

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

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):**

- Order and then install the Cayenne S E-Hybrid (92A) spare part high-voltage battery, see ⇒ *Technical Information 'Procedure - USA (PCNA) 1'*.

**All other markets (RoW) incl. Canada:**

- Order and then install the Cayenne S E-Hybrid (92A) spare part high-voltage battery, see ⇒ *Technical Information 'Procedure - Remaining markets (RoW/China)'*.

## Procedure - USA (PCNA)

### WARNING

#### Incorrect handling of high-voltage components

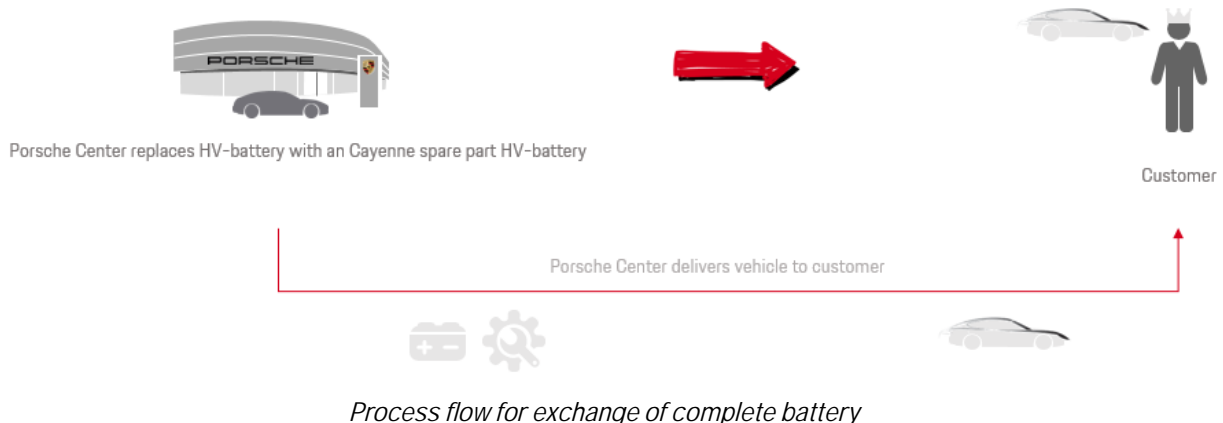
- Electric shock
  - Short circuit
  - Fire
  - Explosion
- ⇒ Only appropriately trained and authorized persons are permitted to work on high-voltage vehicles and components.
- ⇒ Required qualification: High voltage technician or high voltage expert.
- ⇒ Observe national requirements and legislation 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 USA (PCNA)





**Information**

The procedure described for replacement of 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 dealer will then be trained to carry out the repair process independently. The described procedure for replacement requirements of the high-voltage battery of the Cayenne S E-Hybrid (92A) will be replaced in the long term by a high-voltage battery repair, analogous to the high-voltage battery repair of the Panamera S E-Hybrid (970).

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

**Parts required**

Parts Info:	<b>Part No.</b>	<b>Designation</b>	<b>Qty.</b>
	958611590DX	⇒ Hybrid battery	1 ea.

Materials:	<b>Part No.</b>	<b>Designation</b>	<b>Qty.</b>
	00004330516	⇒ Coolant additive	20-liter/ 5.28 gal container (approx. 1 liter/ 33.8 fl oz 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 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 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	High-voltage battery	1 ea.
00004330516	Coolant additive	0.05 ea. (= approx. 1 liter/ 33.8 fl oz)

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)

### WARNING

#### Incorrect handling of high-voltage components

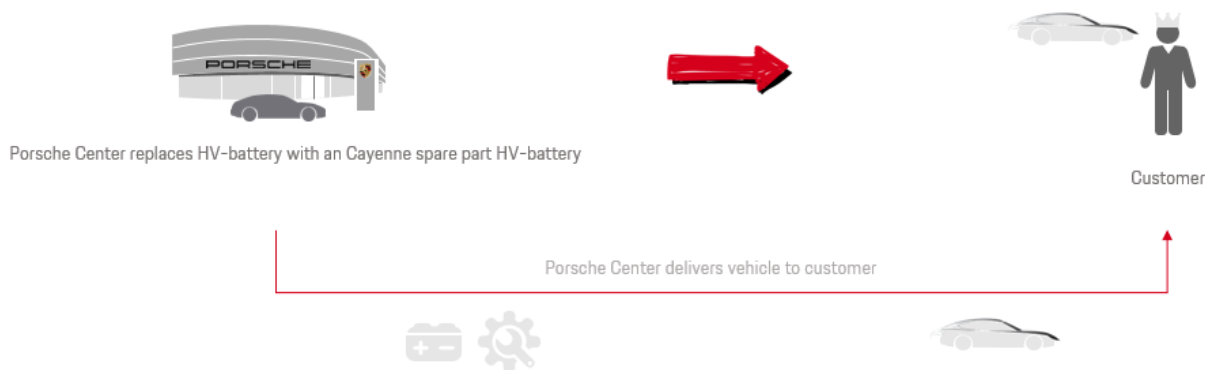
- Electric shock
  - Short circuit
  - Fire
  - Explosion
- ⇒ Only appropriately trained and authorized persons are permitted to work on high-voltage vehicles and components.
- ⇒ Required qualification: High voltage technician or high voltage expert.
- ⇒ Observe national requirements and legislation 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:	<b>Part No.</b>	<b>Designation</b>	<b>Qty.</b>
	958611590DX	⇒ Hybrid battery	1 ea.

Materials:	<b>Part No.</b>	<b>Designation</b>	<b>Qty.</b>
	00004330516	⇒ Coolant additive	20-liter/ 5.28 gal container (approx. 1 liter/ 33.8 fl oz required per vehicle)

**Required tools**

- |        |  |
|--------|--|
| Tools: | <ul style="list-style-type: none"> <li>• 3033 - Lifting tackle</li> <li>• 9860 - Adapter plate</li> <li>• VAS 6100 Workshop crane</li> <li>• 9703 - Flexible screwdriver</li> <li>• VAS 6890 Spring band clamp pliers</li> <li>• VAG 1274B Cooling system tester</li> <li>• 9696 - Filling device</li> </ul> |
|--------|--|

- **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.)**
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- 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'.*
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- 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'*.
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- 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:



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- References:
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  - ⇒ *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'*

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