ARB6 - Re-Programming High-Voltage Battery Control Unit (BMCe) (Recall Campaign)

Important: **CRITICAL WARNING** -This campaign includes steps where control unit(s) in the vehicle will be programmed with the PIWIS Tester. The vehicle voltage must be maintained between 13.5 volts and 14.5 volts during this programming. Failure to maintain this voltage could result in damaged control unit(s). Damage caused by inadequate voltage during programming is not a warrantable defect. The technician must verify the actual vehicle voltage in the PIWIS Tester before starting the campaign and also document the actual voltage on the repair order.

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

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

Concerns: **High-voltage battery control unit (BMCe)**

Cause: **Updated software is available for the high-voltage battery control unit (BMCe) in the Taycan.**
This update optimizes the on-board diagnostic function of the affected vehicles to improve the detection of potential deviations within the high-voltage battery.
With this updated software, a yellow warning message will appear immediately in the instrument cluster in the case of detected deviations.

Action:
- Determining the period since the last check of the high-voltage battery
- Re-programming the high-voltage battery control unit (BMCe) with the **latest** PIWIS Tester software release
- Minimum requirement: Release **43.500.000**

Information

Scope definition

Scope 1: Over-the-Air (OTA) software update **via PCM**.

▪ Please note that the OTA software updates should generally be installed by the driver (main user) via the Porsche Communication Management (PCM), provided that the software package for the campaign has been downloaded to the vehicle via OTA (**Scope 1**) and the update is subsequently displayed in the PCM "Updates" menu.

▪ For required preconditions for performing the OTA software update, see ⇒ *Technical Information 'Preconditions for the OTA software update via PCM'*

▪ Only vehicles, for which the high-voltage battery was checked via the evaluation of the vehicle analysis log (VAL) within the last 40 days and no abnormalities were detected, were assigned to the OTA scope.

Scope 2: Automatically re-program the control unit for high-voltage battery (BMCe) **using the PIWIS tester**.

Scope 3: Corresponding to **scope 2 with additional check of the high-voltage battery** by evaluating a vehicle analysis log (VAL).

Information

Please note:
The vehicles affected by this action are **additionally** assigned to the workshop/OTA campaign **WRW1** if necessary.
If this is the case, the **present workshop campaign ARB6 must absolutely be carried out first** and only then the control unit programming started as part of the WRW1 campaign.

Affected Vehicles: Only vehicles assigned to the campaign (see also PCSS Vehicle Information).

Required tools

Tools:
▪ Battery charger with a current rating of **at least 90 A** and a **current and voltage-controlled charge map** for lithium starter batteries, e.g. **VAS 5908 Battery charger 90 A**
▪ **P90999 - PIWIS Tester 4** with installed test software version **43.500.000**

AfterSales

Preparatory work and preconditions for software update

Work Procedure: 1   Determine the period since the last check of the high-voltage battery in the PCSS vehicle history.
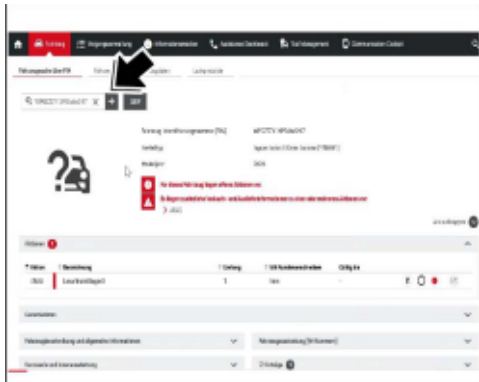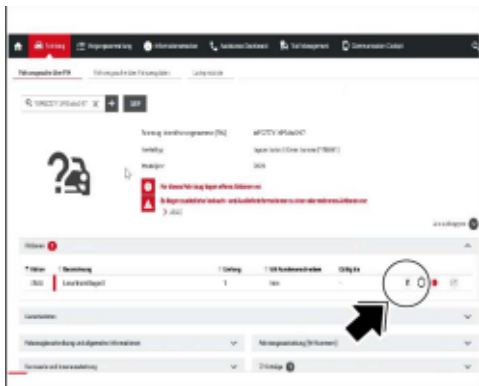
> ### ℹ️ Information
>
> Depending on the period since the last check of the high-voltage battery using a vehicle analysis log (VAL), the high-voltage battery must first be checked before programming the high-voltage battery control unit.
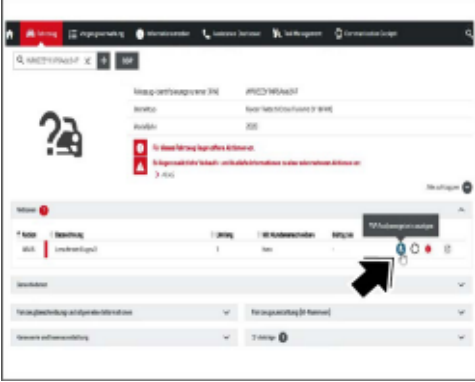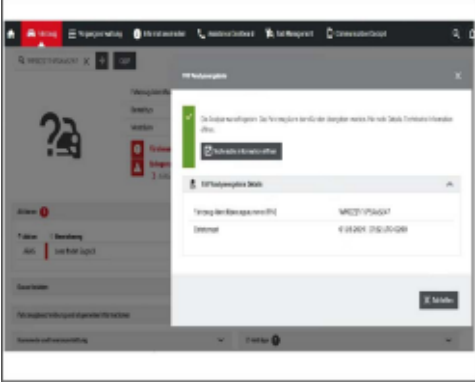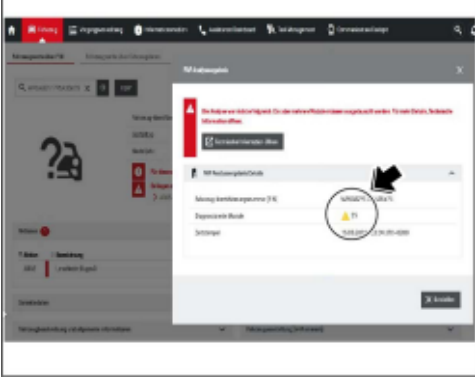> To do this, use the vehicle history in PCSS to determine the time at which the last check of the high-voltage battery took place.
>
> - The last review of the high-voltage battery was performed **less than 40 days ago**: Continue with ⇒ *Technical Information 'Automatically re-programming the high-voltage battery control unit (BMCe)'*.
>
> - **40 days or more have passed since the last check** of the high-voltage battery: continue with **action step 2**.
>
> - Due to the time required for a VAL to be taken and PAG to provide feedback on the VAL via PCSS, it is STRONGLY recommended by PCNA that your dealer performs the VAL (if needed) in the service drive or otherwise in the initial process of preparing the vehicle for the software update.

