

WE44 - Re-programming DME 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: 2015

Vehicle Type: Cayenne S E-Hybrid (92A)

Concerns: DME control unit

Information: This is to inform you of a voluntary Workshop Campaign on the above-mentioned vehicles. **With the previous software for controlling the cooling-air flaps for demand-controlled regulation of engine cooling, there is a possibility that the cooling-air flaps will remain closed at speeds of over 124 mph 200 km/h) on the affected vehicles.**

If this high speed is maintained, the cooling-air flaps can no longer be opened when additional cooling air is required due to the air force acting on the vanes.
In this case, cooling performance can be reduced and as a result, the warning messages "Engine too hot, Park vehicle to cool down" and "Oil temperature too high" can be displayed in the instrument cluster.

Action Required: Re-program DME control unit using an updated data record.
With this data record, the cooling-air flaps are forced to open as soon as a speed of 100 mph (160 km/h) is reached.

**Information**

It takes **approx. 8 – 10 minutes** to **program the DME control unit** (depending on the respective vehicle type).

After programming the DME control unit, the following steps must also be carried out in the specified sequence:

- Reading out and erasing fault memories
- Performing adaptations (throttle valve, cooling-air flaps, kickdown threshold)
- Calibrating electric machine
- Adapting the decoupler*

* For adapting the decoupler, the **state of charge of the high-voltage battery must be at least 35%**. This corresponds to four bars in the battery state of charge display in the instrument cluster.

Please check the state of charge of the high-voltage battery before carrying out the campaign. Charge the high-voltage battery before carrying out the campaign if necessary to ensure that the state of charge is at least 35% and the decoupler can be adapted.

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 507 vehicles in North America.

Tools:

- **9818 - PIWIS Tester II** with PIWIS Tester test software version **14.700** (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 starting control unit programming, connect a 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 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 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"*.

Carrying out control unit programming



Information

The procedure described here is based on the PIWIS Tester II software version **14.700**.

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.

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

- 1 **Re-program DME 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:	14.700 (or higher)
Type of control unit programming:	Control unit programming using the 'Automatic programming' function for the DME control unit. DME control unit > ⇒ 'Programming' menu >> 'Automatic programming' function.
Programming sequence:	Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence. During the programming sequence, the DME control unit - as well as the Tiptronic control unit - will be re-programmed and then re-coded automatically . Do not interrupt programming and coding.
Programming time (approx.):	8 – 10 minutes
Procedure in the event of error messages appearing during the programming sequence:	⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Troubleshooting"</i> .
Procedure in the event of abnormal termination of control unit programming:	Repeat control unit programming by restarting programming.

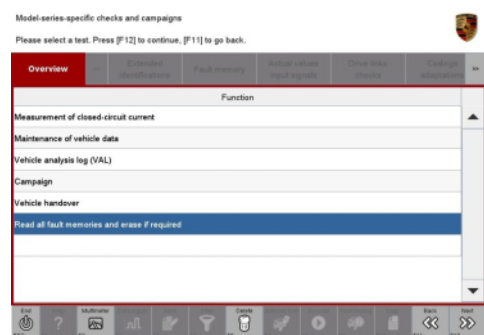
- 2 Connect electric plug connection for the fan blower again.

Reading out and erasing fault memories

Work 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 memories of the control units DME, Adaptive Cruise Control (ACC), etc.) cannot be erased, 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.

