Technical Service Bulletin

27 No start due to low voltage; GFF battery test is OK
01 24 36 2045081/9 September 18, 2024. Supersedes Technical Service Bulletin Group 27 number 23-47 dated February 13, 2023 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
Q3	2015 – 2018	All	Not Applicable

Condition

REVISION HISTORY		
Revision	**Date**	**Purpose**
9	-	Revised TSB type (Informational Only) Revised *Warranty* (Removed warranty table)
8	02/13/2023	Revised *Warranty* (Updated Claim Types)
7	10/03/2018	Revised *Warranty* (Updated Labor Operations)

Customer states:

- There is an intermittent no start condition.

Workshop findings:

- Testing the battery through the Guided Fault Finding battery test returns an OK result.
- Battery Manager shows under voltage: no start condition.

Technical Background 1

Improper diagnosis of no start conditions has resulted in the replacement of good batteries.

Production Solution

Not applicable.

Service

1. Install an approved battery maintainer/charger on the jump posts (Figure 1):
   - Positive (+) Clamp of maintainer/charger to the positive (+) post of the 12V battery.
   - Negative (-) claim of the maintainer/charger to the ground post in the engine bay.

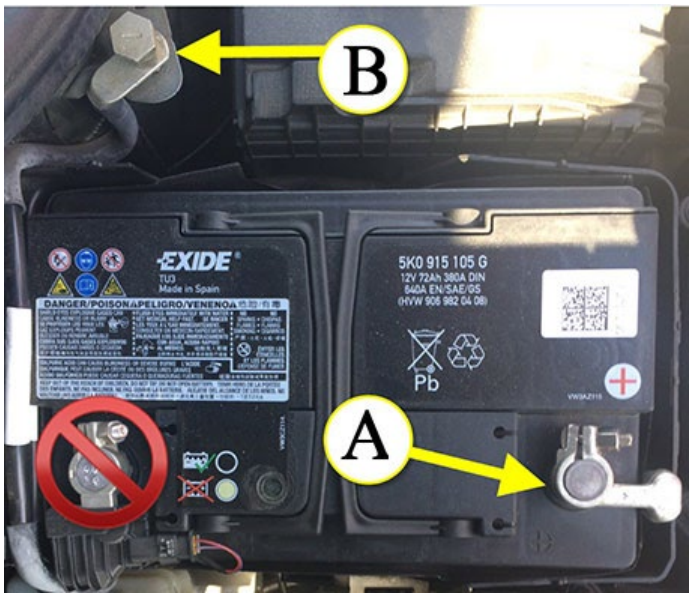

***Figure 1**. Install an approved battery maintainer/charger. Hook up the positive clamp to battery positive terminal (A), and hook the negative clamp up to battery negative terminal (B). Do not hook the maintainer/charger negative clamp directly to the battery.*

2. With ODIS Guided Fault Finding (GFF), read out complete fault memory.
3. After GFF completes the vehicle scan and population of test plans, disconnect the battery charger/maintainer from the vehicle.

4. Perform GFF battery test (Figure 2):
   - Click on the “Special Functions” tab.
   - Under the General jobs section, select “A-Battery, testing (RG.27)”.
   - Click “Perform test…”.

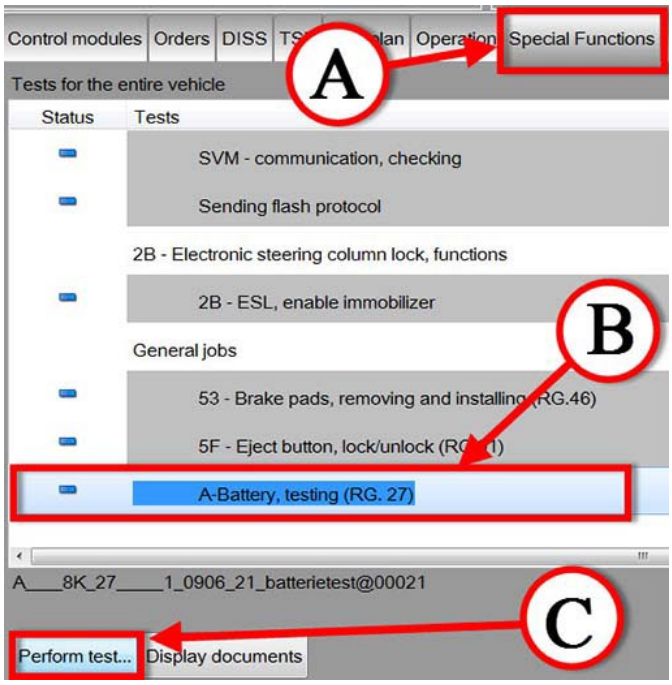

Figure 2. *(A): Select “Special Functions” tab. (B): Select A-Battery, testing (RG.27). (C): Click “Perform test…”*

