Perform an update content refresh.	
	Visually inspect Speaker external port	If dirty or damaged – Replace Upper Front.	
	If the issue has not been resolved →	Replace the Ear Speaker Assy.	
	If the issue has not been resolved →	Handle the unit according to local directives.	

Problem Area	Items to Check	Repair Action	Reference Image
Loud Speaker: No sound or poor quality sound	Before proceeding →	• Perform an update content refresh.	
	Visually inspect speaker external port	• If clogged – Clean it.	
	Visually inspect the loudspeaker dust cloth	• If dirty or damaged - Replace Lower Frame Assy.	
	Visually inspect the Loudspeaker Box Assy	• If damaged – Replace it.	
	If the issue has not been resolved	• Handle it according to local directives	

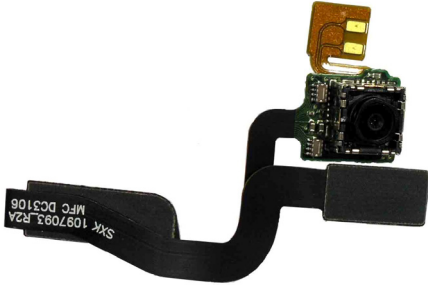
6 Key/Flip Problems

Problem Area	Items to Check	Repair Action	Reference Image
Keyboard/Flip problems	Visually inspect for debris or damage between the Keypad and the Dome Foil	- If dirty – Clean both parts. - If damaged - Replace keypad and/or the Domefoil	 
	If the issue has not been resolved →	Handle the unit according to local directives.	

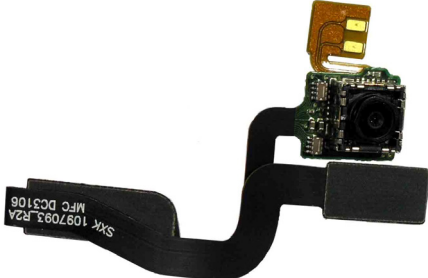
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Problem Area	Items to Check	Repair Action	Reference Image
Keyboard/Flip problems	Visually inspect whether the Camera Flex Assembly is properly connected to its connectors	If improperly connected – Re-establish proper connection.	
	Visually inspect if the Magnet is improperly placed or missing, which is located underneath the Poron Cushion	If improperly placed or missing – Replace the Lower Front Cover.	
	Check whether the flip open and close properly	If the flip does not open or close properly – Replace the Hinge-mechanism.	
	If the issue has not been resolved →	Handle the unit according to local directives.	

7 Display Problems

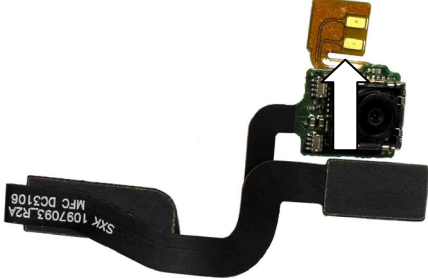
Problem Area	Items to Check	Repair Action	Reference Image
LCM, Main and Sub LCD	Check whether the phone vibrates 10 to 15 seconds after pressing the power key and whether the keypad illuminates	If activation of the vibrator is not detected, refer to the “On/Off Problems”, chapter 2.	
	Before proceeding →	Perform an update content refresh.	
	Visually inspect whether the LCM, Main and Sub LCD BtB is properly connected to its connector on the Camera Flex Assembly	If improperly connected – Re-establish proper connection.	
	Visually inspect whether the Camera Flex Assembly is properly connected to its connectors	If improperly connected – Re-establish proper connection.	
	If the issue has not been resolved →	Replace the LCM, Main and Sub LCD.	
	If the issue has not been resolved →	Replace the Camera Flex Assembly.	

8 Illumination Problems

Problem Area	Items to Check	Repair Action	Reference Image
Keys: The entire keypad or a portion of the keypad does not illuminate	Before proceeding →	Perform an update content refresh.	
	Visually inspect the LED's on the PCB	If damaged – Send the unit to an electrical repair location.	
	If the issue has not been resolved →	Handle the unit according to local directives.	
LCM, Main and Sub LCD	Before proceeding →	Perform an update content refresh.	
	Visually inspect whether the LCM, Main and Sub LCD BtB is properly connected to its connector on the Camera Flex Assembly	If improperly connected – Re-establish proper connection.	
	Visually inspect whether the Camera Flex Assembly is properly connected to its connectors	If improperly connected – Re-establish proper connection.	

