WF10 - Re-programming High-voltage Battery Control Unit (Workshop Campaign)

Important: **CRITICAL WARNING** - THIS CAMPAIGN INCLUDES STEPS WHERE SEVERAL CONTROL UNITS IN THE VEHICLE WILL BE PROGRAMMED WITH THE PIWIS TESTER. IT IS CRITICAL THAT THE VEHICLE VOLTAGE BE BETWEEN 13.5 VOLTS AND 14.5 VOLTS DURING THIS PROGRAMMING. OTHERWISE, THE PROGRAMMING COULD FAIL RESULTING IN DAMAGED CONTROL UNITS. CONTROL UNITS DAMAGED BY INADEQUATE VOLTAGE WILL NOT BE COVERED UNDER WARRANTY. THE TECHNICIAN MUST VERIFY THE ACTUAL VEHICLE VOLTAGE IN THE INSTRUMENT CLUSTER OR IN THE PIWIS TESTER BEFORE STARTING THE CAMPAIGN AND ALSO DOCUMENT THE ACTUAL VOLTAGE ON THE REPAIR ORDER. IT IS ALSO ADVISABLE TO MONITOR THE VEHICLE VOLTAGE DURING THE PROGRAMMING VIA THE INSTRUMENT CLUSTER. PLEASE REFER TO EQUIPMENT INFORMATION EQ-1105 FOR A LIST OF SUITABLE BATTERY CHARGERS/POWER SUPPLIES WHICH SHOULD BE USED TO MAINTAIN VEHICLE VOLTAGE.

Model Year: **As of 2014 up to 2015**

Vehicle Type: **Panamera S E-Hybrid**

Concerns: **High-voltage battery control unit**

Information: This is to inform you of a voluntary Workshop Campaign on the above-mentioned vehicles. **New software for the high-voltage battery control unit is available for the affected vehicles. This software improves or corrects the following:**

- The temperature of the high-voltage battery is monitored by two temperature sensors for each cell module. The current diagnostic setup of the high-voltage system does not allow for this redundancy and causes the warning message "Hybrid system failure - Park vehicle safely" to be displayed in the instrument cluster if one temperature sensor fails even though the temperature of the cell module is still monitored reliably by the remaining sensor.

Once the vehicle is stopped, it can no longer be driven.

To prevent this, the diagnostic setup of the high-voltage system will be adapted to allow for redundant temperature monitoring in future and the failure of one temperature sensor will no longer cause the high-voltage system to be switched off.
A corresponding fault memory entry reporting the failure of the temperature sensor will also be stored in the fault memory of the high-voltage battery control unit.

- Due to an error in certain versions of the high-voltage battery control unit software, there is a possibility of exhaustive discharge and thus irreversible damage to the high-voltage battery.

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Action Required:

Re-program the high-voltage battery control unit.

Information

It takes **about 6 minutes** to **program** the high-voltage battery control unit.
Once programming is complete, a control unit run-on phase of **at least 6 minutes** with the **ignition switched off** is required so that on-board diagnosis of the high-voltage system can be performed. The vehicle cannot be started until on-board diagnosis is completed successfully.

Affected Vehicles:

The VIN(s) can be checked by using PIWIS Vehicle Information link to verify if the campaign affects the vehicle. This campaign is scope specific to the VIN! Failure to verify in PIWIS may result in an improper repair. This campaign affects 1,160 vehicles in North America.

Information

If **other campaigns for programming the high-voltage battery control unit are open** in addition to this campaign, only the **latest campaign** for programming the high-voltage battery control unit must be carried out.
The **programming code specified in the Technical Information for the latest campaign** must be used for control unit programming in order to ensure that the high-voltage battery control unit is always re-programmed with the **latest software**.

Other open programming campaigns that affect the high-voltage battery control unit and involve the identical procedure must therefore no longer be carried out.
Proceed as follows in this case:

- In PQIS, mark the relevant campaign as **'cannot be carried out'** with the reason "**Modification of the affected component**". The "**Warranty relevance**" flag must be activated in order to be able to set a warranty claim and close the campaign.
- A warranty claim must be submitted for the campaign in which **0 TU** is entered as the specified **working time** and **no** material items are specified.

Tools:

- **Battery Charger / Power Supply** - Suitable for AGM Type batteries, recommended current rating of 70A fixed voltage 13.5V to 14.5V. Refer to Equipment Information EQ-1105.
- **9818 - PIWIS Tester II** with PIWIS Tester software version **15.410** (or higher) installed.

Information

Prerequisite for installing PIWIS Tester test software version 15.410:

Test software version **15.400** must already be installed on the PIWIS Tester in order to install software version **15.410**.

