

WD65 - Re-programming Power Electronics (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: 2014

Vehicle Type: Panamera S E-Hybrid

Concerns: Power electronics for the high-voltage system

Information: This is to inform you of a voluntary Workshop Campaign on the above-mentioned vehicles. **A fault can occur in the temperature monitoring system for the high-voltage system at low outside temperatures due to a software error in the power electronics.**

If this happens, the yellow warning message "Hybrid system fault" will be displayed in the instrument cluster and the performance of the electric motor will be reduced by up to 50%. But the vehicle can still be driven.

Action Required: **Re-program the power electronics** for the high-voltage system using the PIWIS Tester with software version **13.130** or **13.160** (or higher) installed.



Information

The software required for **re-programming the power electronics** as part of this campaign depends on the software that was previously installed on the PIWIS Tester.

| | | |
|--|-----------------|---------------|
| Software currently installed on the PIWIS Tester: | 13.100 * | 13.150 * |
| Software to be installed on the PIWIS Tester in order to carry out this campaign: | 13.130** | 13.160 |

* Please note that two online updates (13.130 and 13.160) are available on the Online Update server if software 13.100 is installed on the PIWIS Tester. When the PIWIS Tester restarts after installing software 13.130, the following message will be displayed:

"The following DVD full update has to be installed before the online update can be performed again:
VG2-13.150"

If you have not yet received the DVD update containing test software 13.150, please ignore this message.

This campaign **cannot** be carried out using PIWIS Tester software version **13.150**. In this case, install software **13.160** on the PIWIS Tester first.

** Following installation of software 13.130, software version 13.100 will still be displayed on the PIWIS Tester desktop. The installed test software version 13.130 is shown in the "Version information" menu from the release history (PIWIS Tester desktop > Information >> Version information >>> History >>>> Update version).



Information

It takes **approx. 5 minutes** to program **the power electronics**.

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 303 vehicles in North America.

Tools:

- **9818 - PIWIS Tester II** with test software version **13.130** or **13.160** (or higher) installed
- 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.

Work Procedure: See Attachment "A".

Claim Submission: See Attachment "B".

Attachment "A":

NOTICE

Fault entry in the fault memory and control unit programming aborted due to low voltage.

- **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 commencing work, connect a battery charger or power supply - suitable for AGM Type batteries, recommended current rating of 70A fixed voltage 13.5V to 14.5V to the jump-start terminals in the engine compartment.**

⇒ Disconnect electric plug connection for the fan blower to prevent the blower from coming on during control unit programming.

NOTICE

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

- An unstable Internet 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

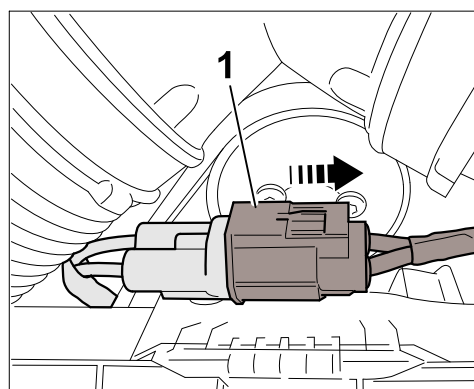
Control unit programming will be aborted if the vehicle key is not recognized

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

⇒ Switch on the ignition using the original vehicle key. To do this, replace the original vehicle key in the ignition lock with the plastic key fob if it was previously removed at the start of this procedure.

Work Procedure: **NOTE:** VEHICLE VOLTAGE MUST REMAIN BETWEEN 13.5 AND 14.5 VOLTS DURING THE ENTIRE WORK PROCEDURE.

- 1 Disconnect electric plug connection for the fan blower ⇒ *Disconnecting electric plug connection -1-* (⇒ *Disconnecting electric plug connection -arrow-*) to prevent the blower from coming on during control unit programming. Having the fan on and the associated increased current draw can cause a drop in voltage, which can result in abnormal termination of control unit programming.



Disconnecting electric plug connection

- 2 Connect a battery charger or power supply, suitable for AGM type batteries, recommended current rating of 70A fixed voltage 13.5V to 14.5V to the jump-start terminals in the engine compartmen.

- Switch on the ignition using the **original driver's key**. On vehicles with "Porsche Entry & Drive", do this by replacing the control panel in the ignition lock with the original driver's key if necessary.
- 9818 - PIWIS Tester II** with software version **13.130** or **13.160** (or higher) installed must be connected to the vehicle communication module (VCI) via the **USB cable**. Then, connect the communication module to the vehicle and switch on the PIWIS Tester.

Re-programming power electronics for high-voltage system



Information

The procedure described here is based on the PIWIS Tester II software version **13.130** or **13.160**.

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

During programming, the windscreen wipers can come on for one wipe cycle.

Do not work in this area during programming.

