

**Low 12V Battery May Cause Misdiagnosed Symptoms**

Vehicle Type: **All vehicles with an AGM battery**

Model Year: **2010 - 2017**

Customer Concern: Certain vehicle systems have unwanted, unpredictable behavior.

Technical Concern: The symptoms are difficult to diagnose. There may be multiple symptoms intermittently affecting multiple systems.

Though this is not an exhaustive list, some common failure modes are:

- Start/stop issues
- Power windows not fully returning to the parked position after automatic preopening
- PCM audio stopping during a start/stop cycle

Ultimately, the technician determines that low 12-volt battery voltage is the underlying root cause of the unwanted behavior. The technician corrects the battery's low voltage. Consequently, the unwanted behavior ends.

Service Information: Please keep in mind the effect power management has on all vehicle systems. When in a low voltage condition, a vehicle system may purposefully disable or limit certain features. This does not necessarily indicate a defect in that system; but it may indicate that the battery needs correction (possibly charging or replacement).

To determine if low battery voltage is a possible cause of the unwanted behavior, consider the following:

- 1) **The open-circuit battery voltage.** You may determine this value by fully charging the battery and then disconnecting the ground strap and letting the battery rest without any load or charging for a considerable time (ideally at least two hours) before measuring the battery's voltage.
  - The measured open-circuit battery voltage should be 12.5 V or higher.
- 2) **The battery's health.** View Gateway actual values using the PIWIS tester or in the VAL and note the following values:
  - For Battery Charge State, the value should be greater than 75%.
  - For Battery Aging State, the value should be greater than 50%.

If any of these values are low, take corrective action for the battery. You should test the battery and charge or replace it as necessary.

As always, be sure to document the repair completely in PQIS.

Dealership	Service Manager _____	Shop Foreman _____	Service Technician _____	_____	_____	_____	_____
Distribution	Asst. Manager _____	Warranty Admin. _____	Service Technician _____	_____	_____	_____	_____
Routing							

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