

**Haynes**
shows you how

BMW 3-Series and Z4 (99-05) Includes 2006 325ci/330ci Coupe and Convertible models Haynes Online Manual.

3 Battery - check and replacement

Warning:

Always disconnect the cable from the negative battery terminal **FIRST** and hook it up **LAST** or the battery may be shorted by the tool being used to loosen the cable clamps.

Warning:

Some Z4 models are equipped with a dual battery system. The negative battery terminal on both batteries must be disconnected to properly deactivate the vehicle's battery power.

Check

Note:

The battery's surface charge must be removed before accurate voltage measurements can be made. Turn on the high beams for ten seconds, then turn them off and let the vehicle stand for two minutes.

1 Remove the battery cover (see [Section 3](#)). Disconnect the negative battery cable, then the positive cable from the battery(ies) (see [Section 1](#)).

2 Check the battery state of charge. Visually inspect the indicator eye on the top of the battery; if the indicator eye is black in color, charge the battery as described in [Chapter 1](#) . If the indicator eye is yellow in color, the battery is defective. Replace the battery. Next perform an open voltage circuit test using a digital voltmeter (see illustration) .Touch the negative probe of the voltmeter to the negative terminal of the battery and the positive probe to the positive terminal of the battery. The battery voltage should be 11.5 to 12.5 volts or slightly above. If the voltage is less than specified, charge the battery before proceeding to the next test. Do not proceed with the battery load test unless the battery charge is correct.

3.2 To test the open circuit voltage of the battery, touch the black probe of the voltmeter to the negative terminal and the red probe to the positive terminal of the battery; a fully charged battery should be about 12.6 volts



3 Perform a battery load test. An accurate check of the battery condition can only be performed with a load tester (available at most auto parts stores). This test evaluates the ability of the battery to operate the starter and other accessories during periods of high current draw. Hook up a special load tester to the battery terminals (see illustration) . Maintain the load on the battery for 15 seconds or less and observe that the battery voltage does not drop below 9.6 volts. If the battery condition is weak or defective, the tool will indicate this condition immediately. **Note:** *Cold temperatures will cause the voltage readings to drop slightly. Follow the chart given in the tool manufacturer's instructions to compensate for cold climates. Minimum load voltage for freezing temperatures (32-degrees F) should be approximately 9.1 volts.*

3.3 Some battery load testers (like this one) are equipped with an ammeter that allows you to vary the amount of the load on the battery (a less expensive tester only has a load switch that puts the battery under a fixed load)



Replacement

Note:

The 3 series convertible models are equipped with a battery designed to withstand extreme vehicle vibration. Replace the battery in convertibles only with this specific vibration-resistant battery. Consult with a dealer parts department or other qualified auto parts store.

4 Remove the floor and right-side trim panels in the trunk. **Warning:** *Some Z4 models are equipped with a dual battery system. The negative battery terminal on both batteries must be disconnected to properly deactivate the vehicle's battery power.*

5 Remove the battery cover (see illustration) .

3.5 Unscrew the fasteners and remove the tray for access to the battery



6 Disconnect the cable(s) from the negative battery terminal(s) first, then (*and only then!*) disconnect the cable(s) from the positive battery terminal(s) (see illustration) .

3.6 Battery mounting details (3 series BMW shown - others similar)

1 Negative cable clamp (always disconnect this one first and hook it up last)

2 Battery Safety Terminal (BST) (cable clamp under cover)

3 Positive battery cable to main harness fuse box

4 Hold-down cable clamp bolt/nut



7 Remove the battery hold-down clamp nuts (see illustration 3.6) and remove the hold-down clamp.

8 Lift out the battery. Be careful - it's heavy. **Note:** *Battery straps and handlers are available at most auto parts stores for a reasonable price. They make it easier to remove and carry the battery.*

9 While the battery is out, inspect the area under the battery for corrosion. If corrosion is present, clean the deposits from the metal with a solution of warm water and baking soda to prevent further corrosion. **Note:** *3 series convertible models are equipped with shock-proof mounts to prevent excessive vibration to the battery.*

10 If you are replacing the battery, make sure you get one that's identical, with the same dimensions, amperage rating, cold cranking rating, etc.

11 Installation is the reverse of removal. Be sure to connect the positive cable(s) first and the negative cable(s)

last.

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