Warning Message "Vehicle Electrical System Faulty" in Conjunction With Fault Memory Entry "Cell Module X, Ageing Detected" in the High-Voltage Battery Control Unit - BMC (44/25)

Model Line: **Taycan (Y1A / Y1B / Y1C)**

Model Year: **As of 2020 up to 2024**

Concerns: **Cell block module for high-voltage battery (battery module)**

Cause: **Battery diagnostic software for monitoring the high-voltage battery was installed as part of the recall and Workshop Campaigns ARB6, ARB7, WRS0 and WSH4. This update optimizes the on-board diagnostic function of your Taycan to detect potential deviations in the high-voltage battery even more reliably.**

If the high-voltage battery is abnormal, the following warning message will be displayed on the instrument cluster. ⇒ *Warning message*

In addition, the charging capacity of the high-voltage battery is automatically limited to 80% and the fault memory entry specified below is stored once or several times in the high-voltage battery control unit (BMC):

- B1D9EF* - Cell module **x**, ageing detected

Warning message

Information

Note on diagnosis and actions for battery modules

Labelling in fault memory

- At point * various **numbers (1–9)** or **letters (A–Z)** can be placed.
- Each of these points identifies a **specific battery module**.
- At point **x**, the **number of the affected battery module** is specified.

Several affected modules possible

- It is possible that **several fault memory entries** for ageing of battery modules are stored.
- In this case, **several modules are affected**.

Consequence in the absence of testing

- If the high-voltage battery is **not tested and repaired in the Porsche Center within 180 days**, the **charging capacity is automatically limited to 50%**.

Information for customers

- The customers were informed about this warning as part of the **software updates ARB6, ARB7 and WRS0**.

Urgent recommendation for dealing with the issue

- **As soon as a corresponding warning occurs, a Porsche Center is to be contacted immediately**.

Action: Identify and replace affected battery modules.
To do this, proceed as follows:

- Check in **PCSS** whether there are already **Workshop Campaigns for replacing** individual **battery modules**.
- **Create a PRMS ticket to Technical Support - Technical Request** and have **a comprehensive technical analysis performed**.
- Replace **identified battery modules**.

Manual: A manual with further information on the fault pattern, processing in the Porsche Center and warranty billing was created as an aid.
See manual: ⇒*Technical Information 'Manual - Accompanying information and actions after carrying out the software updates ARB6, ARB7 and WRS0'*

Identifying battery modules

Work Procedure:

1 Check whether there is an open workshop or recall campaign in PCCS for replacing battery modules via the battery modules that are already identified to be replaced.

2 Carry out tester routine "High-voltage battery analysis" for the battery modules to be replaced to be identified as a result of the yellow warning message (onboard diagnosis).

2.1 Select the "**high-voltage battery (BMC)**' control unit.

2.2 Switch to the '**Service / repairs**' menu.

2.3 Select '**High-voltage battery analysis**' tester routine and perform as per menu.

2.4 The PIWIS Tester lists the **battery modules to be replaced**.

3 Fully charge the high-voltage battery (80%) to fulfil the preconditions for the extended analysis.

4 Create Vehicle Analysis Log (VAL) using the PIWIS Tester and refer back to the PIWIS Tester.

5 Create a PRMS ticket to Technical Support -Technical Request and have extended analysis carried out in order to be able to identify additional battery modules for an exchange based on voltage differences and deviating SOH (State of Health).

Replacing battery module

Work Procedure:

1 Replace identified battery modules (from campaign where necessary tester routine 'High-voltage battery analysis' and extended analysis by importer).
For procedure, see: ⇒*Workshop Manual '270855 Replacing cell block module'*

PCSS encryption

PCSS encryption:

Location (FES5)	2708G	Cell block module
Damage type (SA4)	4072	Voltage too low

Manual - Accompanying information and actions after carrying out the software updates ARB6, ARB7 and WRS0

Content

1. **Introduction**

Objective and purpose of the manual

- This **document supports the targeted processing of customer complaints** in connection with warning messages and fault memory entries for the high-voltage battery on Taycan vehicles of 1st generation.
- The manual serves as a **guide for workshop processes**, in particular in dealing with diagnoses, repair decisions and the processing of warranty work.

