WG18 - Re-programming DME and Tiptronic Control Unit (Workshop Campaign)

Important: **CRITICAL WARNING** - This campaign includes steps where control unit(s) in the vehicle will be programmed with the PIWIS Tester. The vehicle voltage must be maintained between 13.5 volts and 14.5 volts during this programming. Failure to maintain this voltage could result in damaged control unit(s). Damage caused by inadequate voltage during programming is not a warrantable defect. The technician must verify the actual vehicle voltage in the PIWIS Tester before starting the campaign and also document the actual voltage on the repair order. Please refer to Equipment Information EQ1401 for a list of suitable battery chargers/power supplies which should be used to maintain vehicle voltage.

Model Year: **As of 2015 up to 2016**

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

Subject: **DME control unit**

Information: **Due to a software error in the DME control unit, a rough-running engine can occur sporadically during the warm-up phase on the affected vehicles.**

If this happens, the Check Engine light will be activated.

Remedial Action: Re-program DME control unit using the PIWIS Tester with software version **33.400.020** (PIWIS Tester 3) or version **17.400.020** (PIWIS Tester II) or a higher software version installed.

NOTICE

Use of a PIWIS Tester test software version that is older than the prescribed version

- **Measure is ineffective**

⇒ **Always use the prescribed version or a higher version of the PIWIS Tester software for control unit programming.**

Information

It takes **about 8 minutes** to **program** the DME control unit.

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

- Reading out and erasing fault memory
- 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: Only the vehicles assigned to the campaign (see also PIWIS Vehicle information). This campaign affects 1,758 vehicles in North America.

Required Tools

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.
- **9900 - PIWIS Tester 3** with PIWIS Tester software version **33.400.020** (or higher) installed

or

- **9818 - PIWIS Tester II** with PIWIS Tester software version **17.400.020** (or higher) installed.

Preparatory work

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 and the vehicle communication module (VCI). As a result, control unit programming may be aborted.**

⇒ **During control unit programming, always connect 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 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: 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 DME and Tiptronic control unit

Information

The procedure described here is based on the PIWIS Tester II software version **17.400.020**.

The PIWIS Tester instructions take precedence and in the event of a discrepancy these are the instructions that must be followed. Deviations may occur with later software versions, for example.

Work Procedure: 1 **Re-program DME and Tiptronic 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"'*.

For specific information on control unit programming during this campaign, see table below.

NOTICE

Use of a PIWIS Tester test software version that is older than the prescribed version

- **Measure is ineffective**

⇒ **Always use the prescribed version or a higher version of the PIWIS Tester software for control unit programming.**

Required PIWIS Tester software version:	• PIWIS Tester 3:	**33.400.020** (or higher)
	• PIWIS Tester II:	**17.400.020** (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-codedautomatically**. **Do not interrupt programming and coding.**
Programming time (approx):	**8 minutes**
Procedure in the event of **abnormal termination** of control unit programming:	Repeat control unit programming by restarting programming.
Procedure in the event of **other error messages** appearing during the programming sequence:	⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"'*.

2 If previously disconnected, re-connect the electric plug connection for the fan blower.

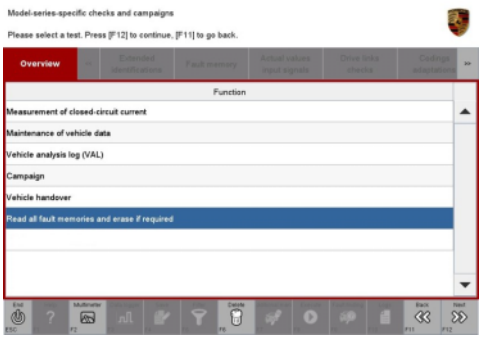
Reading out and erasing fault memory

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 •F12 “ ('Next') to confirm your selection ⇒ *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, erase the fault memory entries by pressing •F8 “ .

4 Press •F12 “ ('Yes') in response to the question as to whether you really want to delete 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 cannot be erased, proceed as follows:

- Switch off the 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.
- Start the engine, leave it running for a short time and then stop it again.
- Switch off the ignition and wait approx. 10 seconds before switching it back on again.
- Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and restore communication with the vehicle.
- Read out the fault memory again and delete any fault memory entries that are stored.