2   Perform general preparatory work for control unit diagnosis.
For procedure, see ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*.

- Connecting battery charger
- Placing remote control in emergency start tray in the vehicle
- Connecting PIWIS Tester and starting diagnostics.

3   Create vehicle analysis log (VAL) and transfer for data analysis.

Mark the vehicle analysis log you have just created with the attribute "**Special VAL**" and return it using the PIWIS Tester after completion.
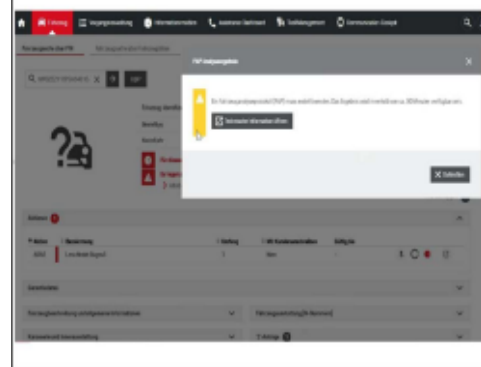
Feedback on analysis results by PAG, about the additionally assigned campaign WRS1, takes place via PCSS after approx. 30-45 minutes.

- The data analysis yields a **positive result** (green PCSS display): **Re-programming high-voltage battery (BMCe) control unit** ⟹ *Technical Information '9X00IN Automatically re-program high-voltage battery control unit (BMCe)'*.

- The data analysis yields a **negative result** (red PCSS display): **First re-program the high-voltage battery control unit (BMCe)** ⟹ *Technical Information '9X00IN Automatically re-programing the high-voltage battery control unit (BMCe)'*. **Thereafter,** repair the high-voltage battery according to the additionally assigned **campaign ARB5**.

- VAL faulty/insufficient (yellow or grey PCSS display): In very rare cases, the automatic evaluation of the vehicle analysis protocol (VAL) cannot take place. In this case, the software update of the high-voltage battery (BMCe) control unit must **still** be carried out ⟹ *Technical Information '9X00IN Automatically re-programming the high-voltage battery (BMCe) control unit'*.

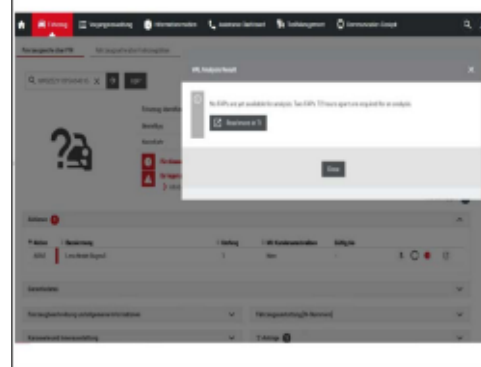| PCSS menu navigation	Illustration
1. Vehicle search via VIN	*PCSS vehicle search*
2. Confirm "Battery with magnifying glass" with icon under campaigns in**WRS1**	*Display of campaign in PCSS*

3. VAL analysis result is displayed via pop-up window	*Pop-up display window*
- **Green display**: The test result is **"positive"**. Cell modules are OK, carry out the programming of the high-voltage battery control unit.	*"Green" display result*
- **Red display**: The test result is **"negative"**. One or more modules must be replaced **after** the control unit programming.	*"Red" display result*

