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BMW 3-Series (92-98) & Z3 (96-98) Haynes Online Manual

3 Battery - testing and charging

Note:

The following is intended as a guide only. Always refer to the manufacturer's recommendations (often printed on a label attached to the battery) before charging a battery.

1 All models are fitted with a maintenance-free battery in production, which should require no maintenance under normal operating conditions.

2 If the condition of the battery is suspect, remove the battery (see [Section 4](#)), and check that the electrolyte level in each cell is up to the "MAX" mark on the outside of the battery case (approximately 3/16-inch above the tops of the plates in the cells). If necessary, the electrolyte level can be topped up by removing the cell plugs from the top of the battery and adding distilled water (not acid).

3 An approximate check on battery condition can be made by checking the specific gravity of the electrolyte, using the following as a guide.

4 Use a hydrometer to make the check and compare the results with the following table. Note that the specific gravity readings assume an electrolyte temperature of 60°F; for every 48°F below 60°F subtract 0.007. For every 48°F above 60°F add 0.007.

5 If the battery condition is suspect, first check the specific gravity of electrolyte in each cell. A variation of 0.040 or more between any cells indicates loss of electrolyte or deterioration of the internal plates.

6 If the specific gravity variation is 0.040 or more, the battery should be renewed. If the cell variation is satisfactory but the battery is discharged, it should be charged in accordance with the manufacturer's instructions.

7 If testing the battery using a voltmeter, connect the voltmeter across the battery. A fully-charged battery should give a reading of 12.5 volts or higher. The test is only accurate if the battery has not been subjected to any kind of charge for the previous six hours. If this is not the case, switch on the headlights for 30 seconds, then wait four to five minutes before testing the battery after switching off the headlights. All other electrical circuits must be switched off, so check that the doors and tailgate are fully shut when making the test.

8 Generally speaking, if the voltage reading is less than 12.2 volts, then the battery is discharged, while a reading of 12.2 to 12.4 volts indicates a partially discharged condition.

9 If the battery is to be charged, remove it from the vehicle ([Section 4](#)) and charge it in accordance with the manufacturer's instructions.