Procedure:

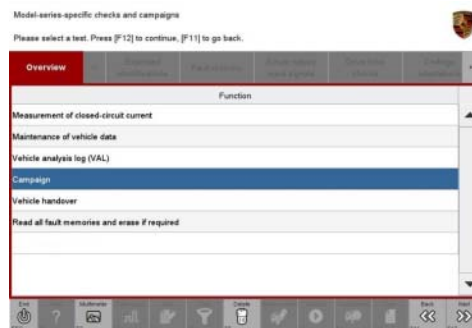
NOTE: VEHICLE VOLTAGE MUST REMAIN BETWEEN 13.5 AND 14.5 VOLTS DURING THE ENTIRE WORK PROCEDURE.

- In the control unit selection screen (⇒ **'Overview'** menu), press **•F7** to call up the ⇒ **'Additional menu'** (⇒ *Control unit selection*).
- When the question "Create Vehicle Analysis Log (VAL)?" appears, either press **•F12** to create a VAL or press **•F11** if you do not want to create a VAL.
- Press **•>>** to acknowledge the message informing you that campaigns for the vehicle are stored in the PIWIS information system.
- Select the ⇒ **'Campaign'** function and press **•>>** to confirm your selection ⇒ *Additional menu – Campaign*.



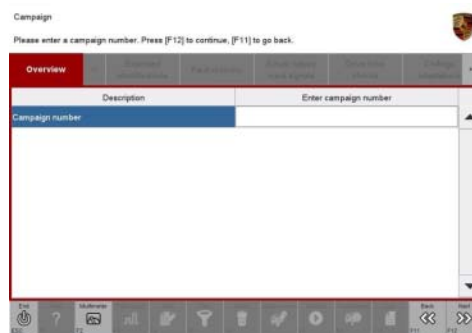
Control unit selection

You are then prompted to enter a programming code.



Additional menu – Campaign

- 5 To enter the programming code, click in the relevant text box so that the cursor starts to flash ⇒ *Programming code input field*.
- 6 Enter programming code **B8H8G**.
Press •Enter“ to confirm the programming code you entered. The text box turns blue.
Press •>>“ to start the guided programming sequence.



Programming code input field



Information

If programming does not start, the programming code must be entered again and programming must be restarted.



Information

Read and follow the **information and instructions on the PIWIS Tester** during the guided programming sequence.

The power electronics is **re-programmed** using a new data record with the software version **P626** (programming takes approx. 5 minutes).

The red warning message "Hybrid system fault" will be displayed in the instrument cluster.

Do not interrupt programming.

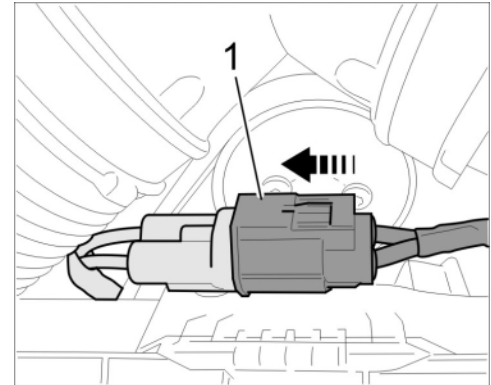
If an error message is displayed (e.g. "Campaign does not exist", "No suitable programming rules found" or "Vehicle data could not be read", etc.), please read and follow the appropriate instructions provided under ⇒ *Technical Information 'WD65 Troubleshooting'* at the end of this Technical Information.

If programming is interrupted (e.g. due to a voltage drop or if communication is aborted, etc.) or if programming could not be carried out successfully (error message "Programming unsuccessful"), programming must be **repeated** by entering the programming code **B8H8G** again (Additional menu > Campaign >> Enter campaign number).

It is **not** possible to program the control units manually.

Once the control units have been programmed, the PIWIS Tester will prompt you to switch the ignition off and then back on again after a **waiting time of approx. 10 seconds**.

- 7 During the waiting time, connect the electric plug connection ⇒ *Connecting electric plug connection -1-* for the fan blower in the engine compartment ⇒ *Connecting electric plug connection -arrow-*.



Connecting electric plug connection

- 8 Once control unit programming has been completed successfully, press •>>” to return to the start page of the Additional menu and press •<<” to return to the control unit selection screen ⇒ *Control unit selection*.



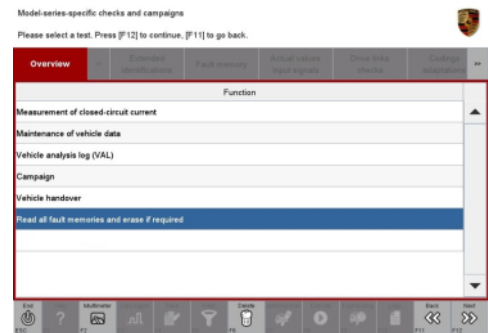
Control unit selection

Reading out and erasing fault memories

Procedure: **NOTE: VEHICLE VOLTAGE MUST REMAIN BETWEEN 13.5 AND 14.5 VOLTS DURING THE ENTIRE WORK PROCEDURE.**

- 1 In the control unit selection screen (⇒ 'Overview' menu), press **•F7** to call up the Additional menu.
- 2 Select the function "Read all fault memories and erase if required" and press **•>>** to confirm ⇒ *Erasing fault memories*.

The fault memories of the control units are read out.



