

# Repair instruction, Mechanical

Applicable for T39m and T39mc

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# 1 Appearance Problems

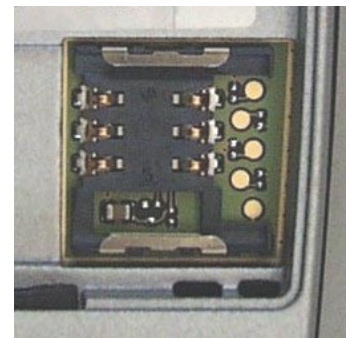
- Make a general visual inspection for oxidation or corrosion from liquid damage. No further action should be taken for a liquid damaged telephone. Send the unit on according to the local company directives.
- Check the general condition of the system connector (*Fig. 1*) and the battery connector (*Fig.2*). If there is oxidation or corrosion due to liquid damage no further action should be taken. Send the unit on according to the local company directives.
- Check that the antenna is not damaged and fitting properly.
- Check that the SIM-holder is not mechanically damaged (*Fig. 3*).
- Check if the battery fits correctly. Change the battery or send the unit on according to the local company directives.
- Check the rear and the front covers for cracks and check that both ends fit correctly. If necessary, replace the front cover according to the *Working Instructions - Mechanical* or send the unit on according to the local company directives.
- If the fault still remains send the unit on according to the local company directives.



*Fig. 1*



*Fig. 2*



*Fig. 3*

## 2 Network Problems

- Make a general visual inspection for oxidation or corrosion from liquid damage. No further action should be taken for a liquid damaged telephone. Send the unit on according to the local company directives.
- Insert a SIM card and switch the telephone on. Try to make a call. If there are any problems replace the antenna according to the *Working Instructions – Mechanical* and try again.
- If the fault still remains, put the old antenna back in the phone and send the unit on according to the local company directives.

### 3 On/Off Problems

- Try to switch the telephone on with its battery.
- If the telephone starts with its battery, switch it off and connect a charger in the system connector.  
If the telephone starts with the charger, there are probably no On/Off problems with it.  
If the telephone does not start with the charger, see chapter *Capacity/Charging Problems*.
- If the telephone does not start with its battery, try with a battery with known function.

If the telephone starts with the other battery, the battery from the customer is either broken or discharged. Check that the customer battery contact surface is free from dust/dirt and mechanical damage (*Fig. 1*). Clean the battery contacts surface if necessary. Connect a charger to the telephone with the battery from the customer. If the telephone does not indicate charging after 15 minutes, the battery is broken.

If the telephone does not start with the other battery, check the battery connector for dirt/mechanical damage (*Fig. 2*). If necessary, clean the battery connector. Make a general visual inspection for corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged telephone. Send the unit on according to the local company directives.

Check the keyboard and the dome switch for malfunction (*Fig. 3*). If necessary, replace the keyboard according to the *Working Instructions - Mechanical* or send the unit on according to the local company directives.

- If the fault remains, try to upgrade the telephone with the latest software.
- If the fault still remains, send the unit on according to the local company directives.



Fig. 1



Fig. 2



Fig. 3

## 4 Audio Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged telephone. Send the unit on according to the local company directives.
- Make a call to another telephone and check if it is the microphone or the earphone that causes the audio problem.  
Another way of testing the earphone and microphone is to use the service tests in the software, see chapter *Service functions in the software*.  
Chose: 3. Service tests / 6. Earphone. While a key is pressed a tone should be heard from the earphone.  
Chose: 3. Service tests / 7. Microphone. Your voice should be heard in the earphone without delay when you are speaking in the microphone.

If the customer complains about handsfree problem, connect a portable handsfree and test handsfree function.

- If the earphone causes problem, check the earphone spring contact on the board for dirt/mechanical damage (*Fig. 1*). If necessary, clean the springs.  
Check the earphone for dirt/mechanical damage (*Fig. 2*). If necessary clean the earphone connector or replace the earphone according to the *Working Instructions - Mechanical*.
- If the microphone causes problem, check the microphone cable for mechanical damage and check that it is properly connected (*Fig. 3*). If necessary, replace the microphone cable according to the *Working Instructions - Mechanical*.  
If the fault remains, replace the flip according to the *Working Instructions - Mechanical*.  
When the flip is replaced the flip reset should be done with the service tests in the software, see chapter 12. *Service functions in the software*.  
Choose: 2. Service settings / 2.Select flip /Reset 2.
- If the customer has complained at the microphone but no fault is detected, turn the flip a little back and forward during the call (*Fig. 4*).  
If the speech is not cut during the turns, the microphone function is probably correct.  
If the speech cuts, replace the flip according to the *Working Instructions - Mechanical*.  
When the flip is replaced the flip reset should be done with the service tests in the software, see chapter 12. *Service functions in the software*.  
Choose: 2. Service settings / 2.Select flip /Reset 2.
- If the telephone has handsfree problem, check the system connector for dirt/mechanical damage (*Fig. 5*). If necessary, clean the system connector.
- If the fault still remains send the unit on according to the local company directives.

