Technical Service Bulletin

27 48V vehicle electrical system warning, DTC U046900 stored in the ECM
27 24 65 2058831/12 January 18, 2024. Supersedes Technical Service Bulletin Group 27 number 23-64 dated December 22, 2023 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
A6, A7, A8, and Q8	2019 – 2023	All	48V electrical system
A6 allroad, and Q7	2020 – 2023		
S8	2020 – 2022		
A8 e quattro	2020 – 2021		

Condition

REVISION HISTORY		
Revision	**Date**	**Purpose**
12	-	Revised *Service* (Updated Notices for clarity) Revised *Additional Information* (Updated reference TSB documents)
11	12/22/2023	Revised *Service* (Updated verbiage to match ODIS tester)
10	12/13/2023	Revised title (Updated for clarity) Revised header (Updated DTCs) Revised *Condition* (Added image, updated Workshop findings, and added note) Revised *Technical Background* (updated statement) Revised *Service* (updated TSB instructions) Revised *Warranty* (updated Labor Operations) Revised *Additional Information* (included links to reference TSB documents)

Customer states:

- The message “Electrical system: Malfunction. See owner’s manual” is displayed on the instrument cluster (Figure 1).
- A yellow or red battery warning symbol is displayed on the instrument cluster.

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Internal

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Figure 1. *Cluster Warning Message.*

Workshop findings:

The following DTC is stored:

ECM, J623 (address word 0001), or Gateway, J533 (address word 0019):

- **DTC U046900:** Invalid data received from starter/generator control module (symptom 36564).

NOTICE

The DTC and symptom must match for this TSB to apply.

Technical Background

The Belt Starter Generator (BSG), together with the vehicle's 48V system is an intelligent vehicle system that provides electrical power to the vehicle as needed. Therefore, traditional diagnosis methods, like expecting the alternator to output at full voltage any time the vehicle is running, are no longer viable, as the output power of the BSG is regulated according to the current requirements of the vehicle.

For further information, please refer to TSB 2067906: *27 48V Reference: diagnosis and system information.*

A hardware related issue may cause the belt starter generator (BSG) to stop working as intended.

Production Solution

Not applicable.

Service

Prior to following the diagnostic instruction:

- VAS tester with the current version of ODIS is installed.

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- While diagnosing the 48V system ensure the 48V and 12V battery are charged properly prior to following the procedure, please refer to TSB 2067906: *27 48V Reference: Charging 48V Battery with 12V Charger DTC P0A7D00.*

Performing the function test "C29 – Check_Erase" and attach to the test plan:

ODIS path for Q7:

- Body
- Electrical system
- 01 - On Board Diagnostic capable systems
- CC - starter-alternator -C29
- CC - Functions
- 00CC – Check/erase event memory entry

ODIS path for A6/A7/A8/Q8:

- Diagnostic capable system
- 00CC - starter alternator -C29
- 00CC - Functions
- 00CC – Check/erase event memory entry

When asked "Are you running this program based on an instruction in a Technical Service Bulletin (TSB)?", answer the test plan with **YES**.

If the following event memory entry is shown in ODIS, replace the starter-alternator according to ETKA and reevaluate the concern:

- **B200096** – Faulty control module (Figure 2).

NOTICE

A screenshot of ODIS with the VIN and DTC Memory Results from the test plan is necessary for billing under warranty.

