

< - Back

Forward ->

Document ID# 387366
1999 GMC Truck Jimmy - 4WD

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Battery Electrical Drain/Parasitic Load Test

Tools Required

- [J 36169-A](#) Fused Jumper Wire
- [J 38758](#) Parasitic Draw Test Switch
- [J 39200](#) Digital Multimeter
- [Scan Tool](#) or Equivalent

Caution

Batteries produce explosive gases. Batteries contain corrosive acid. Batteries supply levels of electrical current high enough to cause burns. Therefore, in order to reduce the risk of personal injury while working near a battery, observe the following guidelines:

- **Always shield your eyes.**
- **Avoid leaning over the battery whenever possible.**
- **Do not expose the battery to open flames or sparks.**
- **Do not allow battery acid to contact the eyes or the skin.**
 - **Flush any contacted areas with water immediately and thoroughly.**
 - **Get medical help.**

Caution

Before servicing any electrical component, the ignition key must be in the OFF or LOCK position and all electrical loads must be OFF, unless instructed otherwise in these procedures. If a tool or equipment could easily come in contact with a live exposed electrical terminal, also disconnect the negative battery cable. Failure to follow these precautions may cause personal injury and/or damage to the vehicle or its components.

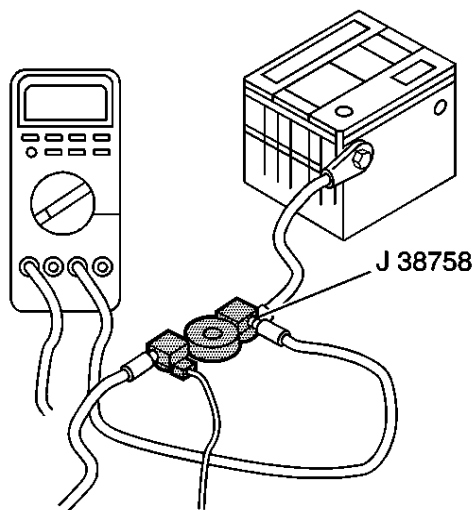
Notice

Do not turn the parasitic draw test switch to the OFF position with the engine running. Damage will occur to the vehicle's electrical system.

Notice

The test switch must be in the ON position when removing the fuses in order to maintain continuity in the electrical system. This avoids damaging the digital multimeter due to accidental overloading, such as a door being opened to change a fuse.

1. Disconnect the battery negative cable.



2. Install the male end of the [J 38758](#) to the negative battery terminal.
3. Turn OFF the test switch.
4. Install the negative battery cable to the female end of the test switch.
5. Install the [Scan Tool](#) (or equivalent) or wait for 20 minutes.
6. Turn ON the test switch.
7. Road test the vehicle while activating all accessories, including the radio and the air conditioning.
8. Lower the door glass, then exit the vehicle. Do not move the door handle after closing the door.
9. Open the hood.

Important

The power down timer will reset to 20 minutes if any wake up inputs are received by a Class 2 device (after the scan tool has put all Class 2 devices to sleep).

10. Put all of the Class 2 devices into the sleep mode.
11. Turn off the ignition switch. Remove the key.

Important

From this point on, electrical continuity must be maintained in the ground circuit of the battery through the Test Switch [J 38758](#) in the on position or through the ammeter [J 39200](#).

12. Components such as PCM, VCM, Automatic Air Conditioning, and the Body Control Module have timers that draw several amps of current while they cycle down. This can give a false parasitic drain reading. Wait 20 minutes for these components to power down before continuing this test (or use the scan tool to put all Class 2 devices to sleep).
13. Connect a jumper wire with a 10 A fuse [J 36169-A](#) to the terminals of the test switch.
14. Turn the test switch to the off position.
15. Wait ten seconds.
If the fuse does not blow, the current is less than 10 A. The ammeter can be used safely.
16. Before the fused jumper wire is removed, turn the test switch to the on position.
17. You can detect a high current drain using the following procedure:

Important

If an ammeter other than the [J 39200](#) is used, ensure that the vehicle does not have a high current drain that would damage the ammeter when connected to the circuit.

1. Set the ammeter [J 39200](#) to the 10 A scale.
2. Connect the ammeter to the test switch terminals.
3. Turn off the test switch. This allows the current to flow through the ammeter.
4. Wait one minute, then check the current reading.
 - A. When there is a current reading of 2 A or less, turn ON the test switch, this maintains continuity in the electrical system.
 - B. Then, switch the meter down to the 2 A scale, for a more accurate reading, when the test switch is reopened.
5. Open the test switch.
6. Take the reading in milliamps.
7. Note the battery reserve capacity. Refer to [Battery Usage](#) .
 - A. Divide this number by 4. Example: $90/4 = 22.5$
 - B. Compare this to the ammeter reading.
 - C. The current drain in milliamps should not exceed this number.
 - D. Example: if a battery has a reserve capacity of 90 minutes, the current drain should not exceed 22 milliamps.
8. When the current draw is too high, remove the electrical system fuses one at a time until the draw returns to a value less than or equal to specifications.
 - A. Start with the fuses that are hot all the time.
 - B. To remove the fuse, you must first open the door, which causes a high enough current flow to damage the ammeter.
 - C. Protect the ammeter, without disturbing the electrical continuity, by turning on the test tool before opening the door.
 - D. Remove the courtesy lamp fuse.
 - E. Note the ammeter reading.
 - F. If the parasitic load is still excessive, start removing the remaining fuses one at a time.
 - G. Keep the courtesy lamp fuse out during diagnosis, so the door can remain open.
 - H. Perform steps 11 through 13 each time a fuse is removed.
9. Removing the PCM or VCM fuse should cause a drop of less than 10 milliamps.

A drop greater than 10 milliamps indicates a possible short to ground.
10. Check the orange wires at the PCM or VCM along with the components connected to the orange wires. No drop in the milliamperere reading indicates the PCM or VCM is not drawing current.
11. Repeat the parasitic current drain test procedure after any repair has been completed.
12. When the cause of the excessive current draw has been located and repaired, remove the ammeter and the parasitic draw test switch.

Notice

Use the correct fastener in the correct location. Replacement fasteners must be the correct part number for that application. Fasteners requiring replacement or fasteners requiring the use of thread locking compound or sealant are identified in the service procedure. Do not use paints, lubricants, or corrosion inhibitors on fasteners or fastener joint surfaces unless specified. These coatings affect fastener torque and joint clamping force and may damage the fastener. Use the correct tightening sequence and specifications when installing fasteners in order to avoid damage to parts and systems.

13. Connect the battery negative cable to the negative battery terminal.

Tighten

Tighten the battery negative cable bolt to 15 N·m (11 lb ft).

[<- Back](#)[Forward ->](#)

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[Print](#)