Replacing the High-Voltage Battery - Observe Specified Procedure (05/21)

Change overview:

Version	Date	Change
0	Feb 17, 2021	First publication
1	April 30, 2021	• Procedure for USA (PCNA) changed • Procedure for "All other markets (RoW incl. Canada)" extended • PIWIS Tester software version updated Now includes: Resetting the taught-in battery capacity
2	October 5, 2021	APOS update

Vehicle Type: **Cayenne S E-Hybrid (92A)**

Model Year: **As of 2015 up to 2018**

Concerns: **High-voltage battery**

Information: **Procedure for high-voltage battery replacement**

- Depending on the market, the high-voltage battery will now either be replaced by the original Cayenne S E-Hybrid high-voltage battery (complete battery replacement) as previously, or the cell modules and, if necessary, other parts will be replaced (component exchange).
- Once the relevant repair measure has been performed, it may be necessary to re-program the high-voltage battery control unit.

Information

HV battery replacement is under the Approval and Support Management process and procedures should be followed.

Action required: Depending on the relevant market and whether the respective Porsche dealer is authorized to perform repairs on the high-voltage battery independently, various repair concepts for the high-voltage battery are provided. You will find the repair concept for your market and the relevant procedure for rectifying faults on the high-voltage battery in the ⇒ *Technical Information 'Replacing the high-voltage battery'* section.

Replacing the high-voltage battery

Work Procedure:

The following repair concepts are currently available for the high-voltage battery, depending on the market:

USA (PCNA):

Coordinate approval for a replacement high-voltage battery with Technical Support of the PCNA, who will then assume responsibility for procuring the battery from Spiers Inc., see ⇒*Technical Infor-mation 'Procedure - USA (PCNA)'*. Then return the old battery to Spiers Inc.

Information

The Canadian market is not linked to the procedure in the USA. In the event a replacement is required for the high-voltage battery, the procedure "RoW incl. Canada" must be used.

All other markets (RoW incl. Canada):

Please note the different procedures depending on whether or not the respective Porsche dealer is already entitled to carry out repairs on the high-voltage battery independently.

- Your Porsche dealer is **currently not authorized** to perform repairs on the high-voltage battery independently: Order and then install the Cayenne S E-Hybrid (92A) spare part high-voltage battery, see ⇒*Technical Information 'Procedure - Remaining markets (RoW/China)'*.
- Your Porsche dealer**is authorized** to perform repairs on the high-voltage battery independently: The vehicle is repaired at the Porsche dealer; see ⇒*Technical Information 'Procedure - Remaining markets (RoW/China) - Repairs in the PC'*.

Procedure - USA (PCNA)

WARNING

Incorrect handling of high-voltage components

- **Electric shock**
- **Short circuit**
- **Fire**
- **Explosion**

⇒ **Only appropriately trained and authorized persons are permitted to work on high-voltage vehicles and components.**

⇒ **Required qualification: High-voltage technician or high-voltage expert.**

⇒ **Observe all safety regulations.**

⇒ **Always use insulated tools, e.g. VAS 6883 High-voltage tool set, when working on these components.**

⇒ **Observe general warning notes for working on the high-voltage vehicle electrical system. ⇒*Workshop Manual '2X00IN General warning notes for working on the high-voltage vehicle electrical system'***

WARNING

Danger of fire, explosion

- **Insulation fault as a result of coolant leaking into high-voltage battery**

⇒ **Always drain the high-voltage battery cooling lines completely before transporting / handling the high-voltage battery.**