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

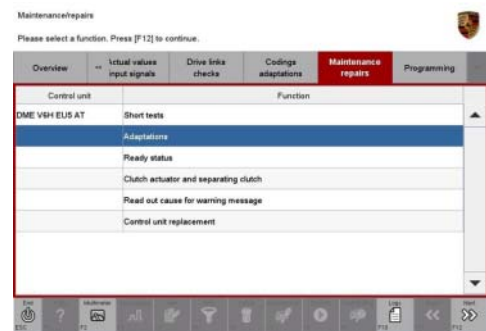


Control unit selection

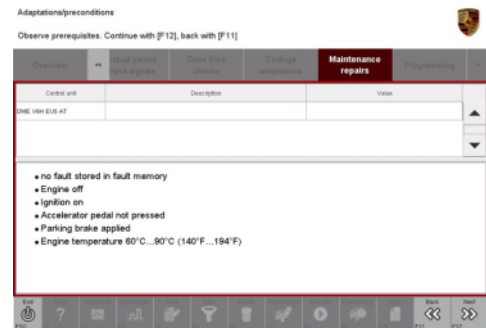
Performing throttle valve adaptation

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

- 1 Select the **'DME'** control unit in the control unit selection screen (⇒ 'Overview' menu) and press **•>>** to confirm your selection.
- 2 Once the DME control unit has been found and is displayed in the overview, select the ⇒ **'Maintenance/repairs'** menu.
- 3 Select menu item ⇒ **'Adaptations'** and press **•>>** to confirm your selection ⇒ *DME - Adaptations*.

*DME - Adaptations*

- 4 Check the displayed preconditions and press **•>>** to confirm ⇒ *Adaptation preconditions*. It is not absolutely necessary to comply with any temperature ranges specified in the preconditions in order to perform the adaptation. The adaptations will still be performed even if the temperature conditions are not met.

*Adaptation preconditions*

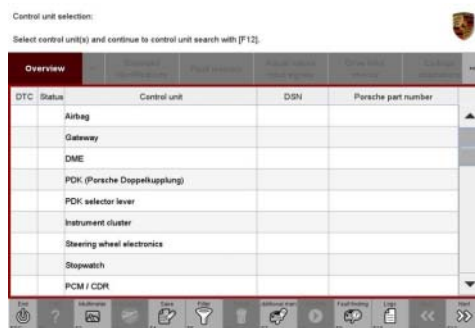
- 5 Select the ⇒ **'Throttle valve adaptation'** function so that the corresponding text line turns blue and press **•F8** to start the throttle valve adaptation ⇒ *Throttle valve adaptation*.

*Throttle valve adaptation*

- 6 Follow the instructions on the PIWIS Tester while throttle valve adaptation is being performed. Once throttle valve adaptation is complete, a tick will appear in the "Value" field on the PIWIS Tester display.

If throttle valve adaptation is **not** completed successfully, adaptation must be **repeated**.

- 7 Press •F8" ("Stop") to end throttle valve adaptation.
- 8 Press •<<" to return to the start page of the ⇒ 'Maintenance/repairs' menu.
- 9 Select the ⇒ 'Overview' menu and press •<<" to return to the control unit selection screen ⇒ *Control unit selection*.



Control unit selection

Performing cooling-air flap adaptation

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

- 1 Select the ⇒ 'Radiator shutter adaptation' function in the ⇒ 'Maintenance/repairs' menu so that the corresponding text line turns blue and then press •F8" to start radiator shutter adaptation ⇒ *Radiator shutter adaptation*.

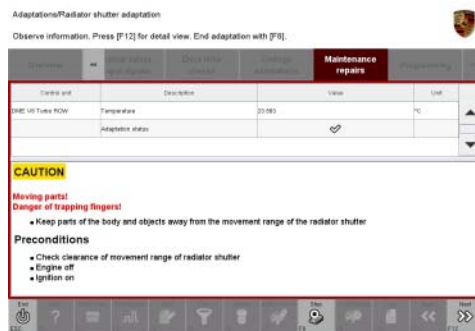


Radiator shutter adaptation

- 2 Follow the instructions on the PIWIS Tester while radiator shutter adaptation is being performed ⇒ *PIWIS instructions*.

Once adaptation is complete, a tick will appear in the "Value" field on the PIWIS Tester display.

If radiator shutter adaptation is **not** completed successfully, the adaptation must be **repeated**.



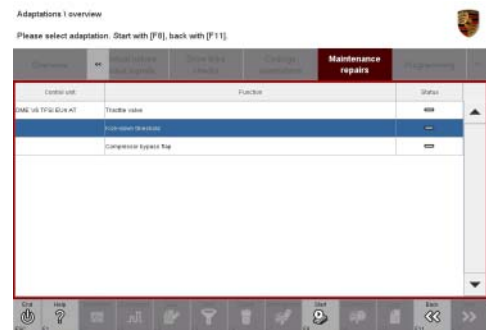
PIWIS instructions

- 3 End radiator shutter adaptation by pressing •F8" ("Stop").