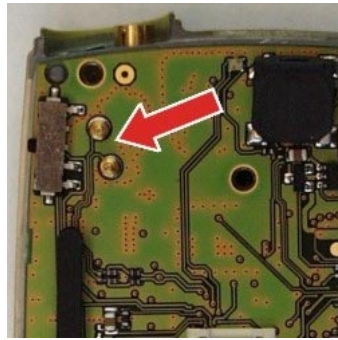


Fig. 1

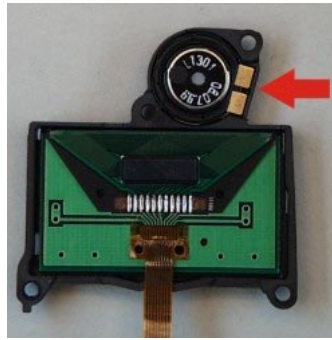


Fig. 2

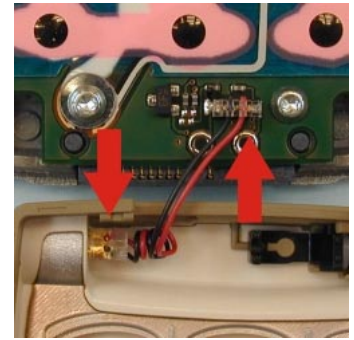


Fig. 3



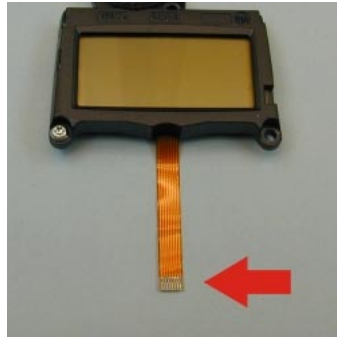
Fig. 4



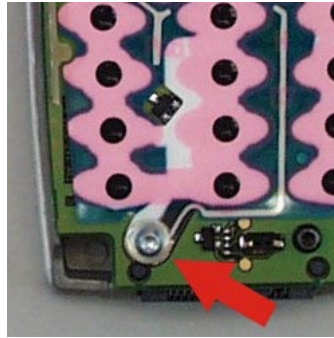
Fig. 5

## 5 Display/Illumination Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged telephone. Send the unit on according to the local company directives.
- Switch the telephone on and press some buttons. Check the display and the illumination. The illumination is lightened when the telephone starts in ~20 seconds if Settings/Display/Light/Auto is selected.  
Another way of testing the display and illumination is to use the service tests in the software, see chapter *Service functions in the software*.  
Chose: 3. Service tests / 1. Display. Different contrasts are shown. Check that no rows or pixels are missing.  
Chose: 3. Service tests / 2. LED/illumination. The illumination should be lightened.
- If all the segments (characters) are missing check that the flex film connector is free from dirt/ mechanical damage (*Fig. 1*). If necessary, clean it.  
If the fault still remains, replace the display according to the *Working Instructions - Mechanical*.  
When the display is replaced the contrast should be checked. If it is necessary, change the contrast with the service tests in the software, see chapter 12. *Service functions in the software*.  
Choose: 2. Service settings / 1. Contrast. Check the test pattern and change the contrast with the arrow keys or numbers on the keyboard. The settings are stored with the key "Yes".
- If some of the segments (characters) are missing or if the contrast is bad, replace the display according to the *Working Instructions - Mechanical*.  
When the display is replaced the contrast should be checked. If it is necessary, change the contrast with the service tests in the software, see chapter 12. *Service functions in the software*.  
Choose: 2. Service settings / 1. Contrast. Check the test pattern and change the contrast with the arrow keys or numbers on the keyboard. The settings are stored with the key "Yes".
- If the illumination for the keyboard is missing check if the illumination screw is loose or missing (*Fig. 2*). If necessary, tighten or replace screw.
- If the illumination for the display is missing check that the flex film connector is free from dirt/ mechanical damage (*Fig. 1*). If necessary, clean it.  
If the fault still remains, replace the display according to the *Working Instructions - Mechanical*.  
When the display is replaced the contrast should be checked. If it is necessary, change the contrast with the service tests in the software, see chapter 12. *Service functions in the software*.  
Choose: 2. Service settings / 1. Contrast. Check the test pattern and change the contrast with the arrow keys or numbers on the keyboard. The settings are stored with the key "Yes".
- If the fault still remains send the unit on according to the local company directives.