Information

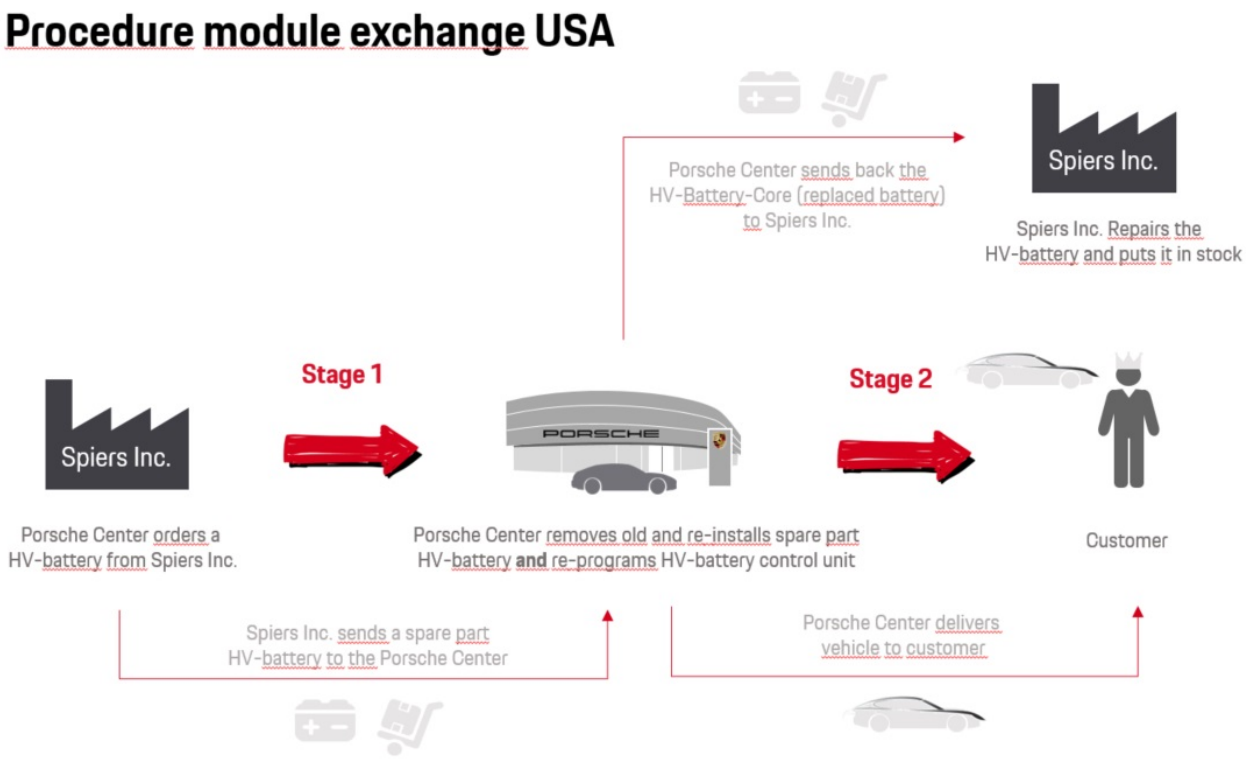
The Canadian market is not linked to the procedure in the USA. In the event a replacement is required for the high-voltage battery, the procedure "RoW" must be used. See ⇒ *Technical Information '2X00IN Procedure - Remaining markets (RoW/China)'*.

Information

If the high-voltage battery needs to be replaced, approval must first be obtained from Technical Support of the PCNA. Once approval has been obtained, please see PPN for the ordering procedure: https://ppn.porsche.com/portal/docs/DOC-324416

Parts Info:

Part No.	Designation
PNA611590DX	Battery



Component exchange process flow

Work Procedure: 1 **Create vehicle analysis log (VAL) using the PIWIS Tester.**
Mark the vehicle analysis log you have just created with the attribute "Initial VAL" and after programming the control units, return it using the PIWIS Tester.

2 Remove the old battery, see ⇒ *Workshop Manual '270855 Replacing high-voltage battery'* and then prepare for subsequent transportation to Spiers Inc. according to the respective battery status, see ⇒ *Workshop Manual '2X00IN Packing high-voltage battery with battery status "Normal" (not critical)'* or ⇒ *Workshop Manual '2X00IN Packing high-voltage battery with battery status "Warning" (critical)'*.

3 Install new high-voltage battery supplied by Spiers Inc., see ⇒ *Workshop Manual '270855 Replacing high-voltage battery'*.

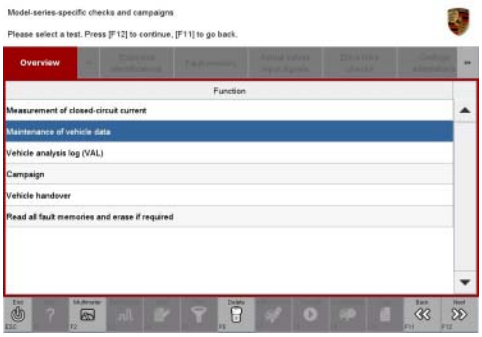
4 **Change vehicle data.**

4.1 In the control unit selection screen (**'Overview'** menu), press • F7 " to call up the Additional menu.

4.2 Select **'Maintenance of vehicle data'** and press • F12 " ('Next') to confirm ⇒ *Maintenance of vehicle data*.

4.3 Press • F12 " ('Next') to skip the displays containing information about vehicle description, colors/materials and X numbers.