If the control units still have faults that cannot be deleted 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

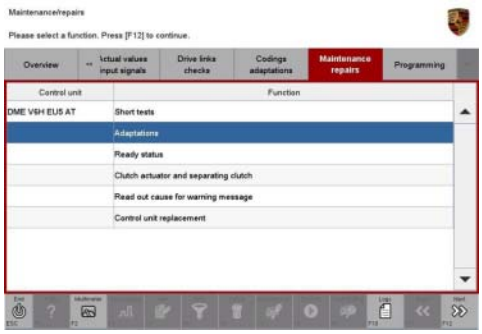
Perform throttle valve adaptation

Work Procedure:

1 Select the **'DME'** control unit in the control unit selection screen ('Overview' menu) and press •F12 “ ('Next') to confirm your selection.

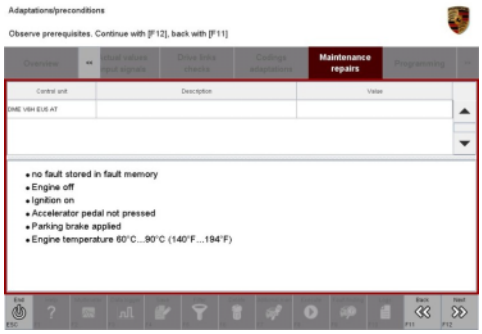
2 Once the DME control unit has been found and is displayed in the overview, select the ⇒ **'Maintenance / repairs'** menu.

3 Select menu item ⇒ **'Adaptations'** and confirm your selection by pressing • F12 “ ('Next') ⇒ *DME - Adaptations*.



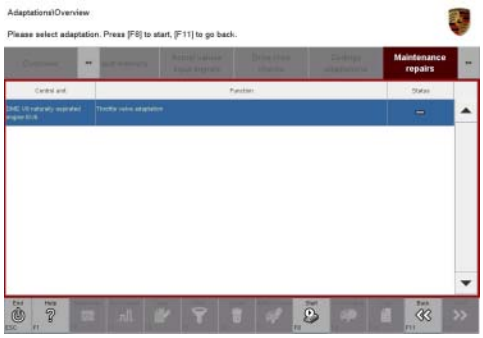
DME - Adaptations

4 Comply with the displayed preconditions and press • F12 “ ('Next') to confirm ⇒ *Adaptation preconditions*.



Adaptation preconditions

5 Select the ⇒ **'Throttle valve adaptation'** function so that the corresponding text line turns blue and press • F8 “ (‘Start’) to start throttle valve adaptation ⇒ *Throttle valve adaptation*.



Throttle valve adaptation

6 Follow the instructions on thePIWIS Tester while throttle valve adaptation is being performed.

Once throttle valve adaptation is complete, a tick will appear in the “Value” field in the PIWIS Tester display.

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

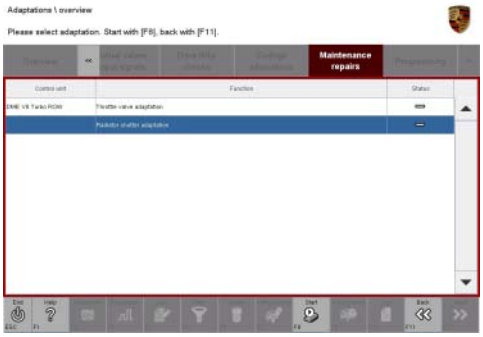
7 Press • F8 “ ('Stop') to end throttle valve adaptation.

8 Press • F11 “ ('Back') to return to the start page of the ⇒ **'Adaptations'** menu.

Performing cooling-air flap adaptation

Work Procedure:

1 Select the ⇒ **'Radiator shutter adaptation'** function so that the corresponding text line turns blue and then press • F8 “ ('Start') to start radiator shutter adaptation ⇒*Radiator shutter adaptation*.