Work Procedure:

See Attachment "A".

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Claim Submission: See Attachment “B”.

Attachment "A": **Work Procedure**

Preliminary work

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 starting control unit programming, connect a suitable battery charger or power supply, suitable for AGM type batteries, recommended current rating of 70A fixed voltage 13.5V to 14.5V.**

NOTICE

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

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

⇒ **During control unit programming, always connect PIWIS Tester II to the vehicle communication module (VCI) via the USB cable.**

NOTICE

Programming interrupted

- **Malfunctions in control unit**
- **Risk of damage to control unit**

⇒ **Route the line between the PIWIS Tester and the vehicle communication module (VCI) without tension to prevent the line from slipping out of the USB connection on the PIWIS Tester.**

⇒ **Lock connecting lines on the vehicle communication module (VCI) using the bayonet lock.**

⇒ **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.**

NOTICE

Control unit programming will be aborted if the vehicle key is not recognised

- **If the vehicle key is not recognised in vehicles with Porsche Entry & Drive, programming cannot be started or will be interrupted.**

⇒ **Switch on the ignition using the original driver's key. To do this, replace the control panel in the ignition lock with the original driver's key if necessary.**

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 using the PIWIS Tester - section on "Preliminary work"'*.

Re-programming high-voltage battery control unit

Information

The procedure described here is based on the PIWIS Tester II software version **15.300**.

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.

Information

Once control unit programming is complete, the windscreen wipers can start wiping.
Do not work in this area or place any objects on the windscreen during programming.

Procedure: 1 **Re-program the high-voltage battery control unit**.

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 using the PIWIS Tester - section on "Programming"'*.

Specific information on control unit programming during this campaign:

Required PIWIS Tester software version:	**15.410** (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:	**G5L7D**

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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 first **re-programmed** and then **re-codedautomatically** during the programming sequence. **Do not interrupt programming and coding.**
Programming time (approx.):	**12 minutes** Once programming and coding is complete, the PIWIS Tester will prompt you to switch the ignition off and then back on again after a **waiting time of 6 minutes**. The 6-minute waiting time with the ignition switched off is necessary so that **on-board diagnosis of the high-voltage system** can be performed and completed as required after control unit programming. The vehicle cannot be started until on-board diagnosis is completed successfully. Fault memory entries that were entered as a result of control unit programming can only be deleted after on-board diagnosis has been completed successfully.
Software version programmed during this campaign:	**1101** 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 "Troubleshooting"'*.
Procedure in the event of abnormal termination of control unit programming:	Repeat control unit programming by entering the programming code again.

Subsequent work

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

Information

If the engine will not start and the prompt "Park vehicle safely" appears in the instrument cluster, on-board diagnosis of the hybrid system may not have been completed fully.
If this happens, switch off the ignition, disconnect the PIWIS Tester from the diagnostic socket on the vehicle and lock the vehicle. **Wait for at least 6 minutes**. Then unlock the vehicle and try to start the engine again.

Information

If the **passive** (greyed) fault memory entry **"D00000 - Function restriction due to fault in PSM"** is entered in the 'Electric power steering' control unit, please ignore this. The fault memory entry is stored as a result of a communication problem between the control units caused by the PIWIS Tester connected to the vehicle.

If the control units are found to have other faults, which cannot be erased and are not caused by control unit programming, these faults must be located and corrected.
This work **cannot** be invoiced under the workshop campaign number.

2 Enter the workshop campaign in the Warranty and Maintenance booklet.

Information

The specified working time was determined specifically for carrying out this campaign and may differ from the working times published in the Labor Operation List in PIWIS.

Attachment "B": **Claim Submission** - Workshop Campaign WF10
Warranty claims should be submitted via WWS/PQIS.
Open campaigns may be checked by using either the PIWIS Vehicle Information system or through PQIS Job Creation.
Labor, parts, and sublet will be automatically inserted when Technician is selected in WWS/PQIS. If necessary, the required part numbers will need to be manually entered into warranty system by the dealer administrator.

Working time:

Re-programming high-voltage battery control unit		Labor time: **60 TU**
Includes:	Connecting and disconnecting battery charger	
	Connecting and disconnecting PIWIS Tester	
	Reading out and erasing fault memories	

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Calibrating electric machine

⇒ **Damage code WF10 066 000 1**

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Dealership	Service Manager	_____	Shop Foreman	_____	Service Technician	_____	_____	_____	_____
Distribution									
Routing	Asst. Manager	_____	Warranty Admin.	_____	Service Technician	_____	_____	_____	_____

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