

Spare Parts Requirements for High-Voltage Components - Check and Update Software as Necessary (20/21)

Vehicle Type: **Taycan (Y1A)**

Model Year: **2021**

Equipment: Vehicles with M-no. S1G (Control system deployment, VR version 4)

Concerns: **Spare parts requirements for:**

- High-voltage battery
- Battery disconnect element

Information: **If one of the components specified above needs to be replaced on model year 2021 (M) vehicles with vehicle equipment S1G (Control system deployment, VR version 4), the software of the high-voltage battery control unit must be checked and may have to be updated following installation in the vehicle.**

Action required: Check software of the high-voltage battery control unit after installing it in the vehicle and update it if necessary.

Depending on the high-voltage charger installed in each vehicle, different preliminary work must be performed before starting any required software update for the high-voltage battery control unit:

- Vehicles with **11 kW on-board AC charger (M-no. KB3)**: Continue with ⇒ *Technical Information 'Preparatory work - vehicles with 11 kW on-board AC charger (I-no. KB3)'*
- Vehicles with **22 kW on-board AC charger (M-no. KB4)**: The high-voltage system must be isolated from the power supply before updating the software. Continue with ⇒ *Technical Information 'Preparatory work - vehicles with 22 kW on-board AC charger (I-no. KB4)'*



Information

The total time required for control unit programming is **approx. 6 minutes**.

Software: **Overview of software version:**

Control unit	SW (new)
High-voltage battery	• 1441

Parts Info: **Overview of affected components:**

Part No.	Designation
PAD915100 PAD915100 X	High-voltage battery (93 kWh)
PAD915099 PAD915099 X	High-voltage battery (79 kWh)
9J1915251AA PAD915251 (Korea only)	Battery disconnect element (complete)

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'*.

- 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. **VAS 5908 90 A battery charger**
- **9900 - PIWIS Tester 3** with PIWIS test software **version 39.900.075** (or higher) installed.

Preparatory work - vehicles with 11 kW on-board AC charger (I-no. KB3)

NOTICE

Fault entry in the fault memory and control unit programming aborted due to low voltage.

- Increased current draw during diagnosis or control unit programming can cause a drop in voltage, which can result in one or more fault entries and the abnormal termination of the programming process.
- ⇒ Before starting control unit programming, connect a suitable battery charger with a current rating of at least 90 A to the vehicle.

NOTICE

Control unit programming will be aborted if the WLAN connection is unstable.

- An unstable WiFi connection can interrupt communication between the PIWIS Tester and the vehicle communication module (VCI). As a result, control unit programming may be aborted.
- ⇒ During control unit programming, always connect the PIWIS Tester to the vehicle communication module (VCI) via the USB cable.

NOTICE

Control unit programming will be aborted if the driver's key is not recognized

- If the driver's key is not recognized in the vehicle, programming cannot be started or will be interrupted.
- ⇒ Place the driver's key with the back facing down in the area in front of the storage compartment under the armrest (emergency start tray) in order to guarantee a permanent radio link between the vehicle and driver's key.

NOTICE

Programming interrupted

- Malfunctions in control unit
 - Risk of damage to control unit
- ⇒ Route the line between the vehicle communication module (VCI) and diagnostic socket on the vehicle without tension and make sure that the connector is inserted fully into the diagnostic socket.
- ⇒ Check that the rechargeable battery for the PIWIS Tester is charged sufficiently. Connect the PIWIS Tester to the power supply unit if necessary.

**Information**

The procedure described here is based on the PIWIS Tester 3 software version **39.900.075**.

The PIWIS Tester instructions take precedence and in the event of a discrepancy, these are the instructions that must be followed.

A discrepancy may arise with later software versions for example.

- Work Procedure: 1 Carry out general preliminary work for control unit programming as described in ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming - section on "Preliminary work"*.
- 2 Connect a suitable battery charger, e.g. **battery charger 90A**, to the jump-start terminals and switch it on.