4.4 Add the coding value **'ST2 - Installing HV battery (37 Ah cells)'** to the vehicle data on the second page of the M numbers. To do this, click in the "Installed" field for the relevant coding value to select the value.
Make sure that the 'Installed' column is then **ticked** and that the pen symbol appears in the 'Changed' column.
Then press • F12 " ('Next') to exit the PR numbers display.



Maintenance of vehicle data

4.5 Press • F8 " in the overview that is then displayed to save the changed vehicle data.

4.6 Once you have saved the vehicle data, press • F11 " ('Back') to return to the control unit selection screen.

5 **Re-program control unit for high-voltage battery.**

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 remedial action, see the table below.

Required PIWIS Tester software version:	**40.150.050** (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:	**L3H7K**
Programming sequence:	Read and follow the **information and instructions on the PIWIS Tester** during the guided programming sequence. The **high-voltage battery and air-conditioning control units** are **re-programmed** and then **re-codedautomatically** during the programming sequence. **Do not interrupt programming and coding.**
Programming time (approx.):	**12 minutes**

Software version programmed during this campaign: The software version of the programmed data record is based on the specified PIWIS Tester test software version. Please note that this may be different in a higher version.	**1400** Following control unit programming, the software version can be read out of the relevant control unit in the 'Extended identifications' menu using the PIWIS Tester.
Procedure in the event of error messages appearing during the programming sequence:	⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"'*.

Information

During programming, the taught-in battery capacities are also reset.

Information

Once the high-voltage battery control unit has been re-programmed, a diagnosis of the high-voltage battery is performed the next time the BUS is idle (ignition is switched off and the vehicle is locked). This process must not be interrupted. If the diagnosis is aborted because the vehicle was locked while the diagnosis was running, for example, a fault memory is stored.

6 **Lock the vehicle to start on-board diagnosis of the high-voltage battery.**

6.1 Disconnect the PIWIS Tester from the vehicle.

6.2 Switch off the ignition and lock the vehicle with the driver's key.
Remove the driver's key and place outside the radio range of the vehicle at a distance of **at least 5 metres** from the vehicle.

6.3 Unlock the vehicle again after waiting **a minimum of 5 minutes**.

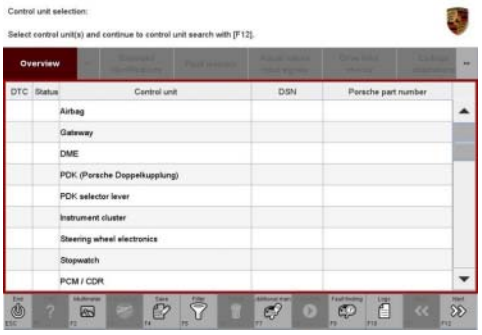
6.4 Switch on ignition.

6.5 Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and restore communication with the vehicle.

7 **Read out and erase fault memories.**

7.1 In the control unit selection screen (**'Overview'** menu) ⇒ *Control unit selection*, press • F7 " to call up the **'Additional menu'**.

7.2 Select **"Read all fault memories and erase if required"** and press • F12 " ("Next") to confirm your selection ⇒ *Erasing fault memories*.



Control unit selection

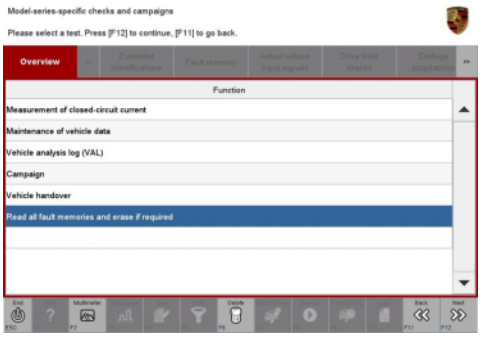
The fault memories of the control units are read out.

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

7.4 Press • F8 " to delete fault memory entries.

7.5 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.



Erasing fault memories

8 **Create a vehicle analysis log (VAL) using the PIWIS Tester.**
Mark the vehicle analysis log you have just created with the attribute "Final VAL" and return it using the PIWIS Tester.

Information

If the workshop campaign ⇒ *Technical Information 'WKK500 WKK5 Workshop campaign -Re-programming air conditioning and high-voltage battery control units'* has not yet been carried out on the vehicle, **do not** start this workshop campaign.
When the programming mentioned above is performed, the relevant control units are programmed to the current software version.

