

# Test Instructions, Mechanical

Applicable for T39m & T39mc

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# 1 Abstract

This document describes the test procedure for the Mechanical repair package.

## 2 Test Procedure

To verify all components within the Mechanical repair package, all tests must be performed.

## 3 Test flow

If the mobile phone is passing these steps of testing without any failures, it is OK to return it to the customer.

If there are any failures, the phone must be repaired at the service or swapped/sent to higher level of service.

### 3.1 Software Update

Update to latest signalling software and run the service activities software from EMMA II.

**NOTE!** The Smart Card Reader needs to be installed before running the EMMA II software.

#### 3.1.1 Verify Software Version

To verify if the phone needs new software, you have to check the Software Version in the phone. Current Software Versions are checked through the following steps:

1. Start up the phone by pressing “No” for a second.
2. Press → \* ← ← \* ← \*.
3. Choose Service Info\SW Information and press “Yes”.
4. Check the file revisions on the display.

### **3.1.2 Update Software Version**

Update the software in the phone by doing the following:

1. Make sure the phone's battery is fully charged. Select correct flash cable and connect it to the phone.
2. Turn off the phone.
3. Connect to the EMMA II server through CSPN, choose application "GSM" and follow the instructions.

## **3.2 Service Settings**

Press the "No" key to start the phone.

The Service Settings menu is entered using the following key sequence: → \* ← ← \* ← \*, and select "Service Settings".

Note: It is not necessary to have a SIM card inserted.

### **3.2.1 Contrast**

To adjust the contrast:

1. Select "Contrast" from the "Service Settings" menu and press the "Yes" key.
2. Adjust contrast with the arrow keys or with the numeric keys "0" to "6".
3. Press the "Yes" key to save the chosen setting and return to the Service Settings menu.

## **3.3 Service Tests**

Press the "No" key to start the telephone.

The Service Tests menu is entered using the following key sequence: → \* ← ← \* ← \*, and select "Service Tests".

Note: It is not necessary to have a SIM card inserted.

### **3.3.1 Display Test**

To verify the display:

1. Select "Display" from the "Service Tests" menu and press the "Yes" key.
2. The display toggles between four levels of contrast and a test picture.  
Make sure that there are no dots missing and that the contrast is OK.

3. Press the “Yes” or “No” key to end the test and return to the Service Tests menu.

### **3.3.2 LED/Illumination Test**

To verify that the backlight and the Top LED are OK:

1. Select “LED/illumination” from the “Service Tests” menu and press the “Yes” key.
2. Check that the backlight toggles between on and off, and that the Top LED toggles between “green”, “red” and “off”.
3. Press the “Yes” or “No” key to end the test and return to the Service Tests menu.

### **3.3.3 Keyboard Test**

To verify that the keyboard, the active flip and the volume key are OK:

1. Select “Keyboard” from the “Service Tests” menu and press the “Yes” key.
2. Press any key on the keypad or slide the volume key, if it is ok a text feedback is displayed showing the information which key was pressed. All keys should be tested. Also make sure that closing the active flip generates a text feedback.
3. Press the "Yes" or "No" key, and wait for a few seconds to end the test and return to the Service Tests menu.

### **3.3.4 Buzzer Test**

To verify the buzzer function:

1. Select “Buzzer” from the “Service Tests” menu and press the “Yes” key.
2. Press one of the arrow keys to play a test melody with the selected volume.  
To select the corresponding volume; press one of the numeric keys, i.e. pressing “1” will play the melody with volume 1 and pressing “6” will play melody with volume 6.
3. Check that the buzzer sounds OK.
4. Press the “Yes” or “No” key to end the test and return to the Service Tests menu.

### **3.3.5 Vibrator Test**

To verify the vibrator function:

1. Select “Vibrator” from the “Service Tests” menu and press the “Yes” key.
2. Press any key and the vibrator will vibrate 3 times.
3. Press the “Yes” or “No” key to end the test and return to the Service Tests menu.

### **3.3.6 Earphone Test**

The earphone is tested using DTMF tones.

1. Select “Earphone” from the “Service Tests” menu and press the “Yes” key.
2. Press a numeric key and check that you get a tone in the earphone.
3. Press the “Yes” or “No” key to end the test and return to the Service Tests menu.

### **3.3.7 Microphone Test**

This test is intended to test the microphone. Therefore, the earphone should be tested before this test is entered.

1. Select “Microphone” from the “Service Tests” menu and press the “Yes” key.
2. Check that every sound that is going into the microphone can be instantly heard in the earphone.
3. Press the “Yes” or “No” key to end the test and return to the Service Tests menu.

### **3.3.8 Real Time Clock Test**

This test will check if the built in real time clock works.

1. Select “Real time clock” from the “Service Tests” menu and press the “Yes” key.  
After approximately 5 seconds you will get information whether the clock is ok or not.
2. Press the “Yes” or “No” key to end the test and return to the Service Tests menu.

## 3.4 Manual Tests

### 3.4.1 On The Air Call To Mobile

To verify the function of; active flip, earphone, microphone, buzzer, volumes button and radio:

1. Set up a call from landline phone (PSTN) to the mobile phone.
2. Answer the phone call by opening the active flip.
3. Check that the buzzer is working and that the backlight switches on OK.
4. Also check that the quality of sound both in the mobile phone and the land connected phone (PSTN) are OK.
5. Slide the volume key up and down and check that the volume in the phone is altered.
6. End the call by closing the flip.
7. Check that the ending procedure is OK and that the speech time is displayed.

### 3.4.2 IR Test

To verify that the Infra-red communication is working:

1. Insert a SIM card, connect a battery and press the "No" key to start the unit.
2. Activate the IR function by entering Extras/Infrared port and press the "Yes" key. Set the Infrared port to "10 minutes".
3. Set up an infrared link between an IR test device and the phone. If a link can be established, the IR module is considered fully functioning.

## 4 Revision History

| Rev. | Date       | Changes / Comments |
|------|------------|--------------------|
| A    | 2001-06-05 | Created            |