*Fig. 1*

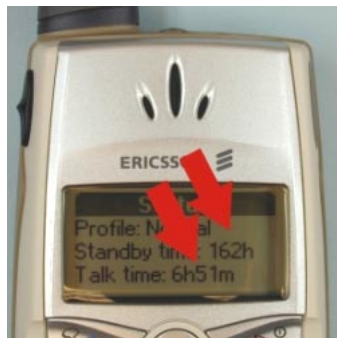


*Fig. 2*



## 6 Capacity/Charging Problems

- Make a general visual inspection for corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged telephone. Send the unit on according to the local company directives.
- Insert a SIM card and switch the phone on. Wait until the phone gets Serv. Check the standby time and talk time in the status menu using the volume button (*Fig. 1*).
- Connect a charger to the phone.
- When the phone starts to indicate charging (and shows the message "Ericsson optimized charging" for a while), let the battery be charged for at least another 15 minutes. Check the standby time and talk time in the status menu using the volume button (*Fig. 1*), again. If the standby and talk time has increased, there are no charging problems.
- If the telephone shows "Alien battery" instead of "Ericsson optimised charging", check that the battery contact surface is free from oxidation and corrosion (*Fig. 3*). If necessary, clean the contact surface or replace the battery.
- If the telephone does not indicate charging, check the system connector for dirt/mechanical damage (*Fig. 2*). If necessary, clean the system connector. Check that the battery contact surface is free from oxidation and corrosion (*Fig. 3*). If necessary, clean the contact surface or replace the battery. Check that the telephone battery connector is free from dirt/mechanical damage and that the battery connector pins are elastic (*Fig. 4*). If necessary, clean the telephone battery connector.
- If the fault still remains send the unit on according to the local company directives.



*Fig. 1*



*Fig. 2*



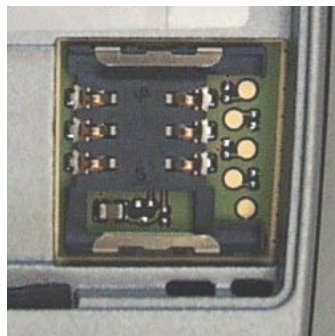
*Fig. 3*



*Fig. 4*

## 7 SIM Problems

- Test the telephone with a SIM card with known function.  
If the display shows “Insert correct card” or “Wrong card”, send the unit on according to the local company directives.  
If the display shows “Insert card” there is a SIM problem.
- Check the SIM connector for dust/dirt and mechanical damage (*Fig. 1*). If necessary, clean the connector.
- Make a general visual inspection for corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged telephone. Send the unit on according to the local company directives.
- If the fault still remains send the unit on according to the local company directives.



*Fig. 1*

## 8 Key/Flip Problems

- With the telephone on, press all of the buttons. Sound should be heard from the buzzer if Settings/Sounds&Alerts/Key Sound/Click (or Tone) is selected. Numbers shall appear in the display.  
Another way of testing the keyboard is to use the service tests in the software, see chapter *Service functions in the software*.  
Chose: 3. Service tests / 3. Keyboard. The pressed key is shown in the display and a click is heard (even if it not is selected phone settings).  
Check that the mechanical response, when the keys are pressed, feels normal. If necessary, replace the keyboard according to the *Working Instructions - Mechanical*.
- With the telephone on, press the volume button on the side in both directions (*Fig. 1*).  
“Status” should be shown in the display.  
Another way of testing the volume button is to use the service tests in the software, see chapter *Service functions in the software*.  
Chose: 3. Service tests / 3. Keyboard. SideUp or SideDown is shown in the display and a click is heard (even if it not is selected phone settings).  
Check that the mechanical response, when the keys are pressed, feels normal. If necessary replace the front/ volume button according to the *Working Instructions - Mechanical*.
- With the telephone on, open the flip. The illumination should be lightened if “Settings/Display/Light/Auto” is selected.  
Another way of testing the keyboard is to use the service tests in the software, see chapter *Service functions in the software*.  
Chose: 3. Service tests / 3. Keyboard. Flip opened or Flip closed is shown in the display when the flip is opened or closed.  
If it does not work, replace the flip.  
When the flip is replaced the flip reset should be done with the service tests in the software, see chapter 12. *Service functions in the software*.  
Choose: 2. Service settings / 2.Select flip /Reset 2.
- Make a general visual inspection for corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged telephone. Send the unit on according to the local company directives.
- If the fault still remains send the unit on according to the local company directives.

