

2012 - Mazda6 - Engine

BATTERY INSPECTION [MZR 2.5]

WARNING:

- 1. Since battery acid is toxic, be careful when handling the battery.
- 2. Since battery acid is highly corrosive, be careful not to allow it to contact clothing or the vehicle.
- 3. In case battery acid contacts skin, eyes, or clothing, flush it immediately with running water. If the acid gets in the eyes, flush with water for more than 15 min and get prompt medical attention.

Using GR8-1291:

(See [GR8-1291 INSTANT TRAINING MODULE \(VIDEO\)](#) .)

- 1. Remove the battery filler caps and check the water level. If necessary, add water to the appropriate level. Reinstall the caps.
- 2. Attach the small red clamp to the positive battery terminal and the small black clamp to the negative terminal.
- 3. Select the Battery Test icon in the Main Menu, then press the NEXT key.
- 4. Test the battery by following the on-screen instructions to enter the appropriate information. Refer to the Mazda GR8-1291 Instruction Manual for more information.
- 5. After the test, the Control Module displays a battery decision with an analysis in a series of screens. The analysis includes the battery state of health (SOH) and state of charge (SOC). Before the Battery Test results are displayed, use the keypad on the Control Module to enter the last 5 digits of the vehicle's VIN and press NEXT to continue.
- 6. The Mazda GR8-1291 will print out the test results and display one of the eight possible results listed below. Review the results and follow the Action Step for the displayed result.

Battery Tester Display	Action Step
GOOD BATTERY	Return the battery to service.
GOOD - RECHARGE	Fully charge the battery and return it to service.

CHARGE & RETEST	Fully charge the battery and retest. Failure to fully charge the battery before retesting may cause false readings. If CHARGE & RETEST appears again after you fully charge the battery, replace the battery.
REPLACE BATTERY	A REPLACE BATTERY result may also mean a poor connection between the battery and the vehicle. If you tested the battery using the System test, disconnect the battery cables and retest using the Battery Test before replacing it.
BAD CELL - REPLACE	Replace the battery. WARNING: Do not charge the battery. Charging a battery with one or more bad cells could cause an explosion and serious harm to the user.
SIDE POST TEST	Test data was inconclusive using the side post. Retest using side post adapters.
JUMP START POST	Data was inconclusive using the jump start post. Retest at the battery terminals.
24 VOLT BATTERY	24-volt battery detected. You are attempting to test both in-vehicle batteries in a 24-volt system. Disconnect the batteries and test them individually.

Using Electrolyte Specific Gravity Method:

- Remove the battery filler caps and check the water level.
 - If necessary, add water to the appropriate level.
- Measure the electrolyte specific gravity using a hydrometer.
 - If it is less than the specification, recharge the battery. (See **BATTERY RECHARGING [MZR 2.5]**.)

Battery electrolyte specific gravity [20 °C { 68 °F}]

 - 1.22—1.29

Parasitic Draw Inspection

(See **GR8-1291 PARASITIC DRAW TESTING INSTANT TRAINING (VIDEO)**.)

- Verify that the ignition is switched off (key has been removed) and all doors, the hood and the trunk/liftgate are closed.
- If using a series-type ammeter, continue to Step 3. If using the GR8-1291 Battery Maintenance Station with the inductive amp clamp, skip to Step 5.

3. Disconnect the negative battery cable. (See [BATTERY REMOVAL/ INSTALLATION \[MZR 2.5\]](#).)

CAUTION:

- Operating electrical loads while the parasitic draw is being measured can damage a series-type ammeter.
4. Connect the meter between the negative battery terminal and negative battery cable. Proceed to Step 9.
 5. Select the DMM icon from the main menu.
 6. Select the DC Ammeter.
 7. Select the 70 AMP MAX range. (measuring milliamps)
 8. Connect the amp clamp to the negative battery cable.
 9. Monitor the current draw.

NOTE:

- If the battery is not left undisturbed for **10 min**, the tester will indicate a high value (**approx. 200 mA**).
 - If the ignition or any electrical accessory is operated within **approx. 10 min** after the tester is connected, the battery must be left undisturbed for **approx. 10 min** from that point.
 - For vehicles with the immobilizer system, the system periodically shifts synchronization of the security light flashing. Therefore, **65 mA (0.1 s)** current draw is supplied when the security light is illuminated, and **50 mA (2 s)** current draw is supplied when the security light is not illuminated. In addition, the measuring instrument, which shows the average value, indicates around **55 mA**.
10. Leave the vehicle electrical system undisturbed for **10 min**, and then measure the parasitic draw.
 - If not within specification, measure the parasitic draw while removing the fuses one by one from the inside of the main fuse block and the inside of the fuse block.
 - Inspect and repair wiring harnesses and connectors of the fuse where the current draw has decreased.

Parasitic draw (When the ignition is off (key is removed), all doors and the hood are closed.)

 - 50—65 mA

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