Affected vehicles

- **Taycan vehicles** that were assigned to campaigns **ARB6, ARB7 and WRS0** due to **quality problems on battery modules** and **received a software update for optimized on-board high-voltage battery diagnosis** are affected.

1.1 **Background of campaigns ARB6, ARB7 and WRS0**

Need for campaigns ARB6, ARB7 and WRS0

- On some **Taycan vehicles of the 1st generation**, under certain circumstances, a **defect in individual battery modules in the high-voltage battery** may arise.
- Affected vehicles will receive **optimized battery diagnostic software** that will in future display **abnormalities in the high-voltage battery** directly as a **warning message in the vehicle**.

Transition control until software installation

- **Until the enforcement software update has been carried out as part of campaigns ARB6, ARB7 or WRS0**, the vehicles must continue to be monitored as part of the existing campaigns. For vehicles in the ARB6 population, a SOC limitation of max. 80% continues to apply until installation of the software.
- The **required VAL data (error analyses)** are generated as follows:

⇒ **Online vehicles:**	automatically **Over-the-Air**
⇒ **Offline vehicles:**	Manually **in the Porsche Center**

- The evaluation is carried out on **PAG servers**; the results are shown in **PCSS**. ⇒*Illustration 1 PCSS representation - VAL evaluation*
- The VAL evaluation and display in the PCSS occurs after successful update of the optimized software for the high-voltage battery.

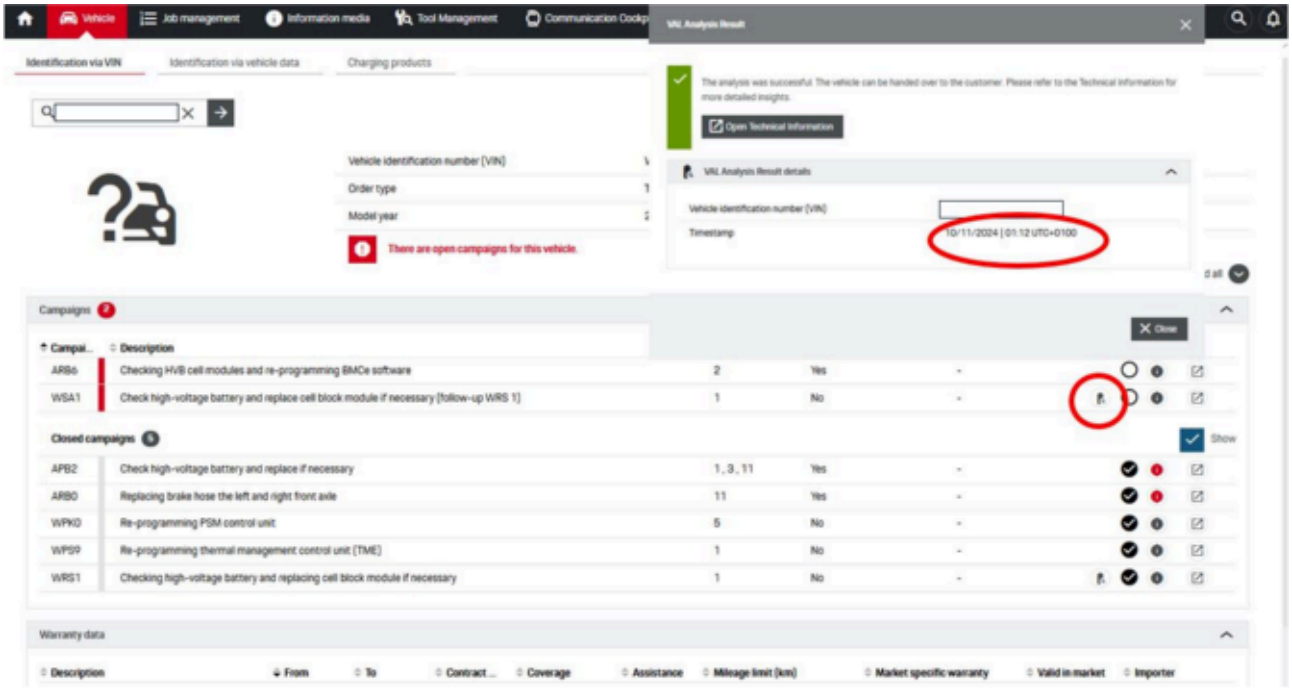

Illustration 1 PCSS representation - VAL evaluation

1.2 **Warning concept in the vehicle after software update**

Function of on-board diagnosis

- The **battery modules are monitored directly in the vehicle with the installation of the optimized onboard diagnostic software (BMC)**.

