

Technical Service Bulletin



27 Low battery charge: excess current draw location

27 13 19 2029010/2 October 7, 2013. Supersedes Technical Service Bulletin Group 27 number 12-13 dated March 22, 2012 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
All	2005 - 2015	All	Not Applicable

Condition

REVISION HISTORY		
Revision	Date	Purpose
2	-	Revised header data (Added model years)
1	3/22/2012	Initial publication

The customer may report a discharged battery when trying to start the vehicle. The condition results in a no start.

Technical Background

Not applicable.

Production Solution

Not applicable.

Service

1. If the vehicle is equipped with Battery Energy Manager (J644) or Battery Diagnostic Manager (J367), please perform TSB 2025360: *27 Low Battery Charge: Diagnosis Tips and TAC Instructions*, before continuing with this bulletin.
2. Verify the battery is good, using one of the below TSBs, depending on vehicle equipment:
 - TSB 2023282: 27 Battery testing and charging – vehicles with BDM (J367)
 - TSB 2023330: 27 Battery testing and charging – vehicles with BEM (J644)
 - TSB 2023266: 27 Battery testing and charging – vehicles without BDM or BEM
3. If the battery is defective, replace according to the instructions in the applicable TSB.

4. Determine if a draw currently exists on the vehicle by using an ammeter with an inductive pickup (such as the 5051B) or similar tool (such as a Fluke Meter) to check battery draw using the steps below:
 - a. Start vehicle and operate all consumers on vehicle (radio, lights, heated seats, door locks, sunroof, power liftgate, etc.)
 - b. Shut off vehicle, open left and right front doors, hood, and rear lid. Manually latch all opened items to gain access to fuse boxes.
 - c. Zero the ammeter and attached the amp clamp to the negative battery cable. Lock the car using the remote and observe the ammeter, which should spike briefly as the doors are closed. This will confirm the ammeter is operating correctly. The vehicle may also provide a confirmation beep to confirm all doors are latched, provided the option is enabled in the MMI (if applicable).
 - d. After 2 hours, the ammeter should read under 0.040A (40mA).
 - e. If the reading is above 40mA, attempt to locate the source of the excessive draw by proceeding to step 5.
 - f. If vehicle does not exceed maximum sleep state current draw, perform a long term (overnight) measurement test. Record the long term measurement using MIN/MAX setting of scan tool. If the long term measurement still does not exceed the maximum sleep state current draw, proceed to step 10.



Tip: Periodic spikes in current draw are normal.

5. To determine the potential source if the current draw, measure the voltage drop across the vehicle fuses using the VAS scan tool multimeter, Fluke multimeter, or equivalent.
6. Using the “mV” scale on the multimeter, measure the voltage drop across fuses by placing the positive lead on one side of the fuse, and the negative lead on the other (Figure 1). Take absolute value of reading of voltage drop (ignore negative signs) and then reference voltage drop chart to determine how much current the circuit is currently consuming. See *Identifying Current Consumption with Matrix* attachment.



Tip: Due to the operation of CAN Bus communications, it is no longer possible to simply pull fuses to determine the location of a draw, as this action can result in a bus wakeup and invalidate the test.



Figure 1. Measuring voltage drop across a fuse.

7. Continue this process until the fuse with an inappropriate amount of draw (over 40mA) is discovered.
8. Once fused circuit is identified, use service repair and wiring diagram information in Elsa to identify all components on that circuit. Disconnect the components from the circuit one-by-one and allow the sleep current to stabilize after each disconnection.
9. Measure the vehicle current consumption and voltage drop across the fuse again. If the values are now within the normal range, the component causing excess draw has been identified. If the values are still too high, repeat steps 5-7 again until the component is identified.
10. If it is necessary to contact TAC for additional guidance, please prepare the following information before opening a contact. If TAC assistance is not necessary, proceed to the next step.



Technical Service Bulletin

- How many times has the vehicle been in for a battery concern?
 - When did the vehicle come in?
 - Was it towed in or jumped?
 - What day did the customer have the concern?
 - Is/was the date/time in cluster correct? If not, what was/is the date/time displayed?
 - When did you start working on the car?
 - What is the battery serial number?
 - Are there any other electrical concerns on the R.O.?
 - Attach a full GFF Log with complete battery history data and Keep Awake readout (For vehicles equipped with J367).
 - Attach pictures of the amplifier for Audi Q7, A4 Avant, or A6 Avant vehicles if the amplifier shows no obvious signs of water damage.
11. Before returning the vehicle to the customer, test the battery state of charge and verify that it is above 85%. If the SOC is below this value, charge the battery until at least 85% is achieved.

Warranty

This TSB is informational only and not applicable to any Audi warranty.

Additional Information

More information on this system can be found in the following resources:

- SSP: 972703, Audi Vehicle Batteries and Energy Management Systems

The following Technical Service Bulletin(s) may be necessary to complete this procedure:

- TSB 2025360, *27 Low Battery Charge: Diagnosis Tips and TAC Instructions*
- TSB 2023282, *27 Battery testing and charging – vehicles with BDM (J367)*
- TSB 2023330, *27 Battery testing and charging – vehicles with BEM (J644)*
- TSB 2023266: *27 Battery testing and charging – vehicles without BDM or BEM*
- TSB 2014127, *27 Battery dead or low after returning to the vehicle*
- TSB 2019143, *27 Battery discharged on some vehicles with Advanced Key*

All parts and service references provided in this TSB (2029010) are subject to change and/or removal. Always check with your Parts Department and service manuals for the latest information.