

# Equipment List, Mechanical

Applicable for R306

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## 1 General

This document describes the minimum required equipment for the Mechanical Repair Process of the R300 mobile phones.

Equipment listed without a part number is not orderable from Sony Ericsson and must be bought locally.

## 2 Column Definitions

The matrices in the end of the equipment tables describe where the actual equipment is needed (marked with an X) or may be needed/optional (marked with a Z).

Flash upgrade:      Equipment for downloading software to the unit, both signaling and test-program.

Manual test:        Equipment necessary to perform a manual test.

Repair:              Equipment necessary for replacing components.


The columns that assist in specifying and/or clarifying the equipment needed are considered description type columns.




- Description      The name of the equipment.
- Part Number    The Sony Ericsson part number to use when ordering from Sony Ericsson.
- Comments      Additional information that helps to specify or clarify the equipment.




### 3 Repair Equipment, Mechanical

Some of the required equipment will be provided by Sony Ericsson and some equipment has to be sourced locally. This chapter will separate these equipment.

#### 3.1 Sony Ericsson Provided Repair Equipment

Description	Part Number	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Adjustable Manual Torque Screwdriver	NTZ112459	<p>Any torque driver may be used as long as the driver meets the following requirements:</p> <ul style="list-style-type: none"> <li>The driver must be capable of applying the specified torque value +/- 6%</li> <li>The driver must be set so that the maximum torque speed of the driver does not exceed 670 rpm</li> </ul> <p><b>NOTE - The torque value used on this product is 11 N·cm</b></p>				X	X

Description	Part Number	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Torx Bits T5	NTZ112478					X	X
Front Opening Tool	NTZ112302/2						Z
Plectrum	NTZ112590	Also known as Guitar Pick					X

Description	Part Number	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Zebra Printer Ribbon	LZK102734/1	This is the ribbon that should be used in the Zebra printer when generating labels for this product.					X
Camera Removal Tool	LSY90155						X
Dummy Battery BST-38	1208-5627	This item, also known as a "Battery Eliminator", can be used in the place of the battery when it is used in conjunction with the power supply and the power cables.		Z	Z		

Description	Part Number	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Flex Film Assembly Tool	NTZ112521	This tool is used to remove Flex film during the repair process		Z	Z		

## 3.2 Equipment Provided by Other Suppliers

This is the list of equipment provided by other suppliers than Sony Ericsson

Description	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Battery	Model # - BST-38  <ul style="list-style-type: none"> <li>Purchase from local vendor</li> </ul>		X	X		
Battery Charger - that connects to system connector	Model #: CST-60 or equivalent  <ul style="list-style-type: none"> <li>Use a charger that works with your area's electrical system.</li> <li>Purchase from local vendor</li> </ul>		X	X		
Brush	This device must be electrostatic-dissipative					X
Dentist Hook	Also known as Dental Tool					X
Pair of tweezers						X



Description	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Isopropyl Alcohol – 99% concentration by volume	<p>Only isopropyl alcohol that is 99% concentration by volume should be used.</p> <ul style="list-style-type: none"> <li>Other names used for this material include rubbing alcohol, IPA, 2-Propanol, and Isopropanol. Products named using any of the names mentioned are acceptable as long as they meet the 99% concentration by volume requirement.</li> <li>There is no specific supplier that this material needs to be obtained from, but a list of web sites that sell products that meet the 99% by volume requirement are provided below for convenience.</li> </ul> <p>* <a href="http://www.inj-industries.com">http://www.inj-industries.com</a></p> <p>* <a href="http://www.first-aid-product.com/industrial/isopropyl-alcohol.htm">http://www.first-aid-product.com/industrial/isopropyl-alcohol.htm</a></p> <p>* <a href="http://www.sigmaaldrich.com/">http://www.sigmaaldrich.com/</a></p>					X
Gloves	This item must be electrostatic-dissipative				X	X



Description	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Finger Cots	This item must be electrostatic-dissipative				X	X
Lint-free wipes						X
Barcode Scanner	The device must be able to decode code 128 and 128C					X
Hands-Free Cable - that connects to system connector	Model #: HPM-70 or equivalent <ul style="list-style-type: none"><li>Purchase from local vendor</li></ul>			X		
Bluetooth Device	The Bluetooth functionality is tested using a separate Bluetooth device. This may be a known good mobile phone with Bluetooth enabled or a PC with a Bluetooth card installed.			X		

