

**Complaint – Charging is Canceled / Check Engine Warning Light is Active: Re-Program High-Voltage Charger (OBC) Control Unit (36/21)**

Vehicle Type: **Cayenne E-Hybrid (9YA / 9YB)  
Cayenne Turbo S E-Hybrid (9YA / 9YB)**

Model Year: **As of 2017**

Concerns: **High-voltage charger (OBC) control unit**

Information: Charging of the high-voltage battery is cancelled and the Check Engine warning light comes on in the instrument cluster. In many cases, it may be possible to continue charging the vehicle once the vehicle plug has been disconnected and then re-connected to the vehicle.

This fault is caused by voltage fluctuations in the supply network (e.g. the domestic connection) to which the high-voltage battery charger is connected.

The entry '**B200000 – Control unit, function restriction (E10105)**' is stored in the fault memory of the high-voltage charger (OBC) control unit as an active fault memory entry, which cannot be deleted initially. As a result, the Check Engine warning light is not deactivated.

Action required: In the event of a customer complaint, re-program the high-voltage charger (OBC) control unit using the relevant programming code.



**Information**

- Control unit programming sets the fault memory entry 'B200000 – Control unit, function restriction (E10105)' to passive, which can then be deleted.
- We are currently working on a software solution that permanently corrects the fault type described here. As soon as it becomes available, this Technical Information (TI) will be updated accordingly.
- Replacing the control unit will not correct the problem because the parts that are currently available use the same software as the control unit that was the object of the complaint.



**Information**

Please inform the customer that until such a time as the software is updated, we cannot rule out the possibility that the fault will occur again on the same charging connection as before.

Remind the customer to use another charge connection until further notice, if possible.

## Required tools



### Information

The Cayenne is equipped as standard with a **lithium starter battery**, which must only be charged using suitable battery chargers.

For further information about the battery chargers to be used, see:

- ⇒ *Workshop Manual '2706IN General information on the 12-volt lithium-ion battery'*
- ⇒ *Workshop Manual '270689 Charging vehicle electrical system battery'*

### 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. **VAS 5908 Battery charger, 90 A**
- **9900 - PIWIS Tester 3** with PIWIS Tester software version **39.900.100** (or higher) installed

## Preparatory work



### Electrically moved side windows and rear spoiler

- **Danger of limbs being trapped or severed**
  - **Risk of damage to components**
- ⇒ **Do not reach into the danger area.**
- ⇒ **Keep third parties away from the danger area.**
- ⇒ **Do not move components or tools into the danger area.**
- ⇒ **Retract roll-up sun blinds on the rear side windows before starting programming or coding.**

### NOTICE

#### Fault entry in the fault memory and control unit programming aborted due to undervoltage.

- **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 getting started, connect a suitable battery charger with a current rating of at least 90 A to the jump-start terminals in the engine compartment.**

### NOTICE

#### Control unit programming will be aborted if the WiFi 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 vehicle 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 into the front left storage compartment in the center console to guarantee a continuous radio link between the vehicle and the driver's key.

- Work Procedure: 1 Position the driver's key in the rear area of the left cupholder in the center console between the holding struts (emergency start tray) in order to guarantee a permanent radio link between the vehicle and driver's key ⇒ *Emergency start tray*.
- 2 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"*.



*Emergency start tray*

**Re-programming high-voltage charger (OBC) control unit**



**Information**

The total time required for control unit programming is **approx. 4 minutes**.

- 1 The basic procedure for programming a control unit is described in the Workshop Manual ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming - section on "Programming"*.

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

Required PIWIS Tester software version:	<b>39.900.100</b> (or higher)
Type of control unit programming:	Control unit programming using the <b>'Campaign' function in the Additional menu</b> on the PIWIS Tester by entering a programming code.

Programming code:	<b>E3K4S</b>
Programming sequence:	<p>Read and follow the <b>information and instructions on the PIWIS Tester</b> during the guided programming sequence.</p> <p>During programming, the high-voltage charger (OBC) control unit is <b>re-programmed</b> and then <b>re-coded</b> automatically.</p> <p><b>Do not interrupt programming.</b></p>
Programming time (approx.):	<b>4 minutes</b>
<p>Software version programmed during this campaign:</p> <p>The software version information in the programmed data record is based on the specified PIWIS Tester software version. Please note that these may have changed in a higher version.</p>	<p><b>6119</b></p> <ul style="list-style-type: none"> <li>For the vehicles subject to a complaint, the software version does not change because only the old application software (version 6119) is re-installed. The measure must therefore be carried out even if software version 6119 was already read out in advance using the PIWIS Tester.</li> <li>Following control unit programming, the software version can be read out of the high-voltage charger (OBC) control unit from the menu ⇒ 'Extended identifications' using the PIWIS Tester.</li> </ul>
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.

2 Read out and erase the fault memory.

- 2.1 Press **•F7** in the control unit selection screen ('Overview' menu) to call up the Additional menu.

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

The fault memories of the control units are read out.

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



**Information**

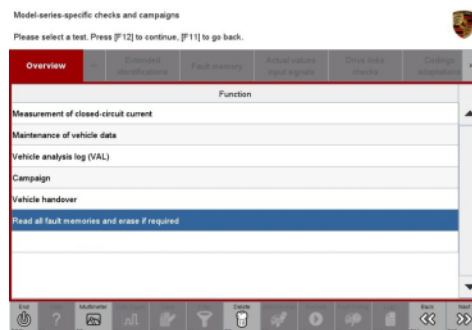
If control units are found to have faults that are **not** caused by control unit programming, these must first be **found** and **corrected**.

2.4 Press •F8" to delete fault memory entries.

2.5 Press •F12" ('Yes') in response to the question asking whether you really want to delete all fault memory entries.

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

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



*Erasing fault memories*



*Control unit selection*

**Concluding work**

Work Procedure: 1 Carry out general subsequent work for control unit programming as described in ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Subsequent work"*.

**Invoicing**

Invoicing: For documentation and warranty invoicing, enter the labor operations and PQIS coding specified below in the warranty claim:

APOS	Labor operation	I No.
27972590	Programming the high-voltage charger	

PQIS coding:

Location (FES5)	27970	High-voltage charger
Damage type (SA4)	1612	does not function at times

References: ⇒ *Workshop Manual '2706IN General information on the 12-volt lithium-ion battery'*  
 ⇒ *Workshop Manual '270689 Charging battery/vehicle electrical system'*  
 ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*

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