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Internal

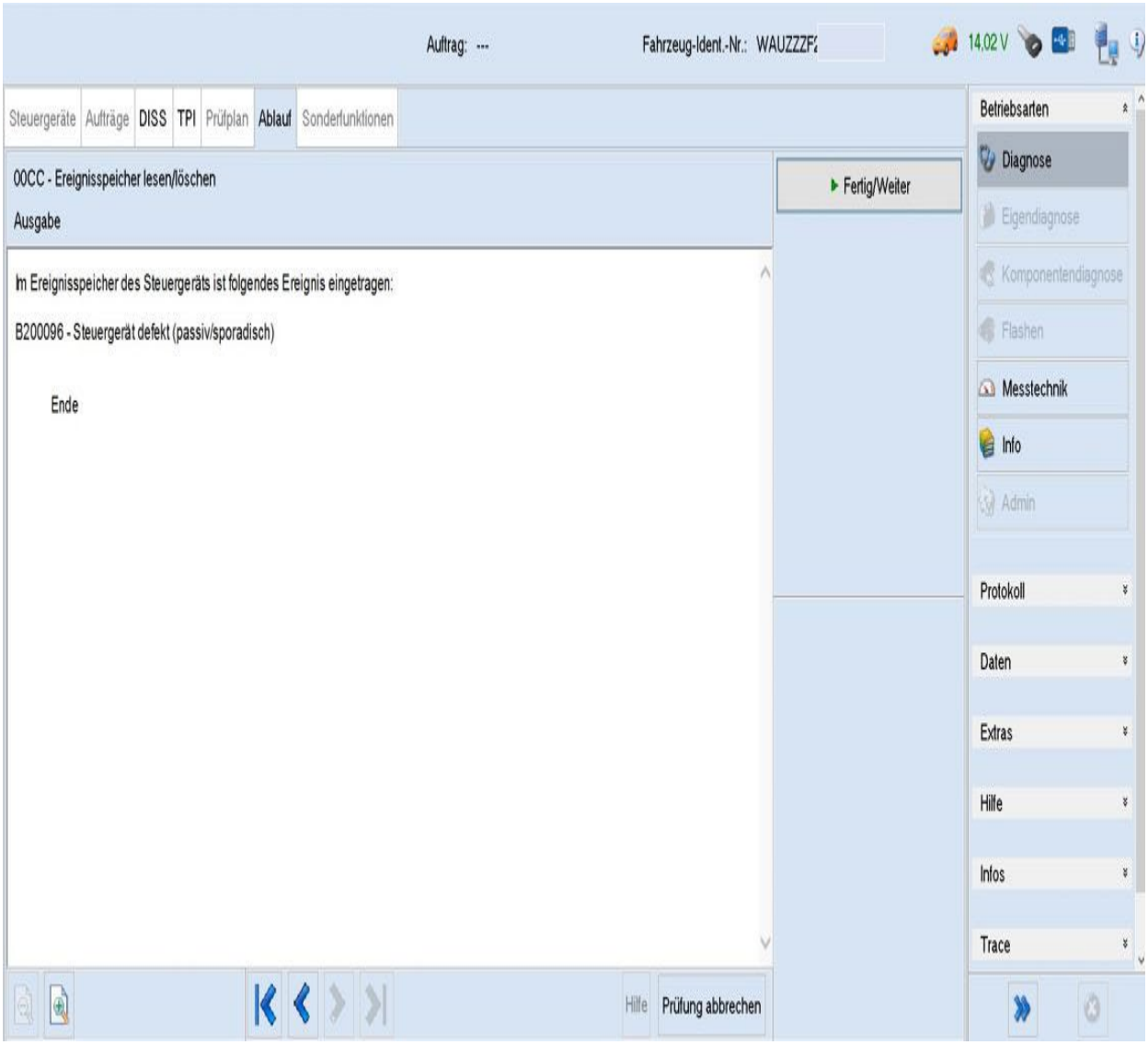

Figure 2. *ODIS tester screen.*

NOTICE

If the listed DTC is not stored in the test plan, then the generator is not faulty and replacing parts will not fix the problem.

Warranty

Claim Type:	• 110 up to 48 Months/50,000 Miles. • G10 for CPO Covered Vehicles – Verify Owner.

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Internal

	• 1-GW for vehicles that fall under the Starter-Alternator Limited Warranty Extension.		
Service Number:	2726		
Damage Code:	0040		
Labor Operations:	Replace starter-alternator (If required according to this TSB.)	2726 XXXX	See SRT with associated operations
Diagnostic Time:	GFF (Includes time to ensure 12V and 48V batteries are charged.)	0150 0060	Time stated on the diagnostic protocol (Max 100 TU)
	Road test prior to the service procedure	No allowance	0 TU
	Road test after the service procedure	No allowance	0 TU
Claim Comment:	As per TSB 2058831/12		

All warranty claims submitted for payment must be in accordance with the *Audi Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Audi Warranty.

Additional Information

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

- TSB 2067906: *27 48V Reference: Charging 48V Battery with 12V Charger DTC P0A7D00*
- TSB 2067937: *27 48V Reference: diagnosis and system information*

All part and service references provided in this TSB (**2058831**) 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.

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Internal