Erasing fault memories

- 3 Once you have read out the fault memories, delete the fault memory entries by pressing **•F8**.
- 4 Press **•F12** ("Yes") in response to the question as to whether you really want to erase all fault memory entries.

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



Information

If the fault memories of individual control units (e.g. fault memory of the DME control unit, Adaptive Cruise Control (ACC), etc.) cannot be erased or if the red warning message "Hybrid system fault" does not go out in the instrument cluster after programming is completed successfully, proceed as follows:

- Switch off ignition.
- Disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
- Lock the vehicle using the driver's key.
- Wait approx. 1 minute before unlocking the vehicle again.
- Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and restore communication with the vehicle.
- Read out the fault memories of these control units again and erase the fault memories separately.

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

- Once you have erased the fault memories, select the ⇒ 'Overview' menu and press •<<" to return to the control unit selection screen ⇒ *Control unit selection*.



Control unit selection

Calibrating electric machine



Information

The electric machine must generally be calibrated after the fault memories of the OBD-relevant control units or the fault memories of all control units have been erased.

The rotor position (phase angle) and rotor temperature are stored during calibration of the electric machine.

Procedure: **NOTE:** VEHICLE VOLTAGE MUST REMAIN BETWEEN 13.5 AND 14.5 VOLTS DURING THE ENTIRE WORK PROCEDURE.

Proceed as follows when calibrating the electric machine:

- Press and hold the brake pedal.
- Turn the ignition key in the ignition lock to position 2 (terminal 50 – engine start) and hold it at this position for about 2 to 3 seconds.
Calibration of the electric machine is clearly audible. Calibration is complete once the calibration noise can no longer be heard.
- Release the ignition key and switch off ignition.
- Turn the ignition key in the ignition lock to position 2 (terminal 50 – engine start) again to start the engine. Then stop the engine again and switch off the ignition.

Subsequent work

- Procedure:
- Disconnect the PIWIS Tester from the vehicle.
 - Switch off and disconnect the battery charger.

- 3 On vehicles with Porsche Entry & Drive, replace the original driver's key in the ignition lock with the control panel again.
- 4 Enter the workshop campaign in the Warranty and Maintenance booklet.

Attachment "B":



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.

Claim Submission - Workshop Campaign WD65

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.

Scope:

Re-programming power electronics for high-voltage system

| | |
|--|---|
| Working time: | |
| Re-programming power electronics for high-voltage system | Labor time: 40 TU |
| Includes: | <ul style="list-style-type: none"> Connecting and disconnecting battery charger Connecting and disconnecting PIWIS Tester Erasing fault memories Calibrating electric machine |
| ⇒ Damage code WD65 066 000 1 | |

Troubleshooting

Procedure:

| Error message after entering campaign number | Possible causes | Remedial action |
|--|--|---|
| Specified campaign does not exist. | <ul style="list-style-type: none"> PIWIS Tester software is not up-to-date. | <ul style="list-style-type: none"> Update PIWIS Tester software to the software version specified in the Technical Information (or a higher software version). Then enter the campaign number again and start programming. |

| | | |
|---|---|---|
| | <ul style="list-style-type: none"> Wrong vehicle type selected. | <ul style="list-style-type: none"> Close the diagnostic application. Select the correct vehicle type and restart the diagnostic application. Then enter the campaign number again and start programming. |
| | <ul style="list-style-type: none"> Incorrect programming code entered or programming code not entered correctly. | <ul style="list-style-type: none"> Enter the programming code specified in the Technical Information correctly. |
| <p>No suitable programming rules found. Cause: Part number of the control unit is not in the programming rules.</p> | <ul style="list-style-type: none"> Campaign must not be carried out on the vehicle or campaign was already carried out. | <ul style="list-style-type: none"> Check vehicle assignment to the campaign in PIWIS > Vehicle information. |
| | <ul style="list-style-type: none"> Replacement control unit with up-to-date software version was installed. | <ul style="list-style-type: none"> Check software version and Porsche part number of the power electronics in the ⇒ "Extended identification" menu. <p>Current software version of the power electronics: P626</p> <p>Current Porsche part number of the power electronics: 7PP907080H</p> |
| | <ul style="list-style-type: none"> Software version of the installed control unit is already up-to-date. | |
| | <ul style="list-style-type: none"> Software version of the control unit is a version that is not intended for carrying out the campaign. | |
| <p>No suitable programming rules found. Cause: Current vehicle equipment is not shown in the programming rules. Please check vehicle order and change it if necessary.</p> | <ul style="list-style-type: none"> Campaign must not be carried out on the vehicle. | <ul style="list-style-type: none"> Check vehicle assignment to the campaign in PIWIS > Vehicle information. |
| | <ul style="list-style-type: none"> Vehicle order is wrong. | <ul style="list-style-type: none"> Check vehicle order and correct it if necessary (PIWIS Tester > Additional menu >> Maintenance of vehicle data). |
| <p>Vehicle data could not be read.</p> | <ul style="list-style-type: none"> Ignition not switched on. | <ul style="list-style-type: none"> Switch on ignition and close and restart the diagnostic application. Then enter the |

| | | |
|--|--|--|
| | | campaign number again and start programming. |
|--|--|--|

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

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