- **Yellow display**: The vehicle analysis log (VAL) cannot be evaluated, but the high-voltage battery control unit is still to be programmed.	*"Yellow" display result*
- **Grey display**: The vehicle analysis log (VAL) cannot be evaluated, but the high-voltage battery control unit is still to programmed.	*"Grey" display result*

Automatically re-programming the high-voltage battery control unit (BMCe)

Work Procedure: 1 **Re-program high-voltage battery control unit (BMCe).**

The basic procedure for control unit programming is described in the Workshop Manual ⇒ *Workshop Manual '9X00IN Basic Instructions and Procedure for Control Unit Programming using the PIWIS Tester'*.

For specific information on control unit programming during this campaign, see the table below.

Required PIWIS Tester software release:	**43.500.000** (or higher)
Type of control unit programming:	Control unit programming using the **'Automatic programming'** function of the high-voltage battery control unit: **'High-voltage battery (BMCe)'** control unit – **'Coding / Programming'** menu – **'Automatic programming'** function.
Programming sequence:	Read and follow the **information and instructions on the PIWIS Tester** during the guided programming sequence. **Do not interrupt the programming and coding process.** A backup documentation process for the re-programmed software releases starts as soon as programming and coding is complete.
Programming time (approx.):	**10 minutes**
Software release programmed during this campaign:	**1606** or **1651** or **1652** The programmed software status depends on the cell chemistry or battery generation. Following control unit programming, the software release can be selected from the relevant control unit in the 'Extended identifications' menu using the PIWIS Tester.
Procedure in the event of error messages during the programming sequence:	⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'.*
Procedure in the event of a termination in the control unit programming:	▪ Terminate and restore readiness for operation (switch ignition off and then switch on again). ▪ Read out and erase the fault memory ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'.* ▪ Repeat control unit programming by restarting programming.

2   Read out all fault memories, process existing faults if necessary and delete fault memory.

ℹ️ **Information**

If control units have faults that are **not** caused by control unit programming, these must first be **located and corrected**. This work **cannot** be invoiced under the workshop campaign number.

3   Press ⌈F3⌋ to start the integration test in the control unit selection.
All affected control units should now be successfully re-programmed or checked in the overview of the control units and their status.

ℹ️ **Information**

If a deviation in the integration test is still indicated despite the programming carried out, this must be repeated. If the deviation persists, contact Technical Support.

4   Enter the campaign in the Warranty and Maintenance Logbook.

Warranty processing

Scope 1:   **Re-programming Over-the-Air (OTA) software update via PCM – high-voltage battery control unit (BMCe)**

- ▪ No invoicing possible.

Scope 2:   **Re-programming control unit for high-voltage battery (BMCe) using the PIWIS tester**

- ▪ The last review of the high-voltage battery was performed **less than 40 days ago**

Labor time:	
Re-programming high-voltage battery control unit (BMCe)	Labor time: **66 TU**
Includes: Determining the period since the last check of the high-voltage battery Connecting and disconnecting battery charger Connecting and disconnecting PIWIS Tester Reading out software release of the control unit Reading out and deleting fault memory	
⇒ **Damage number ARB6 099 000 1**	

Scope 3:   **Automatically re-programming control unit for high-voltage battery (BMCe) using the PIWIS tester**

- **40 days or more have passed since the last check** of the high-voltage battery

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Labor time:

Re-programming high-voltage battery control unit (BMCe)   Labor time: **85 TU**
Includes: Determining the period since the last check of the
                       high-voltage battery
                       Creating and transferring vehicle analysis log for data analysis
                       Connecting and disconnecting battery charger
                       Connecting and disconnecting PIWIS Tester
                       Reading out software release of the control unit
                       Reading out and deleting fault memory

⇒ **Damage number ARB6 099 000 1**

Preconditions for OTA software update via PCM

Preconditions: **General preconditions for OTA software updates**

- The respective customer has an **active Porsche Connect Care package**
- **Consent to online software updates** was **not** withdrawn in the MyPorsche app

Preconditions for performing an OTA software update

- **Driver (main user)** logged into Porsche Communication Management (PCM)
- **Privacy Mode** in Porsche Communication Management (PCM) **deactivated**
- Vehicle **safely parked and on flat ground**
- P button next to selector lever (parking mode) pressed and parking brake activated
- Power button pressed with driver door closed, to stop driving readiness
- Parking pre-climatization deactivated
- All doors and windows, front and rear lids and sliding roof closed
- Charging process completed, charging cable disconnected and charging connection lid closed
- All passengers have left the vehicle
- Vehicle locked from outside via handheld transmitter

After the driver has started the OTA software update via Porsche Communication Management (PCM), the preconditions listed above are also displayed in the central display.
Once all the preconditions have been met and the vehicle has been locked from the outside, the OTA software update starts automatically.