Performing kickdown threshold adaptation

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

- 1 Select the ⇒ **'Kickdown threshold'** function in the ⇒ 'Maintenance/repairs' menu so that the corresponding text line turns blue and then press •F8" to start kickdown threshold adaptation ⇒ *Kickdown threshold adaptation*.

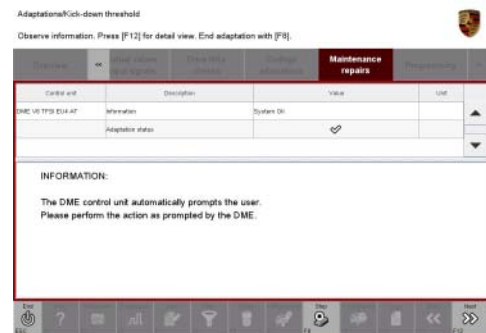


Kickdown threshold adaptation

- 2 Read and follow the instructions on the PIWIS Tester in order to perform kickdown threshold adaptation ⇒ *PIWIS instructions*.

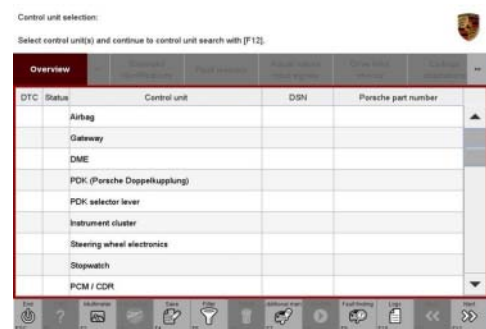
Once kickdown threshold adaptation is complete, a tick will appear in the "Value" field on the PIWIS Tester display.

If kickdown threshold adaptation is **not** completed successfully, the adaptation must be **repeated**.



PIWIS instructions

- 3 End kickdown threshold adaptation by pressing •F8" ("Stop").
- 4 Press •<<" to return to the start page of the ⇒ **'Maintenance/repairs'** menu.
- 5 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.

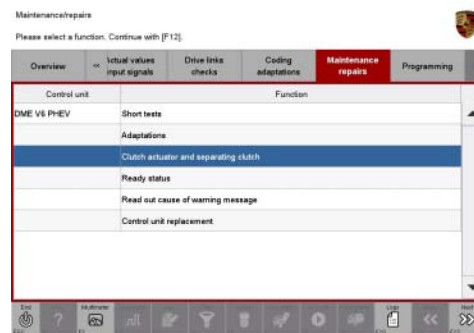
Work Procedure: **NOTE:** VEHICLE VOLTAGE MUST REMAIN BETWEEN 13.5 AND 14.5 VOLTS DURING THE ENTIRE WORK PROCEDURE.

- 1 Press and hold the brake pedal.
- 2 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.
- 3 Release the ignition key and move it to position 1 (ignition on).

Adapting the separating clutch/decoupler

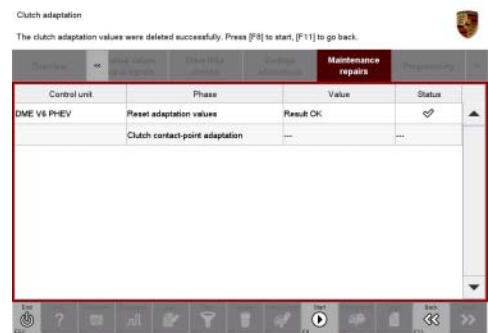
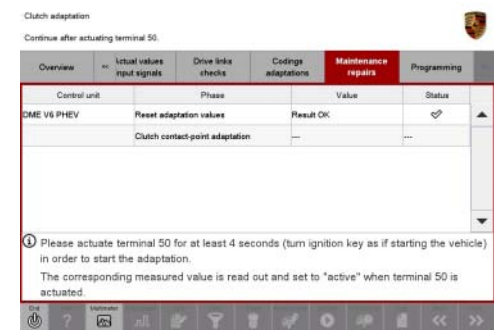
Work Procedure: **NOTE:** VEHICLE VOLTAGE MUST REMAIN BETWEEN 13.5 AND 14.5 VOLTS DURING THE ENTIRE WORK PROCEDURE.