Campaign WKK5 must be closed by performing a recall update (warranty claim with 0 time units and no material items) for the affected vehicles.

9 Once the vehicle has been repaired successfully, send the old high-voltage battery to Spiers Inc. for repairs and storage.

Invoicing:

Information

If there is a warranty-relevant defect, it can be invoiced using the existing high-voltage battery warranty.

In the event of an expired high-voltage battery warranty and an existing PAW, then if a technical defect is the case (not caused by wear) an application for invoicing for ageing and wear must be completed. The costs can also be invoiced under "External service" in the warranty claim following a successful test.

For documentation and warranty invoicing, select the labor operations and PQIS coding specified below for the relevant repairs and enter them in the warranty claim:

APOS	Labour operation	I No.
03350053	Self-diagnosis (create VAL)	
27085515	Replacing high-voltage battery	
27942550	Programming high-voltage battery control unit	

PQIS coding:

Location (FES5)	27080	High-voltage battery
Damage type (SA4)	1824	Severe wear

References: ⇒ *Workshop Manual '270855 Replacing high-voltage battery'*

⇒ *Workshop Manual '2X00IN Packing high-voltage battery with battery status "Normal" (not critical)'*

⇒ *Workshop Manual '2X00IN Packing high-voltage battery with battery status "Warning" (critical)'*

Procedure - Remaining markets (RoW incl. Canada) - Battery replacement

WARNING

Incorrect handling of high-voltage components

- **Electric shock**
- **Short circuit**
- **Fire**
- **Explosion**

⇒ **Only appropriately trained and authorized persons are permitted to work on high-voltage vehicles and components.**

⇒ **Required qualification: High voltage technician or high voltage expert.**

⇒ **Observe national requirements and legislation for this work.**

⇒ **Always use insulated tools, e.g. VAS 6883 High voltage tool set, when working on these components.**

⇒ **Observe general warning notes for working on the high-voltage vehicle electrical system.** ⇒ ***Workshop Manual '2X00IN General warning notes for working on the high-voltage vehicle electrical system'***

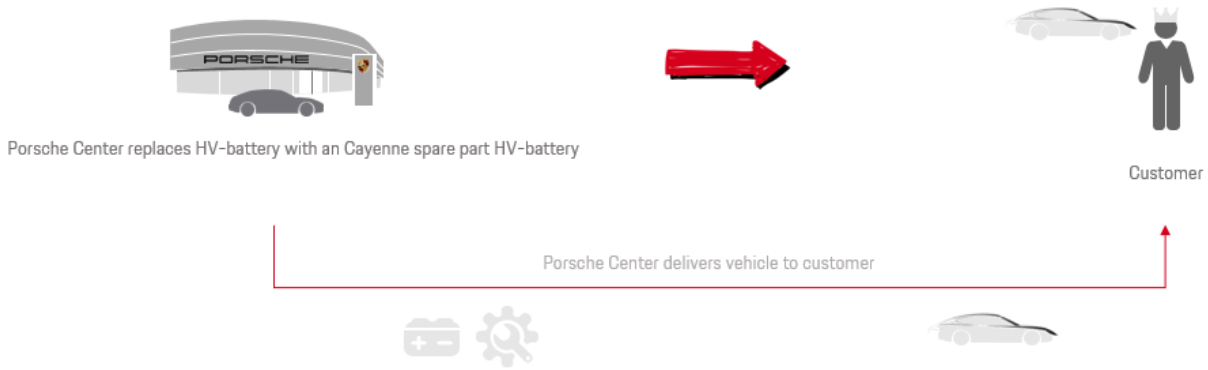
WARNING

Danger of fire, explosion

- **Insulation fault as a result of coolant leaking into high-voltage battery**

⇒ **Always drain the high-voltage battery cooling lines completely before transporting / handling the high-voltage battery.**

Procedure exchange of complete battery RoW and China



Process flow for exchange of complete battery

Information

The procedure described for replacing the high-voltage battery will be successively replaced by a high-voltage battery repair at the Porsche dealer. A corresponding training concept is currently being developed. The Porsche dealers will then be trained to perform the repairs independently.

Work Procedure: Order the regular high-voltage battery of the Cayenne S E-Hybrid (92A).

Parts required

Parts Info:

Part No.	Designation	Qty.
958611590DX	⇒ Hybrid battery	1 ea.

