



Technical Service Bulletin

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

27 22 41 2058831/4 March 2, 2022. Supersedes Technical Service Bulletin Group 27 number 21-40 dated December 6, 2021 for reasons listed below.

| Model(s) | Year | VIN Range | Vehicle-Specific Equipment |
|--|-------------|-----------|----------------------------|
| S6, S7, RS 7, S8, R8, and R8 Spyder | 2018 | All | 48 V Battery |
| A6, A7, A8, and S8 | 2018 – 2021 | | |
| Q8 | 2019 – 2021 | | |
| A8 e quattro | 2020 | | |
| A6 allroad, S6, S7, S8, SQ7, SQ8, RS Q8, R8, and R8 Spyder | 2020 – 2021 | | |
| RS 6 avant, A7 e quattro, and A8 e quattro | 2021 | | |

Condition

| REVISION HISTORY | | |
|------------------|------------|--|
| Revision | Date | Purpose |
| 4 | -- | Revised <i>Warranty</i> (Updated Labor Operation) |
| 3 | 12/06/2021 | 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) |



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| | | Revised <i>Service</i> (Updated SVM Table) |
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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):

- 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

Updated software version implemented in production.

Service



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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. If no value is displayed, please submit an ODIS feedback.

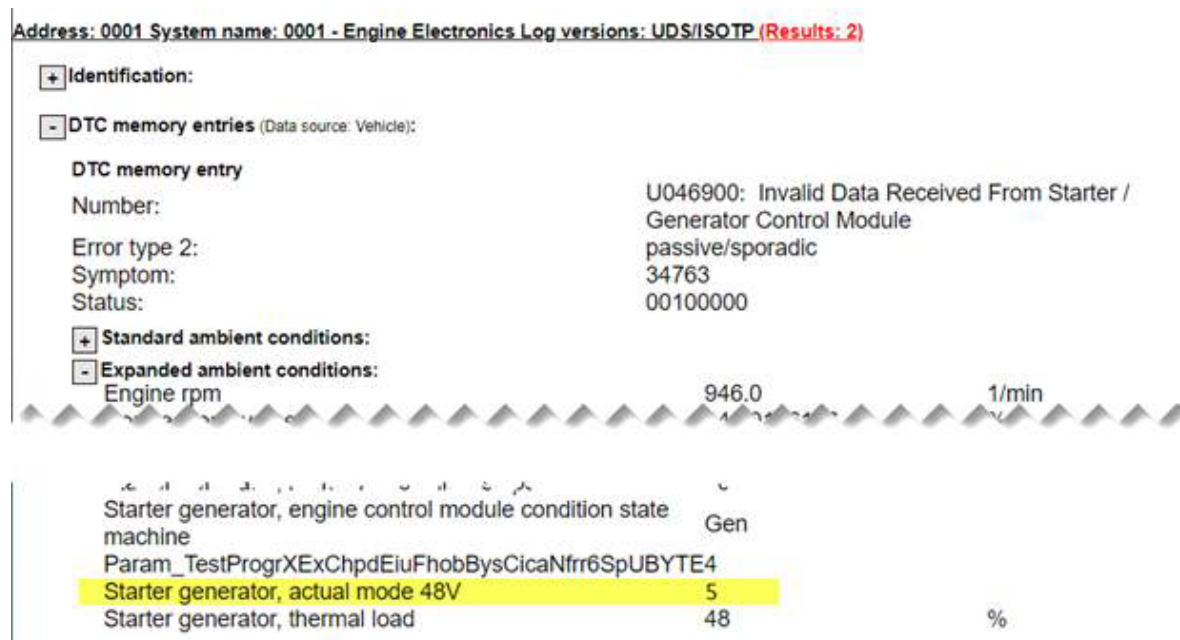
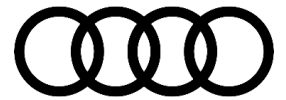


Figure 1. DTC U046900 with Expanded ambient condition "Starter generator, actual mode 48V" value of 5 in the engine control module (ECM), J623 (address word 0001).

SVM Update Instructions

3. Follow all instructions in TSB 2011732: 00 Software Version Management (SVM), operating instructions.
4. 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 | SVM Code Input |
|-------|--------------------------|------------------------------------|--------------------------|----------------------|----------------------|----------------|
| | | | | | | |



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|-----------------------|-------------------------------|-----|--|-----|-------------|--------|
| | | | | | (or higher) | |
| 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) Only if update required | 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 XXXX | See SRT with associated operations |
| Diagnostic Time: | GFF – Only if part replaced | 0150 0000 | Time stated on the diagnostic protocol (Max 100 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 2058831/4 | | |

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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