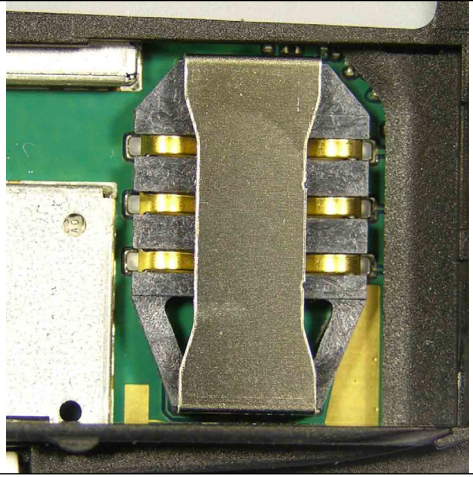
Problem Area	Items to Check	Repair Action	Reference Image
	If the issue has not been resolved →	• Replace the LCM, Main and Sub LCD.	
	If the issue has not been resolved →	• Replace the Camera Flex.	

9 Alert Problems

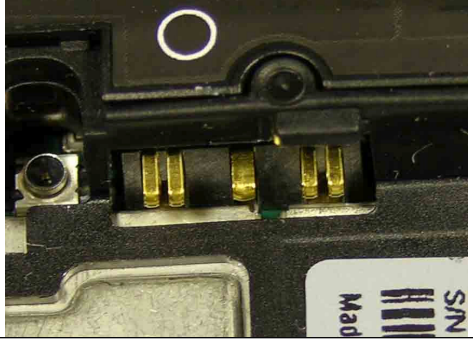
Problem Area	Items to Check	Repair Action	Reference Image
Vibrator	Before proceeding →	Perform an update content refresh.	
	Visually inspect the vibrator pads on the Camera Flex Assembly	- If dirty or oxidized – Clean them. - If damaged – Replace the Camera Flex Assembly.	
	Visually inspect the Vibrator	If dirty or oxidized or damaged – Replace it.	

Problem Area	Items to Check	Repair Action	Reference Image
Loud Speaker:	Before proceeding →	Perform an update content refresh.	
	Visually inspect speaker external port	If clogged – Clean it.	
	Visually inspect the loudspeaker dust cloth	If dirty or damaged - Replace Lower Frame.	
	Visually inspect the Loudspeaker Box Assy	If damaged – Replace it.	
	If the issue has not been resolved	Handle it according to local directives	

10 SIM Problems

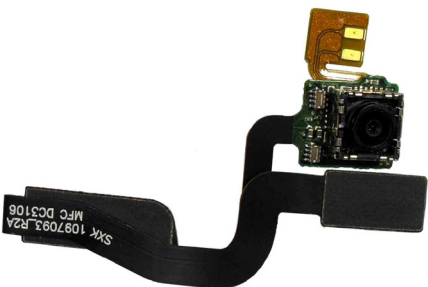
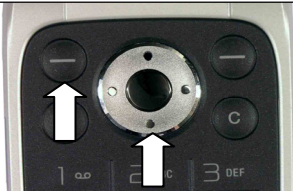
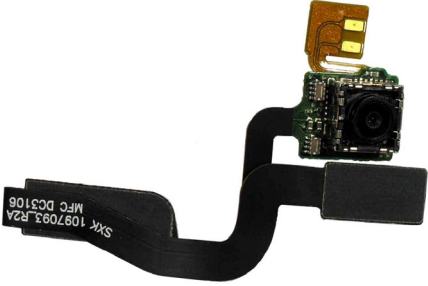
Problem Area	Items to Check	Repair Action	Reference Image
SIM undetected (Insert SIM)	Before proceeding →	• Perform an update content refresh.	
	Visually inspect SIM Holder	• If dirty or oxidized – Clean it. • If damaged – Send it to electrical repair location.	
Unit indicates an incorrect SIM is inserted (Insert correct SIM)	Before proceeding →	• Perform an update content refresh.	
	Check whether the phone is locked to a particular carrier and whether the correct carrier's SIM is being used Go to the service menu, service info and SIM lock to see the status of the SIM lock	• Use correct Carrier SIM or test SIM.	
	If the issue has not been resolved	• Handle it according to local directives	

11 Charging/Capacity Problems

Problem Area	Items to Check	Repair Action	Reference Image
Battery will not charge	Before proceeding →	Perform an update content refresh.	
	Visually inspect the contact pads on the Battery	- If dirty or oxidized – Clean them. - If damaged – Replace the Battery.	
	Visually inspect the Battery Connector	- If dirty or oxidized – Clean it. Note: Be careful not to damage the Connector pins. - If damaged – Send the unit to an electrical repair location.	
	Visually inspect the System Connector	- If dirty – Clean it. - If damaged – Replace it.	