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



Emergency start tray

- 4 Connect **9900 - PIWIS Tester 3** to the vehicle communication module (VCI) via the **USB cable**. Then connect the communication module to the vehicle and switch on the PIWIS Tester.

- 5 Establish operational readiness (switch on ignition).

- 6 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.

- 7 Select the **high-voltage battery** control unit.

- 7.1 Select the **Extended identification** menu.

- 7.2 Check the software version.

- Software version is **1441**: The software is already up-to-date. No further action required.
- Software version is **not 1441**: Software update required. To do this, re-program the high-voltage battery control unit, see ⇒ *Technical Information '9X00IN Re-programming high-voltage battery control unit'*.

Preparatory work - vehicles with 22 kW on-board AC charger (I-no. KB4)

NOTICE

Fault entry in the fault memory and control unit programming aborted due to low voltage.

- Increased current draw during diagnosis or control unit programming can cause a drop in voltage, which can result in one or more fault entries and the abnormal termination of the programming process.

⇒ Before starting control unit programming, connect a suitable battery charger with a current rating of at least 90 A to the vehicle.

NOTICE

Control unit programming will be aborted if the WLAN connection is unstable.

- An unstable WiFi connection can interrupt communication between the PIWIS Tester and the vehicle communication module (VCI). As a result, control unit programming may be aborted.

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NOTICE

Programming interrupted

- Malfunctions in control unit
 - Risk of damage to control unit
- ⇒ Route the line between the vehicle communication module (VCI) and diagnostic socket on the vehicle without tension and make sure that the connector is inserted fully into the diagnostic socket.
- ⇒ Check that the rechargeable battery for the PIWIS Tester is charged sufficiently. Connect the PIWIS Tester to the power supply unit if necessary.

**Information**

The procedure described here is based on the PIWIS Tester 3 software version **39.900.075**.

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Emergency start tray

- 4 Connect **9900 - PIWIS Tester 3** to the vehicle communication module (VCI) via the **USB cable**. Then connect the communication module to the vehicle and switch on the PIWIS Tester.
- 5 Establish operational readiness (switch on ignition).
- 6 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.
- 7 Select the **high-voltage battery** control unit.
 - 7.1 Select the **Extended identification** menu.
 - 7.2 Check the software version.
 - Software version is **1441**: The software is already up-to-date. No further action required.
 - Software version is **not 1441**: Software update required. To do this, first isolate the high-voltage system from the power supply and then re-program the high-voltage battery control unit, see ⇒ Step 8.
- 8 Remove plenum panel cover ⇒ *Workshop Manual '85221901 Removing and installing (front) plenum panel cover'*.
- 9 Isolate the high-voltage system from the power supply.
 - 9.1 Observe general instructions for isolating the vehicle from the power supply prior to performing maintenance tasks ⇒ *Workshop Manual '2X00IN Isolation from power supply prior to performing maintenance tasks on BEV vehicles'*.
 - 9.2 Isolate the high-voltage system from the power supply ⇒ *Workshop Manual '2X00IN Isolating high-voltage system from power supply/Starting high-voltage system'*.

Re-program the high-voltage battery control unit

Work Procedure:

Specific information on control unit programming in the context of this Technical Information:

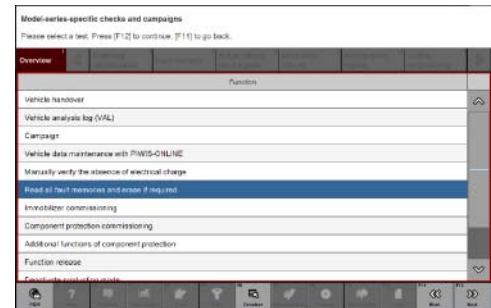
Required PIWIS Tester software version:	39.900.075 (or higher)
Type of control unit programming:	Control unit programming using the 'Campaign' function in the Additional menu on the PIWIS Tester by entering a programming code.
Programming code:	K5N6Y
Programming sequence:	Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence. During programming, the high-voltage battery control unit is re-programmed and then re-coded automatically. Do not interrupt programming.
Programming time (approx.):	6 minutes
Software version programmed during this campaign:	1441 Following control unit programming, the software version can be read out of the high-voltage battery control unit in the ⇒ 'Extended identifications' menu using the PIWIS Tester.
Procedure in the event of error messages appearing during the programming sequence:	⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming - section on "Fault finding"</i> .
Procedure in the event of abnormal termination of control unit programming:	Repeat control unit programming by restarting programming.

Concluding work

- Work Procedure: 1 Start the high-voltage system if necessary ⇒ *Workshop Manual '2X00IN Isolating high-voltage system from power supply/Starting high-voltage system'*.
- 2 Install plenum panel cover ⇒ *Workshop Manual '85221901 Removing and installing (front) plenum panel cover'*.

- 3 Read out and erase the fault memories of all control units.
- 3.1 Press •F7“ in the control unit selection screen ('Overview' menu) to call up the Additional menu.

- 3.2 Select the function "Read all fault memories and erase if required" and press •F12“ ('Next') to confirm your selection ⇒ *Erasing fault memories*.



Erasing fault memories

The fault memories of the control units are read out.

- 3.3 Once you have read out the fault memories, check the fault memory entries.



Information

If control units are found to have faults that are **not** caused by control unit programming, these must first be **found and corrected**. This work must be invoiced using a separate warranty claim.

- 3.4 Press •F8“ to delete fault memory entries.
- 3.5 Press •F12“ ('Yes') in response to the question as to whether you really want to delete all fault memory entries.

The faults stored in the fault memories of the various control units are deleted.



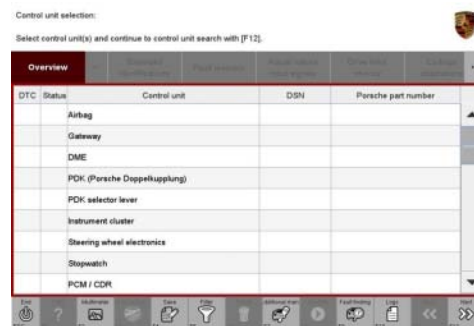
Information

If fault memory entries for individual control units cannot be deleted, proceed as follows:

- End operational readiness (switch off ignition).
- Disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
- Lock the vehicle using the driver's key and remove the **driver's key from the proximity of the vehicle** (approx. 10 meter/ 33 ft).
- **Wait approx. 15 minutes** before unlocking the vehicle again.
- Restore operational readiness (switch on ignition).
- Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and restore communication with the vehicle.
- Read out the fault memory again and delete any fault memory entries that are stored.

3.6 Once you have erased the fault memories, select the **'Overview'** menu to return to the control unit selection screen ⇒ *Control unit selection*.

- 4 End operational readiness (switch off ignition).
- 5 Disconnect the PIWIS Tester from the vehicle.
- 6 Switch off and disconnect the battery charger.



Control unit selection

Invoicing

Invoicing: For documentation and warranty invoicing, enter the labor operations and PQIS coding, specified below in the warranty claim, depending on the relevant task performed:

APOS	Labour operation	I No.
27940150	Checking high-voltage battery control unit	
27942555	Programming high-voltage battery control unit	
85221950	Removing and installing cover	

PQIS coding:

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

- References:
- ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming'*
 - ⇒ *Workshop Manual '2X00IN Isolating high-voltage system from power supply/Starting high-voltage system'*
 - ⇒ *Workshop Manual '2X00IN Isolation from power supply prior to performing maintenance tasks on BEV vehicles'*
 - ⇒ *Workshop Manual '85221901 Removing and installing (front) plenum panel cover'*

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