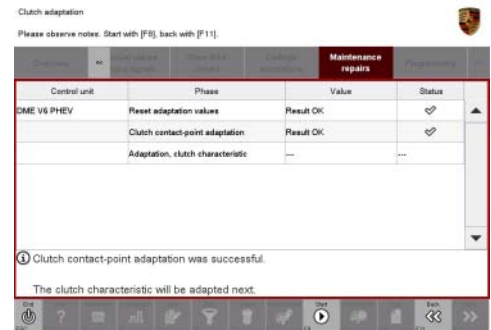
- 1 Switch ignition off and then back on again after about 3 seconds.
Restore communication between PIWIS Tester II and the vehicle by pressing **•F12** .
- 2 Select **'DME'** control unit in the control unit selection screen ('Overview' menu) and press **•>>** to confirm your selection.
- 3 Once the DME control unit has been found and is displayed in the overview, select the ⇒ **'Maintenance/repairs'** menu.
- 4 Select the menu item ⇒ **'Clutch actuator and decoupler'** and press **•>>** to confirm your selection ⇒ *Clutch actuator and decoupler*.
- 5 Read and comply with the preconditions for the state of charge of the high-voltage battery and confirm by pressing **•>>** .



Clutch actuator and decoupler

- 6 Select the ⇒ **'Clutch adaptation'** function and press •>>" to confirm your selection ⇒ *Adapting the decoupler*.
- 7 Read and follow the instructions for starting the electric motor and performing adaptation. Press the brake pedal and then press •>>" to start the adaptation.
- 8 During adaptation, the adaptation values will first be deleted ⇒ *Resetting adaptation values*. The clutch contact point and the clutch characteristic will then be adapted ⇒ *Adapting contact point* and ⇒ *Adapting characteristic*. Start each step by pressing •F8" and follow the instructions on the PIWIS Tester.

*Adapting the decoupler**Resetting adaptation values**Adapting contact point*

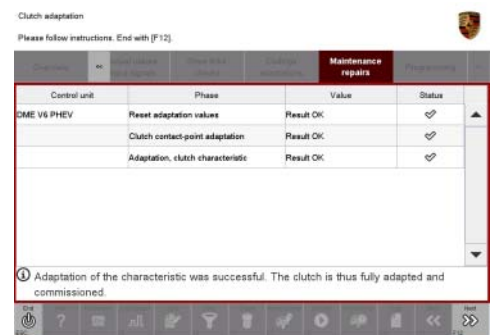


Adapting characteristic

- Once the separating clutch adaptation is complete, a tick will appear in the "Status" field in the PIWIS Tester display ⇒ *Adaptation successful*. Press •>>" to continue.

If the separating clutch adaptation is **not** completed successfully, the process must be **repeated**. To do this, first erase the fault memories of all control units and calibrate the electric machine. Then carry out the separating clutch adaptation again.

- Press •<<" to return to the start page of the ⇒ **'Maintenance/repairs'** menu.
- Select the ⇒ **'Overview'** menu and press •<<" to return to the control unit selection screen.



Adaptation successful

Subsequent work

- Work Procedure:
- Switch off ignition.
 - Disconnect the PIWIS Tester from the vehicle.
 - Switch off and disconnect the battery charger.
 - On vehicles with Porsche Entry & Drive, replace the original driver's key in the ignition lock with the control unit again.
 - 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 WE44

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 1: **Not valid for this vehicle type.**

Scope 2:

Working time:

Re-programming DME control unit

Labor time: **55 TU**

Includes:

- Disconnecting and connecting electric plug connection for fan blower
- Connecting and disconnecting battery charger
- Connecting and disconnecting PIWIS Tester
- Reading out and erasing fault memories
- Performing throttle valve adaptation
- Performing cooling-air flap adaptation
- Performing kickdown threshold adaptation
- Calibrating electric machine
- Adapting the separating clutch/decoupler

⇒ **Damage code WE44 066 000 1**

References: ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*

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