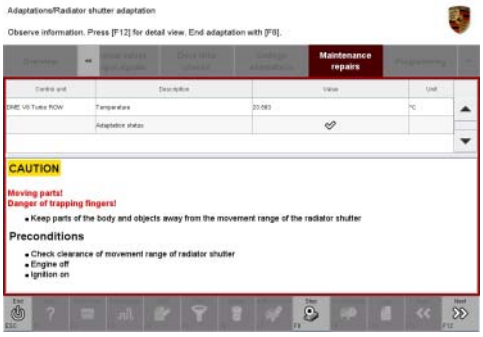


Radiator shutter adaptation

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

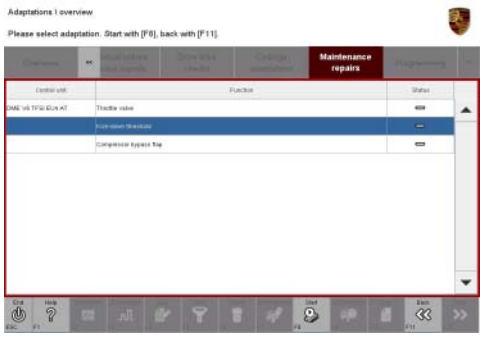
3 End radiator shutter adaptation by pressing • F8 “ ('Stop').

4 Press • F11 “ ('Back') to return to the start page of the ⇒ **'Adaptations'** menu.

Performing kickdown threshold adaptation

Work Procedure:

1 Select the ⇒ **'Kickdown threshold'** function so that the corresponding text line turns blue and press • F8 “ ('Start') to start kickdown threshold adaptation ⇒ *Kickdown threshold adaptation*.

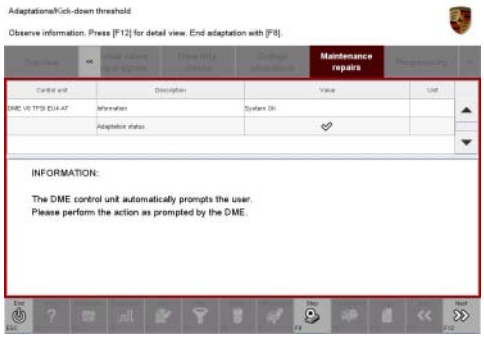


Kickdown threshold adaptation

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 • F11 “ ('Back') to return to the start page of the ⇒ **'Maintenance / repairs'** menu.

5 Select the ⇒ **'Overview'** menu and press • F11 “ ('Back') 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: 1 Press the brake pedal and keep it pressed.

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 decoupler

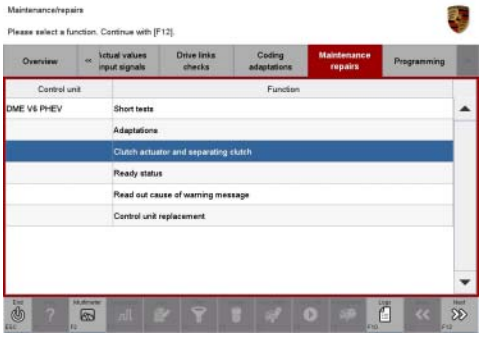
Work Procedure: 1 Switch ignition off and then back on again after about 3 seconds.
Restore communication between PIWIS Tester II and the vehicle by pressing • F12 “ ('Next').

2 Select the **'DME'** control unit in the control unit selection screen ('Overview' menu) and press • F12 “ ('Next') 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 • F12 “ ('Next') to confirm your selection ⇒ *Clutch actuator and decoupler*.

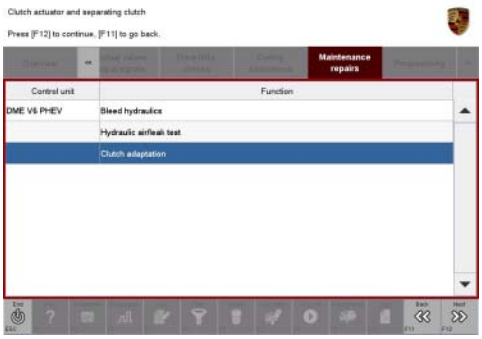
5 Read and comply with the preconditions for the state of charge of the high-voltage battery and confirm by pressing • F12 “ ('Next').



