

Replacement Requirement for Cell Module for High-Voltage Battery on Vehicles Model Year L (2020): Observe Specified Procedure (133/23)

Model Line: **Taycan (Y1A)**

Model Year: **2020**

Concerns: **Replacement requirement for high-voltage battery cell module**

Cause: **If cell modules of the high-voltage battery are required for replacement, only cell modules from model year 2021 (M) onward will be available for Taycan vehicles for model year 2020 (L), which will also still be used in vehicles from model year 2021 (M).**

In order to be able to use the modified cell modules (4M cells) on vehicles of model year 2020 (L) in a mixed installation with the previous cell modules (B1.7+ cells), the software release 1603 must be available on the control unit for the high-voltage battery (BMCe). Additionally, the PR number ST5 - mixed installation B1.7+/4M cell chemistry must be set in the vehicle data in the case of a mixed installation of cell modules in order to be able to identify the vehicles accordingly.



Information

This only applies to vehicles in which the original high-voltage battery is still installed (vehicles without set **PR No. ST3 - Installation of 4M cell** in the vehicle data). If a high-voltage battery with modified cell modules (4M cells) has already been installed in the vehicle, this requirement is not relevant since mixing installation can no longer occur in this case. These vehicles must be identifiable using **PR No. ST3 - Installation of 4M cell** in the vehicle data.

Action: **Required actions before mixed installation of cell modules of the high-voltage battery:**

- The actions below must be completed before removing the High Voltage Battery from the vehicle during diagnosis.
- Enter the PR number "ST5 - Mixed installation B1.7+/4M cell chemistry" in the vehicle data using the Porsche Tester.
- Read out the software release of the high-voltage battery control unit (BMCe) and re-program with the **latest** PIWIS Tester software (minimum requirement release 42.250.030) if necessary.
- After the high-volt battery (BMCe) control unit has been programmed with the required software release 1603, create a vehicle analysis log (VAL) and forward it to the Technical Competence Center (TCC) of Porsche AG for further evaluation of the cell modules to be replaced, via Technical Support at PCNA.

Overview of cell modules for high-voltage battery

Parts Info:	Part No. old (no longer available)	Designation
	9J1915591C	⇒ Battery module (B1.7+)
	or	
	9J1915592C	⇒ Battery module (B1.7+)
	Part No. new*	Designation
	9J1915591J	⇒ Battery module (4M)
	or	
	9J1915592J	⇒ Battery module (4M)

* can only be used in vehicles from model year 2020 (L) in conjunction with software release **1603** on the high-voltage battery control unit (BMCE).

In addition, setting the PR number ST5 - mixed installation B1.7+/4M cell chemistry in the vehicle data is required.

For the work procedure for setting the PR number and programming the software release 1603, see the following description.

Required tools



Information

The Taycan (Y1A) is equipped as standard with a **lithium starter battery**.

Lithium starter batteries must only be charged using a **suitable battery charger** that has a current and voltage-controlled charge map.

For further information about the battery chargers to be used, see ⇒ *Workshop Manual '270689 Charging battery/vehicle electrical system'*.

- Tools:
- Battery charger with a current rating of **at least 90 A** and - if required - **also** with a **current and voltage controlled charge map** for lithium starter batteries, e.g. **VAS5908 90 A battery charger**
 - **P90999 - PIWIS Tester 4** with PIWIS Tester test software release 42.250.030 (or higher) installed

Match vehicle data

Work Procedure: 1 Connect a suitable battery charger, e.g. **VAS 5908 90 A battery charger**, to the jump-start terminals and switch it on.

2 Position the **driver's key** with the back facing forward, upright between the holding struts in the rear drinks holder (**emergency start tray**) to ensure a permanent radio link between the vehicle and remote control ⇒ *Emergency start tray-**Arrow***.



Emergency start tray

3 Connect **P90999 - PIWIS Tester 4** to the vehicle communication interface module (VCI) via the **USB cable**. Then connect the communication module to the vehicle and switch on the PIWIS Tester.

4 Establish readiness for operation (switch on ignition).

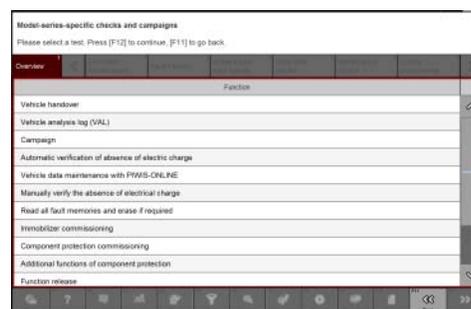
5 On the PIWIS Tester start screen, call up the **'Diagnostics'** application.

The vehicle type is then read out, the diagnostic application is started and the control unit selection screen is populated.

6 Match vehicle data.

6.1 In the control unit selection (**Overview** menu) press **•F7** to call up the Additional menu.

6.2 Select the **'Vehicle data maintenance with PIWIS ONLINE'** function, and press **•F12** ('Next') to confirm ⇒ *Maintenance of vehicle data*.



Maintenance of vehicle data

6.3 Read the information about the 'Vehicle data' function, and press **•F12** ('Next') to confirm.

6.4 Once the comparison between the data in the vehicle and the vehicle data in PIWIS Online has been completed, synchronize the vehicle data if necessary.