Materials:	Part No.	Designation	Qty.
	00004330516	⇒ Coolant additive	20-litre container (approx. 1 litre required per vehicle)

Required tools

Tools:

- **3033 - Lifting tackle**
- **9860 - Adapter plate**
- **VAS 6100 Workshop crane**
- **9703 - Flexible screwdriver**
- **VAS 6890 Spring band clamp pliers**
- **VAG 1274B Cooling system tester**
- **9696 - Filling device**
- **VAS 6096 / 2 Vacuum pump**
- **VAS 6562 Porsche adapter set for cooling system tester**
- **9900 - PIWIS Tester 3**
- Torque wrench, 0.4 - 2 Nm (0.3 - 1.5 ftlb.), e.g. **VAS 6253 Torque wrench, 0.4 - 2 Nm (0.3 - 1.5 ftlb.)**
- Torque wrench, 2 - 10 Nm (1.5 - 7.5 ftlb.), e.g. **VAG 1783 Torque wrench, 2-10 Nm (1.5-7.5 ftlb.)**
- Torque wrench, 6 - 50 Nm (4.5 - 37 ftlb.), e.g. **VAG 1331A Torque wrench, 6-50 Nm (4.5-37 ftlb.)**
- Torque wrench, 20-100 Nm (15-74 ftlb.), e.g. **VAS 5820 Torque wrench, 20-100 Nm (15-74 ftlb.)**

Converting and replacing high-voltage battery

Work Procedure:

1 **Create vehicle analysis log (VAL) using the PIWIS Tester.**
Mark the created vehicle analysis log with the attribute "Initial VAL" and once the high-voltage battery has been installed, return it using the PIWIS Tester.

2 **Remove high-voltage battery.**

2.1 Observe warning notes ⇒ *Workshop Manual '2X00IN General warning notes for working on the high-voltage vehicle electrical system'*.

2.2 Carry out classification of high-voltage battery ⇒ *Workshop Manual '2X00IN Classification of high-voltage battery'*.

2.3 Isolate the high-voltage system from the power supply and complete documentation ⇒ *Workshop Manual '2X00IN Isolating high-voltage system from power supply/Starting high-voltage system (diagnosis)'*.

2.4 Drain coolant for the low-temperature system ⇒ *Workshop Manual '193817 Draining and filling coolant'*.

2.5 Remove luggage compartment cover ⇒ *Workshop Manual '700619 Removing and installing trim panel for luggage compartment (luggage compartment cover) at the lock support'*.

2.6 Remove side trim panel for rear luggage compartment ⇒ *Workshop Manual '700319 Removing and installing side trim panel for rear luggage compartment'*.

2.7 Remove cover for rear lock support ⇒ *Workshop Manual '703919 Removing and installing cover for rear lock support'*.

2.8 Remove high-voltage battery ⇒ *Workshop Manual '270819 Removing and installing high-voltage battery'*.

3 **Replace the high-voltage battery.**

3.1 Replace high-voltage battery ⇒ *Workshop Manual '270855 Replacing high-voltage battery'*.

4 **Install new high-voltage battery.**

4.1 Install high-voltage battery ⇒ *Workshop Manual '270819 Removing and installing high-voltage battery'*.

4.2 Install cover for rear lock support ⇒ *Workshop Manual '703919 Removing and installing cover for rear lock support'*.

4.3 Install side trim panel for rear luggage compartment ⇒ *Workshop Manual '700319 Removing and installing side trim panel for rear luggage compartment'*.

4.4 Install luggage compartment cover ⇒ *Workshop Manual '700619 Removing and installing trim panel for luggage compartment (luggage compartment cover) at the lock support'*.

4.5 Fill in coolant for the low-temperature system ⇒ *Workshop Manual '193817 Draining and filling coolant'*.

4.6 Start the high-voltage system and complete the documentation ⇒ *Workshop Manual '2X00IN Isolating high-voltage system from power supply/Starting high-voltage system (diagnosis)'*.

5 **Create a vehicle analysis log (VAL) using the PIWIS Tester.**
Mark the created vehicle analysis log with the attribute "Final VAL" and return it using the PIWIS Tester.

Invoicing:

Information

If there is a warranty-relevant defect, it can be invoiced using the existing high-voltage battery warranty.

In the event of an expired high-voltage battery warranty and an existing PAW, then if a technical defect is the case (not caused by wear) an application for invoicing for ageing and wear must be completed. The costs can also be invoiced under "External service" in the warranty claim following a successful test.