Target SW BMC status in the course of campaigns ARB6, ARB7 and WRS0:	Software version:1606 or 1652

- The previous external **monitoring via VALs is omitted after** performing the **software update**.
- In the event of anomalies on the high-voltage battery, the **yellow warning message** "**Vehicle electrical system faulty**" will be displayed in the **instrument cluster** in the future. ⇒ *Illustration 2 Yellow warning message after identification of a cell module error*
- At the same time, active **fault codes (DTCs)** are stored in the high-voltage battery control unit.
- Even in the case of **repairs already carried out in the past**, the message can **appear again** if **other cell modules are affected**.

Warning message active

- If **abnormal battery modules** are diagnosed, the **warning message "Vehicle electrical system faulty" appears every time the vehicle is started (ignition change)** – until the **vehicle is diagnosed** in the Porsche Center and **repaired** if necessary.
- For **each cell module affected** a **separate fault code (DTC)** is stored in the **control unit of the high-voltage battery**. ⇒ *Illustration 3 Relevant error codes incl. affected module*
- ▪ Fault memory entry: B19D9EF*

Illustration 2 Yellow warning message after identification of a cell module error

Information

At this point '*' , different **numbers from 1 to 9** or different **letters from A to Z** can be specified, depending on the module number concerned. An example with warning module 1 is shown in Illustration 3.

Automatic limitation of charging capacity

- **The warning message automatically limits the maximum charging capacity to 80%** to reduce the risk of a short circuit in the battery.
- If, **within 180 days, no testing or repair** is carried out in the Porsche Center, the **charging capacity is further reduced to 50%**.

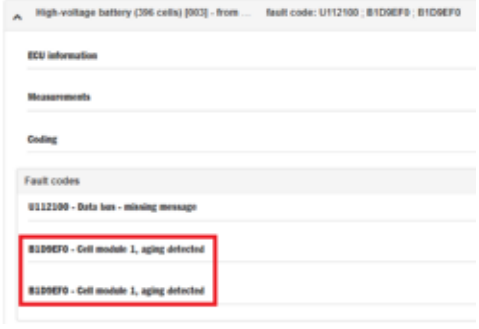

Illustration 3 Relevant error codes incl. affected module

1.3 **Repair of the affected high-voltage batteries**

Cell module replacement as standard warranty repair

- **After the software update** for optimized on-board diagnosis (BMC), **all relevant campaigns for monitoring the high-voltage battery** (ARB6 / ARB7 and WRS0) are **closed**.
- Any **repairs after a warning message and corresponding diagnosis** must be invoiced via existing **warranty processes**.

Error processing & cell module identification

- The **exact procedure for troubleshooting** is described in **this Technical Information** in the section "Identifying battery modules" and "Replacing battery modules" - please observe.
- The **affected cell modules** are identified using a defined **PIWIS tester routine** in the vehicle.
- If the test is successful, the **module numbers** are displayed automatically.

SOH assessment by importer

- In addition, **Technical Support must be contacted** to request a **State of Health (SOH) assessment** of the battery. This process is already established as a standard for every repair to battery modules, for example.
- This allows additional **modules with abnormal SOH** to be identified.
- The goal is to avoid possible additional repairs at a later point in time.

Checking open recall campaigns

- If a vehicle is affected by one of the campaigns **APB5, ARA4 or ARB5** during a workshop visit, the modules specified in the campaign must be replaced in any case.
- To do this, please check for open campaigns in PCSS as defined in the standard process.
- **Defective cell modules** are replaced in accordance with the specifications in this **Technical Information** and the Workshop Manuals specified there. Refer to the "Identifying battery modules" and "Replacing battery modules" section on this.

