

Replacement of High-Voltage Battery - Observe Modified Procedure (139/20)

Revision: This bulletin replaces bulletin Group 2 139/20, dated September 21, 2020.

Model Year: **As of 2014 up to 2016**

Vehicle Type: **Panamera S E-Hybrid (970)**

Subject: **High-voltage battery**

Information: **Modified procedure for high-voltage battery replacement**

- From now on, if the high-voltage battery of the Panamera S E-Hybrid (970) needs to be replaced, the high-voltage battery of the Cayenne S E-Hybrid (92A) will no longer be used.
- Panamera batteries will be provided by our local remanufacturing partner: Spiers New Technologies.
- The previous Technical Information, Group 2, No. 88/19, which describes the procedure for using the high-voltage battery of the Cayenne S E-Hybrid (92A) in the Panamera S E-Hybrid (970), is therefore no longer valid and has been removed from the Porsche Central Service System (PCSS). The Electronic Parts Catalogue (PET) has also been updated accordingly.



Information

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

Remedial Action: Various repair concepts are available for the high-voltage battery, depending on the respective market. You will find the repair concept for your specific market and the relevant procedure for rectifying faults on the high-voltage battery in the ⇒ *Technical Information 'Replacement of high-voltage battery'* section.

Replacing the high-voltage battery

Work Procedure: The following repair concepts are currently available for the high-voltage battery:

- 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 Information 'Procedure - USA (PCNA)'*. Then return the old battery to Spiers Inc.

Work 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.

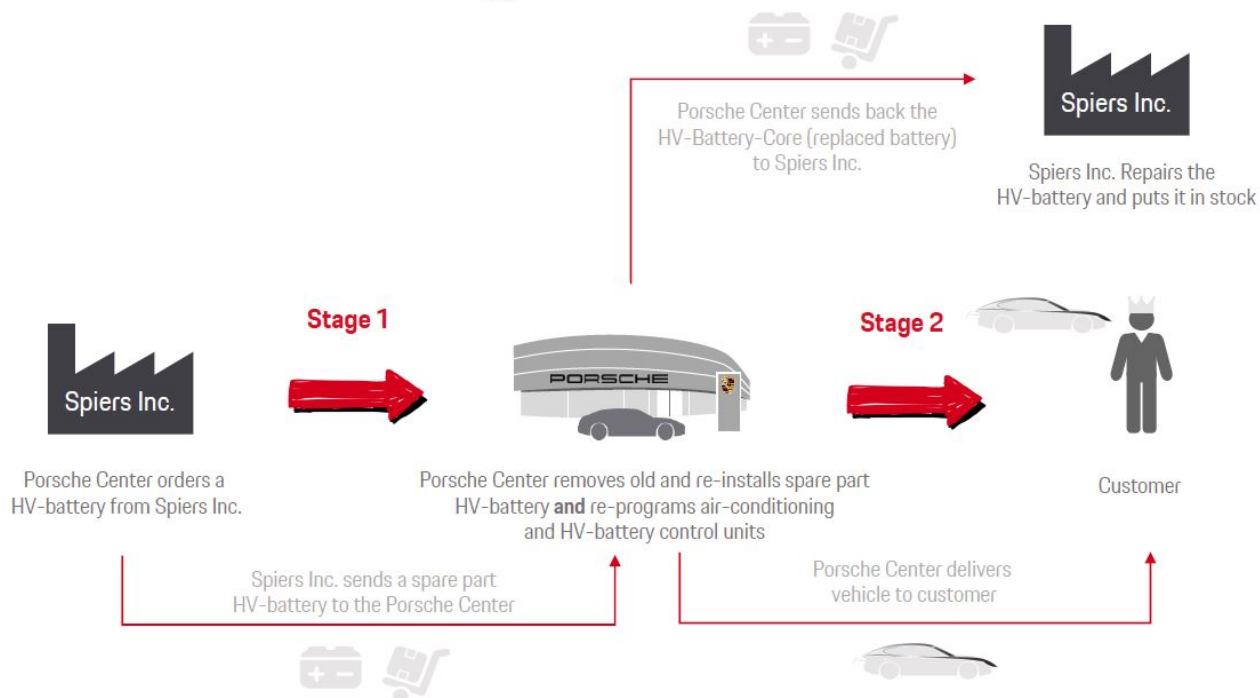
**Information**

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
PNA915590KX	Battery

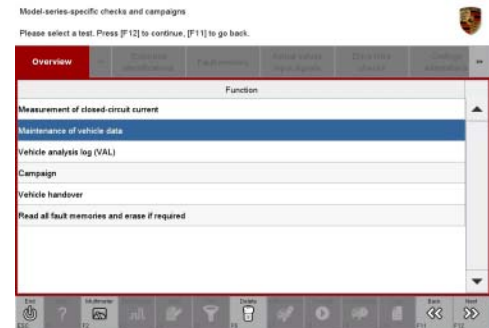
Procedure module exchange USA



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 **Adapt 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 your selection ⇒ *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.
- 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.



Maintenance of vehicle data

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:	39.600.030 (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:	C3B4V
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-coded automatically during the programming sequence. Do not interrupt programming and coding.

<p>Software version programmed during this campaign:</p> <p>The software version of the programmed data record is based on the specified PIWIS Tester test software version. Please note that these may have changed in a higher version.</p>	<p>High-voltage battery control unit: 1300</p> <p>Air-conditioning control unit: 1040</p> <p>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.</p>
<p>Procedure in the event of error messages appearing during the programming sequence:</p>	<p>⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"</i>.</p>



Information

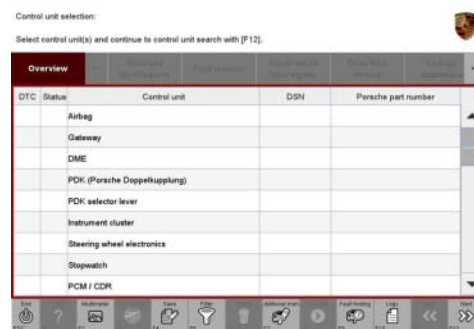
Once the high-voltage battery control unit has been re-programmed, a diagnosis of the high-voltage battery is performed the next time the BUS is idle (ignition is switched off and the vehicle is locked). This process must not be interrupted. If the diagnosis is aborted because the vehicle was locked 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 the function "**Read all fault memories and erase if required**" and press •F12" ("Next") to confirm your selection ⇒ *Erasing fault memories*.

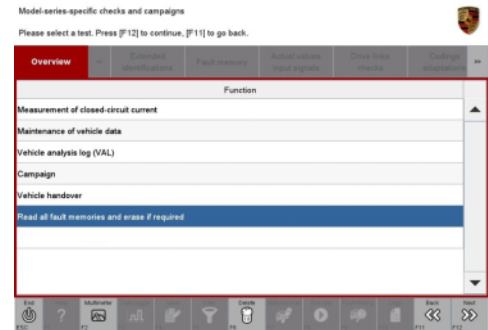


Control unit selection

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: 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.
27085515	Replacing high-voltage battery	

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)'*

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