



Technical Service Bulletin

27 48V Vehicle electrical system warning, DTC P0CA700 and/or U046900 stored in the starter/generator control module/ECM

27 21 40 2058831/3 December 6, 2021. Supersedes Technical Service Bulletin Group 27 number 21-37 dated April 1, 2021 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
A6, S6, A7, S7, A8, and S8	2018 - 2021	All	48V MHEV

Condition

REVISION HISTORY		
Revision	Date	Purpose
3	-	Revised <i>Condition</i> (Added customer statements) Revised <i>Technical Background</i> (Added information) Revised <i>Service</i> (Added photo and new Steps 1-2) Revised <i>Warranty</i> (Added Labor Operation)
2	04/01/2021	Revised header (Added MY21) Revised <i>Service</i> (Updated SVM Table)
1	03/10/2020	Initial publication

Customer states:

- Intermittently a warning for the 48V vehicle electrical system is displayed in the instrument cluster.

Additionally the customer may state:

- "The vehicle does not start."
- "The vehicle stalled."
- "The battery is dead."

Workshop findings:

One or more of the following DTC(s) may be stored relating to the battery management 2 (Battery 48V) control module, J1120 (address word 0021) and/or in the engine control module (ECM), J623 (address word 0001):

Battery management 2 (Battery 48V) control module, J1120 (address word 0021):

- DTC P0CA700** (hybrid battery discharge current too high static or sporadic).

ECM, J623 (address word 0001):



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- **DTC U046900** (invalid data received from starter/generator control module).

Technical Background

The software needs to be updated in the starter/generator control module, C29 (address word 00CC).

If the warning shown in the instrument cluster for the 48V vehicle electrical system is ignored, the 12V system may drain, resulting in a vehicle stall or no start condition.

Production Solution

New software version in the starter/generator control module, C29 (address word 00CC).

Service

1. If DTC U046900 is found in the ECM, J623 (address word 0001), check the expanded ambient conditions of this DTC for the value of “Starter generator, actual mode 48V.”
2. If the expanded ambient conditions value for “Starter generator, actual mode 48V” is 5 (Figure 1) for DTC U046900, then replace the starter generator.

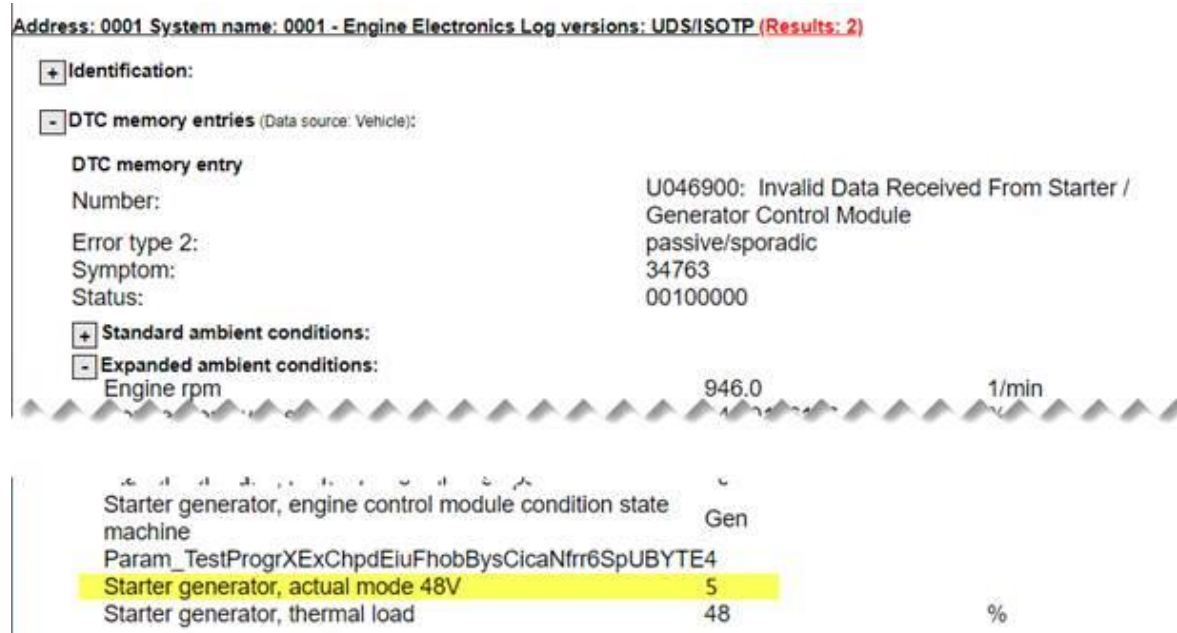


Figure 1. DTC U046900 with Expanded ambient condition “Starter generator, actual mode 48V” value of 5 in the engine control module (ECM), J623 (address word 0001).



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SVM Update Instructions

- Follow all instructions in TSB 2011732: *00 Software Version Management (SVM), operating instructions*.
- Update the starter/generator control module, C29 (address word 00CC) using the SVM action code as listed in the table below, if necessary:

Model	Old Hardware Part Number	Old Hardware Version (or lower)	Old Software Part Number	Old Software Version	New Software Version (or higher)	SVM Code Input
A6, A7, Q7, and Q8	4N0903028 (H, J, M, and N)	H17	4N0903028 (F, G, H, J, M, and N)	523	527	CCA001

Warranty

Claim Type:	<ul style="list-style-type: none">110 up to 48 Months/50,000 Miles.G10 for CPO Covered Vehicles – Verify Owner.If the vehicle is outside any warranty, this Technical Service Bulletin is informational only.		
Service Number:	2726		
Damage Code:	0040		
Labor Operations:	Software Update (Includes checking for DTCs)	0151 0000	Time stated on the diagnostic protocol (Max 100 TU)
	Expanded ambient condition “Starter generator, actual mode 48V” value of 5 only:		
	Replace starter-alternator	2726 55XX	See SRT with associated operations
Diagnostic Time:	GFF	No allowance	0 TU
	Road test prior to the service procedure	No allowance	0 TU



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	Road test after the service procedure	No allowance	0 TU
Claim Comment:	As per TSB #2058831/3		

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 2011732, *00 Software Version Management (SVM), operating instructions*.

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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