Description	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Computer	<p>Computer requirements at this service level:</p> <ul style="list-style-type: none"> <li>• An IBM compatible 500 MHz or higher processor</li> <li>• A minimum of 256 MB RAM or greater, depending on what is specified by the operating system's manufacturer</li> <li>• Two extra USB ports – one for the Smartcard reader and one for flashing equipment</li> <li>• A COM port for the Zebra Printer</li> <li>• A connection for barcode scanner</li> <li>• Must use one of the following operating systems – Windows 98SE, 2000, and XP</li> </ul>		X			X

Description	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Zebra Printer  (Must be 300 dpi)	<div data-bbox="548 550 1339 778"> <p><b>Current Model Options:</b></p> <p><b>110XIIIPlus</b> or <b>Z4MPlus</b></p> <p>These models use a DB9 Male-DB9 Female Null Modem Cable to connect to the computer (POS 42).</p> </div> <div data-bbox="548 786 1339 1297"> <p><b>Discontinued Model Options:</b></p> <p><b><i>NOTE - The following models may also be used, but Zebra has discontinued selling them.</i></b></p> <ul style="list-style-type: none"> <li>• 90xi Series</li> <li>• Z4M</li> <li>• Z4000 deluxe</li> </ul> <p>These models use a DB25 Male-DB9 Female Null Modem Cable to connect to the computer (POS 42).</p> </div>					Z

			Flash Upgrade	Manual Test	Trouble Shoot	Repair
Description	Comments	Picture				
Null Modem Cable	<p>This cable connects the Zebra printer to the computer. Two companies that carry this type of cable are CDW (<a href="http://www.cdw.com">www.cdw.com</a>) and QVS (<a href="http://www.qvs.com">www.qvs.com</a>).</p> <p>Part numbers for the <b>DB9 Male-DB9 Female version:</b></p> <p><b>CDW - 361875</b> (6 Feet Long)</p>					Z
	<p>Part numbers for the <b>DB25 Male-DB9 Female version:</b></p> <p><b>CDW – 375939</b> (6 Feet Long)</p> <p><b>QVS – CC314-06</b> (6 Feet Long)</p> <p><b>QVS – CC314-10</b> (10 Feet Long)</p>					
Hot Air Device	This kind of device may be needed to assist in removing the label from this product.					Z

Description	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Ionized Air Gun or Blower	<b>Optional, but recommended –</b>  Ionized air neutralizes the static that tends to cause particles to cling to a surface, therefore allowing dust and fine particles to be easily blown off unlike most standard air blowing devices.					Z
A Functional SIM (GSM)	A functional SIM (GSM) is needed for performing an <b>“On the Air” GSM test.</b>  A functional SIM (GSM) can be used instead of the inactive SIM or Test SIM to evaluate phone functionalities such as the Portable Hands-free radio			X		

Description	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Power Supply	<p><b><i>NOTE: Only necessary if using a dummy battery</i></b></p> <p>Requirements:</p> <ul style="list-style-type: none"> <li>• The output voltage should, at minimum, be variable from 0 to 5 volts</li> <li>• The output current should, at minimum, be adjustable from 0 to 2 amps</li> <li>• Optional, but recommended - A digital display capable of showing the current value</li> </ul>		Z	Z		

Description	Comments	Picture	Flash Upgrade	Manual Test	Trouble Shoot	Repair
Power cables –  one red and one black	<p><b>NOTE: Only necessary if using a battery eliminator.</b></p> <p>Cable Requirements:</p> <ul style="list-style-type: none"> <li>• Minimum cross sectional area of conductor = 1.2mm<sup>2</sup></li> <li>• Maximum length = 1.5 m</li> <li>• One end of cable must have a male banana-type connector to be able to interface with the battery eliminator.</li> <li>• The other end of the cable needs whatever connection is necessary to connect to the power supply that you have.</li> </ul>		Z	Z		

The matrix describes where the actual equipment is needed, marked with an X, or may be needed/option, marked with a Z.

## 4 Revision History

Rev.	Date	Changes / Comments
1	2008-08-15	1 <sup>st</sup> release
2	2008-10-15	Updated description for Dummy Battery. Minor changes to content. Added Flex Film Assembly Tool