5. When prompted select test number 1 for “Battery test for used batteries”.
6. Check the result of the test. If the result is:
   - **“Battery OK” and there is a customer concern:** Proceed with this TSB.
   - **“Replace battery”:** This TSB does not apply. Replace and adapt the 12V battery. Verify from the battery history data that the faulty battery is not the result of customer abuse (lights left on, aftermarket devices) or due to a current draw caused by the vehicle.
   - **“Charge battery”:** Attach an approved battery charger, turn off all consumers, and charge the battery until the charger shows completed. Print the documentation from the charger and attach it to the repair order. Regardless of the result from the battery charger, run the GFF battery test from step 4 one additional time. If the result from the GFF battery test is “Charge battery” on the second test, continue with TSB.
7. In GFF (Figure 3):
   - Return to the “Control modules” tab.
   - Right click on the gateway control module, J533 (address 0019).

- Select “Guided Functions”.
- Select “19 – Reading history data (RG.90).
- Click “Perform”.

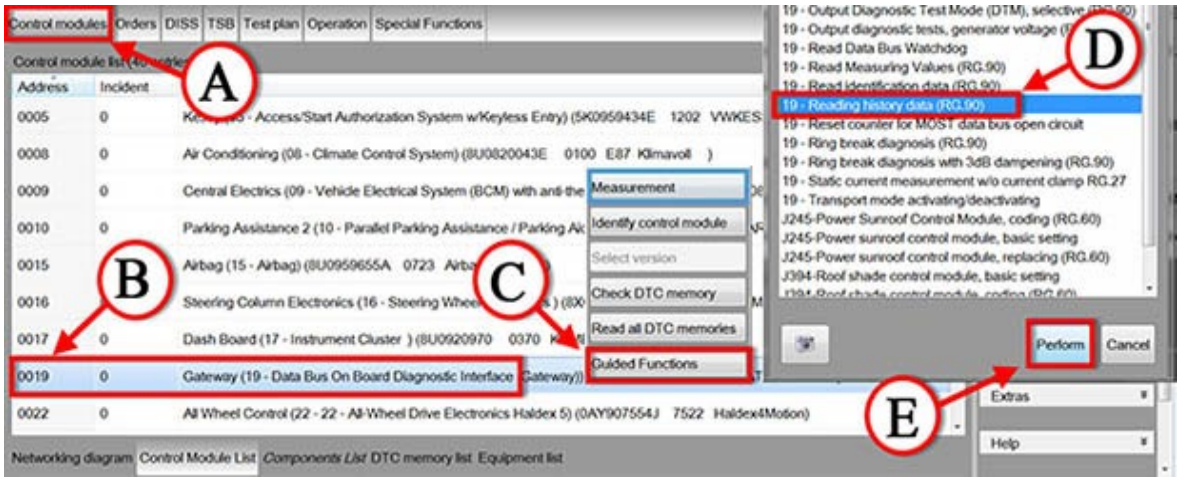

Figure 3. (A): Select “Control modules” tab. (B): Right-click the Gateway control module, J533 (address 0019). (C): Click “Guided Functions” from the pop-up window. (D): Select “Reading history data (RG.90) from the popup selection box. (E): Then click “Perform”.

8. When prompted by test plan, select “1. Complete history data” to view all battery history data. Use the attached PDF file “tsb_2045081_mvc.pdf” to decode the history data information.

9. Read to “Static current exceeding” (Figure 4):

   - There should be no entries in this area within five days of the customer’s concern. If there are entries here, this TSB does not apply.
   - Entries here indicate a no-load current draw. This occurs if a draw over 70mA is detected by the system with the key off and CAN asleep. This indicates that either an aftermarket device is drawing power from the battery or that there is a faulty module.

Static current exceeding :

2000-01-01-00:00*0000*000*+00.00*0-0-0-0-0-0*0*00*00000**
2000-01-01-00:00*0000*000*+00.00*0-0-0-0-0-0*0*00**

Figure 4. Static current exceeding value block.

10. Read to “Shut off stages” (Figure 5).

If there are entries here within 5 days of the customer's concern confirm that none of the following caused the draw:

- Check that no features (lights, etc.) were left on.
- Check that the customer did not leave the ignition (KL15) on.
- Check if the CAN bus was awake for over 30 minutes.

If any of these issues were present, this TSB does not apply. One of these issues most likely caused the customer concern. If these issues were not present, proceed to step 11.