Step 1	Check PCSS for open campaign APB5, ARA4 or ARB5 and, if necessary, identification of affected modules
Step 2	Implementation of PIWIS Tester Routine
Step 3	Clarification of the status of the other battery modules by the importer
Step 4	In general, observe this Technical Information and applicable Workshop Manuals. **These documents are key in the repair process!**

2 **Warranty processing**

2.1 **High-voltage battery warranty**

Warranty coverage:

- The high-voltage battery is covered for **8 years** or **160,000 km (100,000 miles)** (whichever comes **first**).

Invoicing:

- Repair measures are invoiced via a **normal warranty claim**.
- **Refer to Warranty and Goodwill space for policy requirements.**

2.2 **Customer conflict resolution**

- The **guidelines and information on customer conflict resolution** are published in **PPN** (KKH/CRSC Portal) and updated if necessary.
- For **detailed information** on possible measures you can contact your **importer**.

2.3 **Vehicle transport (Assistance) in case of battery warning**

Can be used despite warning message

- In the event of an abnormality in the high-voltage battery, the vehicle displays the warning message "Vehicle electrical system faulty".
- The charging capacity is automatically limited to 80% to protect the battery.
- Apart from the 80% SOC limitation, there are **no further restrictions for the customer**.

Tow-starting only in exceptional cases

- **No towing service via Porsche Assistance planned**, as the vehicle can continue to be used until diagnosis and repair in the workshop.
- **Deviating agreements with the customer** must be borne **by the Porsche Center itself** – **not billable under warranty**.

2.4 **Replacement transport (Customer Mobility, Customer Mobility Plus)**

Vehicle is still ready to drive

- With warning message "**Vehicle electrical system faulty**" the **charging capacity is limited to 80%**.
- The vehicle can **continue to be used** until the workshop appointment.
- **No restrictions** for the customer in normal vehicle operation.

No replacement transport before the workshop appointment

- No **replacement transport is planned** for the waiting time **until the workshop appointment**.
- If a replacement vehicle is nevertheless desired, **the Porsche Center must bear the costs itself** - **not billable under warranty**.

Replacement transport during repair

- During the repair period, the customer can **be provided with a replacement vehicle**.
- The costs can be invoiced via the following programs:

⇒ **Customer mobility**
⇒ **Porsche Mobility Plus**
⇒ **Mobility voucher (voucher)**

Recommendations for replacement vehicle

- **Provision of model-appropriate replacement vehicle**

3 **Spare parts supply**

Campaign parts vs. regular spare parts

- For vehicles assigned to a recall campaign **(APB5, ARA4, ARB5),** the **prescribed campaign parts** must continue to be used in accordance with the respective **Technical Information**.
- For **repairs based on the warning message "Vehicle electrical system faulty"** (without recall assignment), **only regular spare parts** are to be used.

3.1 **Individual parts**

Availability of parts

- For the expected failure rates, including additional requirements (e.g. failed dielectric strength tests or **demonstrative SOH assessment)**, **sufficient individual parts are available in the Porsche central warehouse**.
- **Demand planning has been adapted** and delivery plans have been updated **to cover expected parts requirements**.

Delivery

- Spare parts are delivered **under the usual preconditions and within the usual delivery times**.
- **GIM markets** are supplied automatically.
- All required parts are listed in the **PET parts catalogue**.

3.2 **ZSB HV battery**

Battery replacement according to generation sequence

- If, according to the **Workshop Manual**, the **entire high-voltage battery** must be replaced, the following applies: **First use stocks of the 1st generation**.

Part numbers for high-voltage battery of 1st generation:

9J1915099BA
9J1915099BX
9J1915100BA
9J1915100BC

9J1915100BX
9J1915100CX

Information
The correct variant can be identified in the PET parts catalogue by entering the VIN.

- Only when these stocks have been completely used up may the 2nd generation of the Taycan high-voltage battery be ordered.

Part numbers for high-voltage battery of 2nd generation:

9J1915589M
9J1915589MX
9J1915590M
9J1915590MX

Information
The correct variant can be identified in the PET parts catalogue by entering the VIN.

- Further information on the differences and installation of the 2nd generation:

See Technical Information: ⇒ *Technical Information '270800 Need for replacement of high-voltage battery on vehicles up to model year 2024: Observe specified procedure (02/25)'*

Delivery

- The batteries are delivered **under the usual conditions and within the usual delivery times**.
- The following also applies here: **GIM markets are automatically stocked**.