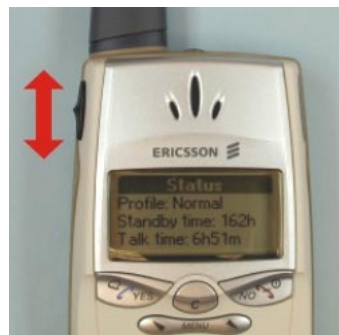


Fig. 1

## 9 Alert Problems

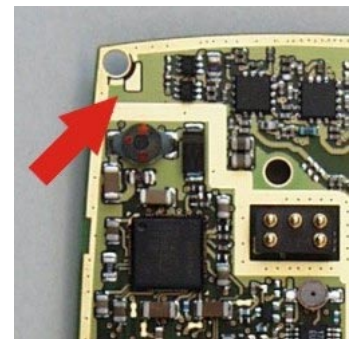
- Make a general visual inspection for corrosion or oxidation from liquid damage. No further action should be taken for a liquid damaged telephone. Send the unit on according to the local company directives.
- Insert an SIM-card and switch the telephone on. In Settings menu set Vibrator ON. Check that the telephone vibrates when the settings are stored.  
Another way of testing the vibrator is to use the service tests in the software, see chapter *Service functions in the software*.  
Chose: 3. Service tests / 5. Vibrator. When any key is pressed the vibrator works a couple of times.
- Check that the screw in the upper right corner is tightened (*Fig. 1*).
- Check that the vibrator connector and the PCB connector surface is free from dust/dirt (*Fig. 2 and 3*). If necessary, clean the connector or replace the vibrator according to the *Working Instructions - Mechanical*.
- If the buzzer signal is too low when maximum ring level is selected, replace the buzzer gasket according to the *Working Instructions - Mechanical*.  
Another way of testing the buzzer is to use the service tests in the software, see chapter *Service functions in the software*.  
Chose: 3. Service tests / 4. Buzzer. Ring volume can be selected from zero to six with the arrows or the keypad numbers.
- If the fault still remains send the unit on according to the local company directives.



*Fig. 1*



*Fig. 2*



*Fig. 3*

## 10 Data Communication Problems

- Make a general visual inspection for corrosion or oxidation due to liquid damage. No further action should be taken for a liquid damaged phone. Send the unit on according to the local company directives.
- If the customer complains about data communication problem with the Bluetooth send the unit on according to the local company directives.

**NOTE!** To be able to send and receive data calls via the built-in modem in the phone, you need the appropriate computer program and a SIM that supports data transmission.

- Sending data calls must be initiated from the appropriate computer program. To send data calls you need to connect the phone to a computer via an infrared link or a cable and then start the computer program.
- To receiving data calls the phone must be connected to the computer via an infrared link or a cable and then start the computer program and you must answer the call from within the computer program (if it is not answered automatically).  
If the SIM card does not support separate voice and data numbers, the phone does not recognise the type of incoming call. To make possible receiving data calls choose 3.Call info / 5.Next call / 1. Next incoming /Data.
- If no communication is accomplished with system connector, check it for dirt/mechanical damage (*Fig. 1*). If necessary clean the system connector.
- If the data communication is requested with IRDA the IR port must be activated with 5.Extras / 3.Infrared port / On or 10 minutes.  
If no communication is accomplished with IRDA, clean the IRDA window (*Fig. 2*) and try again. If there is still problems send the unit according to local company directive.
- If the fault still remains send the unit on according to the local company directives.



*Fig. 1*



*Fig. 2*

## 11 Software Problems

- If there are problems with the response of the keyboard commands and/ or spelling errors in the menu, that are not related to mechanical damage, upgrade the phone with the latest software.
- Checking the software revision can be done in the Service info, see chapter *Service functions in the software*.  
Chose: 1. Service info / 1. SW information. The Software revision is shown in the display.
- If the fault still remains, send the unit on according to the local company directives.

## 12 Service functions in the software

In the software of the phone there are built in service functions that allows testing some of the functions of the phone.

They are:

1. Service info
2. Service settings
3. Service tests
4. Text labels

To use the functions press the following combination on the keyboard:

➔\* \* \*

## 13 Revision History

Rev.	Date	Changes / Comments
A	2001-03-29	Firt draft
B	2001-08-30	Updating from Trouble shooting guide Mechanical to Repair Instruction Mechanical
C	2001-09-13	Updated reset in chapter audio