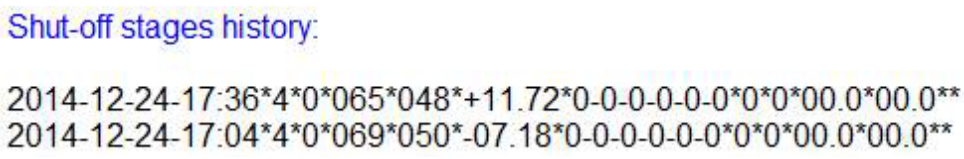

Figure 5. *Shut-off stages history value block.*

11. Read to "Energy Critical" (Figure 6).

    This entry will set if there is an unsuccessful attempt to start the vehicle. If there are entries here within 5 days of the customer concern, check the following:

    - Is this from a jump start attempt?
    - Was the ignition (KL15) left on for over 30 minutes?
    - Was the CAN bus awake for over 30 minutes?
    - Did the customer leave a feature on?
    - What was the system voltage when the entry set?

    If the voltage stamp falls below 11V, with less than 30 minutes of CAN bus awake, ignition (KL15) ON, or features left on, continue to step 12.

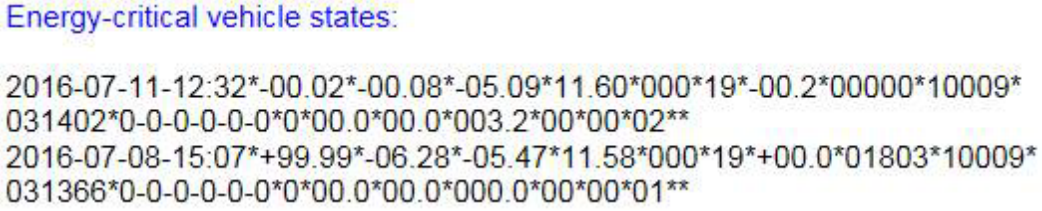

Figure 6. *Energy-critical vehicle state value block.*

12. Read to “Energy Balance” “Last 20 trips” (Figure 7) and “Last 20 standing times” (Figure 8):

    The entries of these two lists will be in sequence, from starting the engine (trips) to locking the vehicle (standing). Check all values from the date time of the customer concern and before. Any entry after the customer concern can be disregarded:

    - Ignition (KL15) on for more than 30min (0.5) in a single standing entry: this TSB does not apply.
    - CAN on for more than 30min (0.5) in a single standing entry: this TSB does not apply.
    - How many amps left in the battery during a single standing entry? If less than 25% of the battery’s AH rating: this TSB does not apply.
    - Check the available charge stored inside the battery both driving and standing. This should be over 70% of the battery’s AH rating, indicating a healthy charging system and no large current loss.

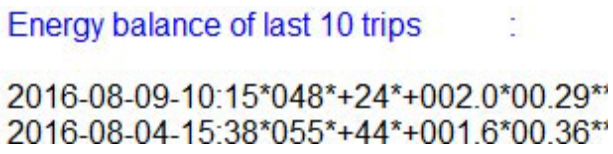

Figure 7. *Energy Balance (trips).*

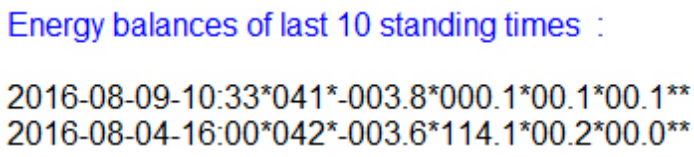

Figure 8. *Energy Balance (standing).*

13. If the measured values for the battery manager check OK and show that there was a no start situation that was not due to outside influence, continue with this TSB.

14. Remove the 12V battery from the engine compartment. Follow work instructions listed in the Elsa Repair Manual.

13. Test the battery with an InCharge-940 or GRX-3000 directly at the positive (+) and negative (-) battery posts. The warranty test with the proper DIN rating of the battery must be utilized in the test.

14. If the InCharge-940 or GRX-3000 tests the battery as faulty, replace the 12V battery.

15. Ensure that the following points are completed. Any missing information will result in a cancelled claim:

    - The printout from either the InCharge-940 or GRX-3000 showing that the battery was tested faulty is attached to the repair order.

- The full VIN number is entered into the tester and shown on the printout.
- The test code must be written in the claim comments, both on the repair order and in SAGA.
- The test date and time on the printout must fall in between the start and end date and time of the ODIS log.
- The ODIS log displaying all read-out measured values from the battery manager must be sent to paperless.

16. Following replacement of the battery:
    - Write the replacement battery information into the Battery Manager.
    - Set basic settings as required by GFF after replacement of the battery. Clear all DTCs and upload the GFF log to paperless.

Warranty

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

Required Parts and Tools

Section may remain blank.

Additional Information

All parts and service references provided in this TSB (**2045081**) are subject to change and/or removal. Always check with your Parts Department and/or ETKA for the latest information and parts bulletins. Please check the Repair Manual for fasteners, bolts, nuts, and screws that require replacement during the repair.