For documentation and warranty invoicing, enter the labor operation, PQIS coding and part number specified below in the warranty claim:

APOS	Labor operation	I No.
03350053	Self-diagnosis (creating VAL)	
27085515	Replacing high-voltage battery	
19010700	Bleeding the cooling system	

PQIS coding:

Location (FES5)	27080	High-voltage battery
Damage type (SA4)	1600	ineffective

Parts Info:

Part No.	Designation	Qty.
958611590DX	Hybrid battery	1 ea.
00004330516	Coolant additive	0.05 ea. (= approx. 1 litre)

References:

⇒ *Workshop Manual '270819 Removing and installing high-voltage battery'*

⇒ *Workshop Manual '270855 Replacing high-voltage battery'*

⇒ *Workshop Manual '2X00IN General warning notes for working on the high-voltage vehicle electrical system'*

⇒ *Workshop Manual '2X00IN Classification of high-voltage battery'*

⇒ *Workshop Manual '2X00IN Isolating high-voltage system from power supply/Starting high-voltage system (diagnostics)'*

⇒ *Workshop Manual '193817 Draining and filling coolant'*

⇒ *Workshop Manual '700619 Removing and installing trim panel for luggage compartment (luggage compartment cover) at the lock carrier'*

⇒ *Workshop Manual '700319 Removing and installing side trim panel for rear luggage compartment'*

⇒ *Workshop Manual '703919 Removing and installing cover for rear lock carrier'*

⇒ *Workshop Manual '700619 Removing and installing trim panel for luggage compartment (luggage compartment cover) at the lock carrier'*

⇒ *Workshop Manual '2X00IN Isolating high-voltage system from power supply/Starting high-voltage system (diagnostics)'*

⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*

Procedure - Remaining markets (RoW incl. Canada) - Battery repair

WARNING

Incorrect handling of high-voltage components

- **Electric shock**
- **Short circuit**
- **Fire**
- **Explosion**

⇒ **Only appropriately trained and authorized persons are permitted to work on high-voltage vehicles and components.**

⇒ **Required qualification: High voltage technician or high voltage expert.**

⇒ **Observe national requirements and legislation for this work.**

⇒ **Always use insulated tools, e.g. VAS 6883 High voltage tool set, when working on these components.**

⇒ **Observe general warning notes for working on the high-voltage vehicle electrical system. *⇒Workshop Manual '2X00IN General warning notes for working on the high-voltage vehicle electrical system'***

WARNING

Danger of fire, explosion

- **Insulation fault as a result of coolant leaking into high-voltage battery**

⇒ **Always drain the high-voltage battery cooling lines completely before transporting / handling the high-voltage battery.**

Required tools

Tools:

- **VAS 6883 - Insulated tool set**
- **VAS 6558A - High-voltage test adapter**
- **VAS 6558 / 9-6A - High-voltage test adapter HVR40**
- **VAS 691 005 / 4 - Test adapter**
- **VAS 542 007 / 2 - Hose set**
- **VAS 6883A / 2 - Socket insert, insulated**
- **3033 - Lifting tackle**
- **9860 - Adapter plate**
- **VAS 6100 Workshop crane**
- **9703 - Flexible screwdriver**
- **VAS 6890 Spring band clamp pliers**
- **VAG 1274B Cooling system tester**
- **9696 - Filling device**
- **VAS 6096 / 2 Vacuum pump**
- **VAS 6562 Porsche adapter set for cooling system tester**

- **9900 - PIWIS Tester 3**
- Torque wrench, 0.4 - 2 Nm (0.3 - 1.5 ftlb.), e.g. **VAS 6253A Torque wrench, 0.4 - 2 Nm (0.3 - 1.5 ftlb.)**
- Torque wrench, 2 - 10 Nm (1.5 - 7.5 ftlb.), e.g. **VAG 1783 Torque wrench, 2-10 Nm (1.5-7.5 ftlb.)**
- Torque wrench, 6 - 50 Nm (4.5 - 37 ftlb.), e.g. **VAG 1331A Torque wrench, 6-50 Nm (4.5-37 ftlb.)**
- Torque wrench, 20-100 Nm (15-74 ftlb.), e.g. **VAS 5820 Torque wrench, 20-100 Nm (15-74 ftlb.)**

Work Procedure: 1 **Create vehicle analysis log (VAL) using the PIWIS Tester.**
Mark the created vehicle analysis log with the attribute "Initial VAL" and once the high-voltage battery has been installed, return it using the PIWIS Tester.