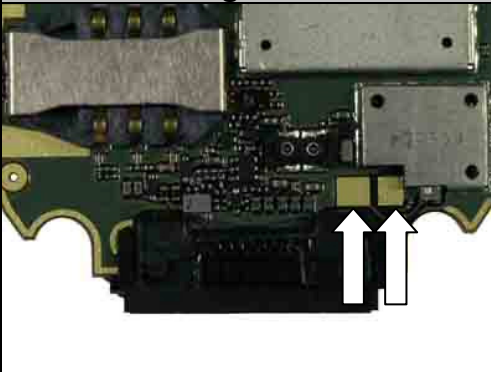
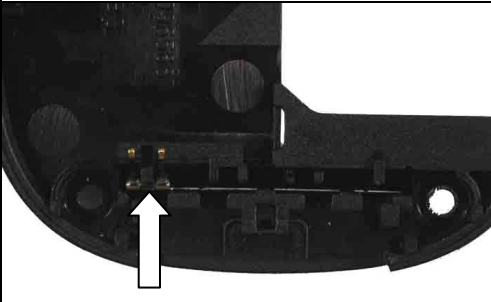
Problem Area	Items to Check	Repair Action	Reference Image
Battery looses charge quickly / standby time seems short	Before proceeding → <i>Note: Some features noticeably reduce the amount of standby time if they are turned on. Some examples are if the back light is turned on all the time, the Bluetooth and the IR.</i>	Perform an update content refresh.	
	If the issue has not been resolved →	Replace the Battery	
	If the issue has not been resolved →	Handle the unit according to local directives.	

12 Camera Problems

Problem Area	Items to Check	Repair Action	Reference Image
Camera: Lines, marks, blurred or discolored picture	Visually inspect whether the Camera Flex Assembly is properly connected to its connectors	If improperly connected – Re-establish proper connection.	
	If the issue has not been resolved →	If scratched or damaged – Replace the Camera Flex Assembly.	
Will not capture an image	Before proceeding →	Perform an update content refresh.	
	Visually inspect for debris between and/or damage to the camera caption keys and the keyboard foil	- If dirty – Clean both parts. - If damaged – Replace the keypad and/or the Dome Foil as necessary.	
	Visually inspect whether the Camera Flex Assembly is properly connected to its connectors	If improperly connected – Re-establish proper connection.	
	If the issue has not been resolved →	If scratched or damaged – Replace the Camera Flex Assembly.	
	If the issue has not been resolved →	Handle the unit according to local directives.	

13 Data Communication Problems

Problem Area	Items to Check	Repair Action	Reference Image
Will not connect with a functional IR device	Before proceeding →	Perform an update content refresh.	
	Visually inspect the IrDA window for dirt, scratches and damage	- If dirty – Clean it. - If damaged – Replace it.	
	If the issue has not been resolved →	Handle the unit according to local directives.	

Problem Area	Items to Check	Repair Action	Reference Image
Will not connect with a functional Bluetooth device	Inspect the Bluetooth antenna contact pads on the circuit board	If dirty – Clean.	
	Inspect the spring fingers of the Bluetooth antenna	If bent or damaged – Replace the Bluetooth antenna.	
	If the issue has not been resolved →	Send the unit to an electrical repair location.	
Will not connect through the System Connector	Before proceeding →	Perform an update content refresh.	
	Visually inspect the System Connector	- If dirty – Clean it. - If damaged – Replace it.	

14 Hands-Free Problems

Problem Area	Items to Check	Repair Action	Reference Image
Will not connect with a functional Hands-Free device	Before proceeding →	• Perform an update content refresh.	
	Visually inspect the System Connector	• If dirty – Clean it. • If damaged – Replace it.	
	If the issue has not been resolved →	• Handle the unit according to local directives.	

15 Software Problems

- If there are problems with the response of the keypad commands, or spelling errors in the menu, if they are not related to mechanical damage, make a master reset and flash the phone with the latest software from EMMA III.
- Checking the software revision can be done in the Service info, see chapter *Service functions in the software*.
Choose: Service info / SW information.
The Software revision and date will be shown in the display.

Note: Do a SW upgrade before sending the unit to a higher level. Do not scrap a phone that hasn't been upgraded.

If the failure still occurs, handle the unit according to the local directives.

16 Revision History

Rev.	Date	Changes / Comments
A	2007-02-14	First release
B	2007-03-28	Chapter 11 Charging/Capacity Problems updated