Clutch actuator and decoupler

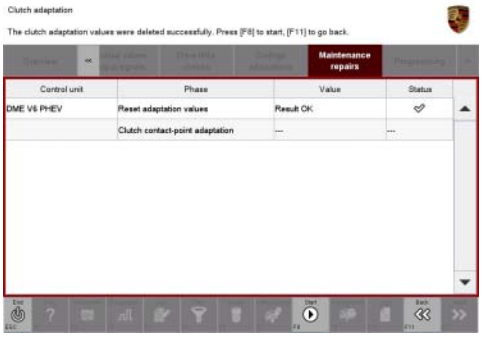
6 Select the ⇒ **'Clutch adaptation'** function and press • F12 “ ('Next') to confirm your selection ⇒*Adapting the decoupler*.

7 Read and follow the instructions for starting the electric motor and performing adaptation.
Press the brake pedal and then press • F12 “ ('Next') to start the adaptation.

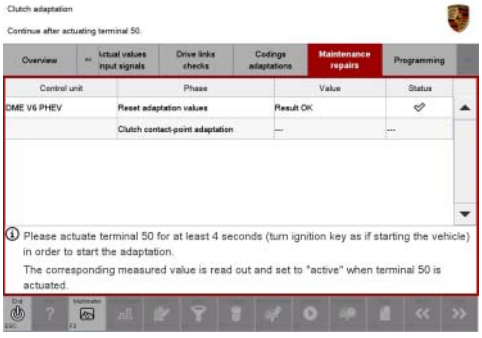


Adapting the decoupler

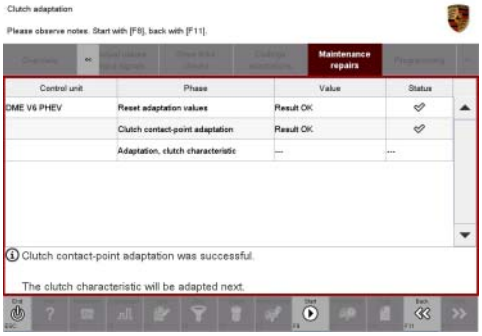
8 During adaptation, the adaptation values will first be deleted ⇒*Resetting adaptation values*.
The clutch contact point and the clutch characteristic will then be adapted ⇒*Adapting contact point* and ⇒*Adapting characteristic*.
Start each step by pressing • F8 “ (‘Start’) and follow the instructions on the PIWIS Tester.



Resetting adaptation values



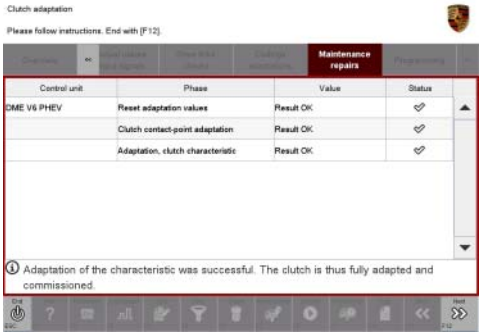
Adapting contact point



Adapting characteristic

9 Once the decoupler adaptation is complete, a tick will appear in the “Status” field in the PIWIS Tester display ⇒*Adaptation successful*.
Press •F12 “ ('Next') to continue.

If the decoupler 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 decoupler adaptation again.



Adaptation successful

10 Press •F11 “ ('Back') to return to the start page of the ⇒ **'Maintenance / repairs'** menu.

11 Select the ⇒ **'Overview'** menu and press •F11 “ ('Back') to return to the control unit selection screen.

Concluding work

Work Procedure: 1 Switch off the ignition.

2 Disconnect the PIWIS Tester from the vehicle.

3 Switch off and disconnect the battery charger.

4 On vehicles with Porsche Entry & Drive, replace the original vehicle key in the ignition lock with the control panel again.

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

Warranty Processing

Information

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

Scope:

Working time:

Re-programming DME and Tiptronic 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 decoupler

⇒ **Damage Code WG18 066 000 1**

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