2 **Remove high-voltage battery.**

2.1 Observe warning notes ⇒ *Workshop Manual '2X00IN General warning notes for working on the high-voltage vehicle electrical system'*.

2.2 Carry out classification of high-voltage battery ⇒ *Workshop Manual '2X00IN Classification of high-voltage battery'*.

2.3 Isolate the high-voltage system from the power supply and complete documentation ⇒ *Workshop Manual '2X00IN Isolating high-voltage system from power supply/Starting high-voltage system (diagnosis)'*.

2.4 Drain coolant for the low-temperature system ⇒ *Workshop Manual '193817 Draining and filling coolant'*.

2.5 Remove luggage compartment cover ⇒ *Workshop Manual '700619 Removing and installing trim panel for luggage compartment (luggage compartment cover) at the lock support'*.

2.6 Remove side trim panel for rear luggage compartment ⇒ *Workshop Manual '700319 Removing and installing side trim panel for rear luggage compartment'*.

2.7 Remove cover for rear lock support ⇒ *Workshop Manual '703919 Removing and installing cover for rear lock support'*.

2.8 Remove high-voltage battery ⇒ *Workshop Manual '270819 Removing and installing high-voltage battery'*.

3 **Repair the high-voltage battery.**

3.1 Repair high-voltage battery ⇒ *Workshop Manual '270837 Disassembling and assembling high-voltage battery'*.

4 **Install new high-voltage battery.**

4.1 Install high-voltage battery ⇒ *Workshop Manual '270819 Removing and installing high-voltage battery'*.

4.2 Install cover for rear lock support ⇒*Workshop Manual '703919 Removing and installing cover for rear lock support'*.

4.3 Install side trim panel for rear luggage compartment ⇒*Workshop Manual '700319 Removing and installing side trim panel for rear luggage compartment'*.

4.4 Install luggage compartment cover ⇒*Workshop Manual '700619 Removing and installing trim panel for luggage compartment (luggage compartment cover) at the lock support'*.

4.5 Fill in coolant for the low-temperature system ⇒*Workshop Manual '193817 Draining and filling coolant'*.

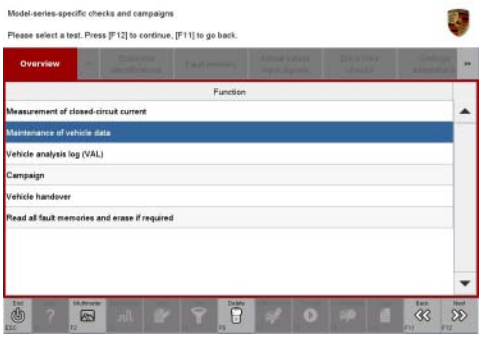
4.6 Start the high-voltage system and complete the documentation ⇒*Workshop Manual '2X00IN Isolating high-voltage system from power supply/Starting high-voltage system (diagnosis)'*.

5 **Change vehicle data.**

5.1 In the control unit selection screen (**'Overview'** menu), press • F7 “ to call up the Additional menu.

5.2 Select **'Maintenance of vehicle data'** and press • F12 “ ('Next') to confirm ⇒*Maintenance of vehicle data*.

5.3 Press • F12 “ ('Next') to skip the displays containing information about vehicle description, colors/materials and X numbers.



Maintenance of vehicle data

5.4 Add the coding value **'ST2 - Installing HV battery (37 Ah cells)'** to the vehicle data on the second page of the M numbers. To do this, click in the "Installed" field for the relevant coding value to select the value.
Make sure that the 'Installed' column is then **ticked** and that the pen symbol appears in the 'Changed' column.
Then press • F12 “ ('Next') to exit the PR numbers display.

5.5 Press • F8 “ in the overview that is then displayed to save the changed vehicle data.

5.6 Once you have saved the vehicle data, press • F11 “ ('Back') to return to the control unit selection screen.

6 **Re-program control unit for high-voltage battery.**

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 as part of this programming process, see the table below.

Required PIWIS Tester software version:	**40.150.050** (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:	**L3H7K**
Programming sequence:	Read and follow the **information and instructions on the PIWIS Tester** during the guided programming sequence. The **high-voltage battery control unit** is **re-programmed** and then **re-codedautomatically** during the programming sequence. **Do not interrupt programming and coding.**
Programming time (approx.):	**12 minutes**
Software version programmed during this campaign:	**1400** 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:	⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"'*.