Press **•F12** ('Next') to continue.



Information

If the vehicle data needs to be synchronized, this must be carried out before doing any additional work. Otherwise, the vehicle data maintenance cannot be performed.

- 6.5 Press •F12" ('Next') to skip the displays containing information about vehicle description, colors/ materials and X numbers.
- 6.6 Add the coding value '**ST5**' to the vehicle data on the PR numbers page. To do this, for the relevant coding value, click on the tick in the "Installed" field to select the value. Make sure that the 'Installed' column is subsequently **ticked** and that the pen symbol is displayed in the 'Changed' column. Then press •F12" ('Next') to close the PR numbers display.
- 6.7 Press •F8" in the overview that is then displayed to save the changed vehicle data. The system then checks whether one or more control units have to be coded or programmed due to the changed vehicle data.
- 6.8 Re-code or program the control units displayed on the PIWIS Tester if necessary.
- 6.9 Then press •F11" ('Back') to go back to the control unit selection, read out the software release for the high-volt battery (BMCe) control unit and re-program if necessary.

Reading out software release for high-volt battery control unit (BMCe) and re-programming if necessary

Work Procedure: 1 Read out the software release of the high-volt battery control unit (BMCe) in the '**Incremented Identifications**' menu of the PIWIS Tester.

Assessment		Action
(✓)	Software release of the high-volt battery control unit (BMCe) is 1603 .	No programming is required. Create a vehicle analysis log (VAL) using the PIWIS Tester and forward it to the Technical Competence Center (TCC) of Porsche AG for further evaluation of the cell modules to be replaced, via Technical Support at PCNA.
(x)	The software release of the high-volt battery control unit (BMCe) is earlier than 1603 .	Program the latest software release. Continue with Step ⇒ 4. After successful programming with the PIWIS Tester, create a vehicle analysis log (VAL) and forward it to the Technical Competence Center (TCC) of Porsche AG for further evaluation of the cell modules to be replaced, via Technical Support at PCNA .
(x)	High-voltage battery control unit (BMCe) software release includes 164x .	Software release indicates the installation of a high-voltage battery with modified cell modules (4M cells). Review vehicle data on set PR No. ST3 - installation of 4M cell . Programming is not required in this case. Continue to replace the affected cell module

	⇒ <i>Workshop Manual '270855 Replace cell block module'.</i>
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Overview of software variants

Software release	Note
160x	Software for vehicles with original cell modules (only B1.7+ cells) of the high-voltage battery
1603	Software for mixed installation (original B1.7+ cells and new 4M cells in the high-voltage battery)
164x	Software for vehicles with modified cell modules (only 4M cells) of the high-voltage battery

- 2 Re-program high-volt battery control unit (BMCe).



Information

Before starting programming, pay particular attention to the following:

- Place original remote control in emergency start tray (note the position).
- **The PIWIS Tester must not be charged using the cigarette lighter.**

The basic procedure for control unit programming is described in the Workshop Manual ⇒ *Workshop Manual '270855 Basic Instructions and Procedure for Control Unit Programming Using the PIWIS Tester'.*

Required PIWIS Tester software release:	42.250.030 (or higher)
Type of control unit programming:	Control unit programming using the ' Automatic programming ' function of the high-volt battery control unit (BMCe).

Programming sequence:	Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence. Do not interrupt programming and coding. A backup documentation process for the re-programmed software versions starts after programming and coding is complete.
Programming time (approx.):	7 minutes
Programmed software release:	<ul style="list-style-type: none"> High-voltage battery control unit (BMCe): 1603
Procedure in the event of error messages appearing during the programming sequence:	⇒ <i>Workshop Manual '270855 Basic instructions and procedure for control unit programming using the PIWIS Tester'</i>
Procedure in the event of a termination in the control unit programming:	Repeat control unit programming by restarting programming.

- 3 Ensure that the software release 1603 is present on the high-volt battery (BMCe) control unit. Once the control unit programming is successful, the software release can be read out of the high-volt battery (BMCe) control unit in the 'Incremented identifications' menu using the PIWIS Tester.
- 4 Based on the installed software release 1603, create a vehicle analysis log (VAL) using the PIWIS Tester and forward it to the Technical Competence Center (TCC) of Porsche AG for further assessment of the cell modules to be replaced, via the Technical Support at PCNA.



Information

Connect the PIWIS Tester to a network as soon as possible and log into the PPN in order to transfer the vehicle analysis protocol (VAL) and the backup documentation created to the PAG systems.

- 5 End the diagnostic application.
 - 5.1 End readiness for operation.
 - 5.2 Disconnect the PIWIS Tester from the vehicle.
- 6 Switch off and disconnect the battery charger.
- 7 Coordinate further procedure for replacing cell modules with the Technical Competence Center (TCC) of Porsche AG, via Technical Support at PCNA.

Working position and PCSS encryption

Labor position:

APOS	Labor operation	I No.
27940150	Checking high-volt battery control unit	
27942556	Checking and programming high-volt battery control unit	

PCSS encryption:

Location (FES5)	27080	High-voltage battery
Damage type (SA4)	9735	repair in accordance with PAG instructions

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