Information

During programming, the taught-in battery capacities are also reset.

7 **Lock the vehicle to start on-board diagnosis of the high-voltage battery.**

7.1 Disconnect the PIWIS Tester from the vehicle.

7.2 Switch off the ignition and lock the vehicle with the driver's key.
Remove the driver's key and place outside the radio range of the vehicle at a distance of **at least 5 metres** from the vehicle.

7.3 Unlock the vehicle again after waiting **a minimum of 5 minutes**.

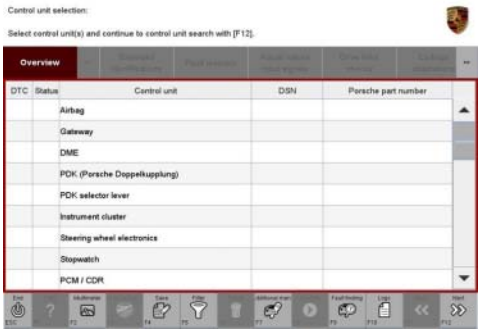
7.4 Switch on ignition.

7.5 Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and restore communication with the vehicle.

8 **Read out and erase fault memories.**

8.1 In the control unit selection screen (**'Overview'** menu) ⇒ *Control unit selection*, press • F7 “ to call up the **'Additional menu'**.

8.2 Select **“Read all fault memories and erase if required”** and press • F12 “ ("Next") to confirm your selection ⇒ *Erasing fault memories*.



Control unit selection

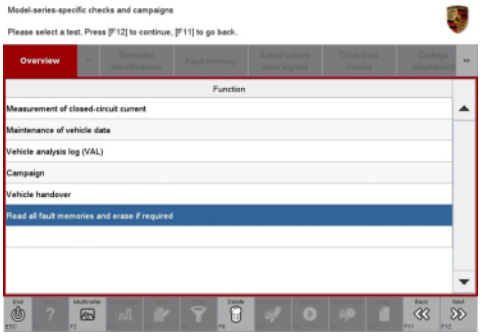
The fault memories of the control units are read out.

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

8.4 Press • F8 “ to delete fault memory entries.

8.5 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.



Erasing fault memories

9 **Create a vehicle analysis log (VAL) using the PIWIS Tester.**
Mark the vehicle analysis log you have just created with the attribute "Final VAL" and return it using the PIWIS Tester.

Invoicing:

Information

If there is a warranty-relevant defect, it can be invoiced using the existing high-voltage battery warranty.

In the event of an expired high-voltage battery warranty and an existing PAW, then if a technical defect is the case (not caused by wear) an application for invoicing for ageing and wear must be completed. The costs can also be invoiced under "External service" in the warranty claim following a successful test.

For documentation and warranty invoicing, enter the labor operation, PQIS coding and part number specified below in the warranty claim:

APOS	Labor operation	I No.
03350053	Self-diagnosis (creating VAL)	
27081915	Removing and installing high-voltage battery	

APOS	Labor operation	I No.
27083762	Disassembling and assembling high-voltage battery	
19010700	Bleeding the cooling system	

PQIS coding:

Location (FES5)	27080	High-voltage battery
Damage type (SA4)	1600	ineffective

References:

⇒ *Workshop Manual '270819 Removing and installing high-voltage battery'*

⇒ *Workshop Manual '270837 Disassembling and assembling high-voltage battery'*

⇒ *Workshop Manual '2X00IN General warning notes for working on the high-voltage vehicle electrical system'*

⇒ *Workshop Manual '2X00IN Classification of high-voltage battery'*

⇒ *Workshop Manual '2X00IN Isolating high-voltage electrical system from power supply/Starting high-voltage electrical system (diagnostics)'*

⇒ *Workshop Manual '193817 Draining and filling coolant'*

⇒ *Workshop Manual '700619 Removing and installing trim panel for luggage compartment (luggage compartment cover) at the lock carrier'*

⇒ *Workshop Manual '700319 Removing and installing side trim panel for rear luggage compartment'*

⇒ *Workshop Manual '703919 Removing and installing cover for rear lock carrier'*

⇒ *Workshop Manual '700619 Removing and installing trim panel for luggage compartment (luggage compartment cover) at the lock carrier'*

⇒ *Workshop Manual '2X00IN Isolating high-voltage electrical system from power supply/Starting high-voltage electrical system (diagnostics)'*

⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*