

**WG50 - Re-programming DME 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 2014 up to 2016

**Vehicle type:** Panamera S E-Hybrid (970)

**Subject:** DME control unit

**Situation:** The unwarranted error messages "Hybrid system fault" and "Reduced engine power" can appear sporadically in the instrument cluster on the affected vehicles under certain driving conditions because the diagnostic function for the hybrid decoupler is too sensitive.

If this happens, engine power will be reduced and the Check Engine light will be activated until the ignition is switched off and on again.

**Remedial action:** Re-program DME control unit using the PIWIS Tester with test software version **34.010.020** (PIWIS Tester 3) or version **18.000.020** (PIWIS Tester II) or a higher software version installed.



**Information**

**The procedure for programming the DME control unit as part of this campaign depends on whether the following measure has already been carried out on the vehicle:**

- ⇒ *Technical Information '247025 Eliminating symptoms in body interior: Re-programming DME control unit (Warning in instrument cluster "Maximum oil level exceeded - Below minimum oil level"/SY3511)'*

The relevant vehicle must therefore be checked first to find out whether the measure specified above was carried out (e.g. by checking the vehicle history or by checking to see if the sticker showing the changed engine oil fill quantity was affixed after the measure was carried out).

**Information**

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

- Reading out and erasing fault memory
- Perform throttle valve adaptation
- Calibrating electric machine
- Adapting the decoupler

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

Affected Vehicles: Only the vehicles assigned to the campaign (see also PIWIS Vehicle information). This campaign affects 1,850 vehicles in North America.

**Required tools****NOTICE****Use of a PIWIS Tester 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.**

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 test software version **34.010.020** (or higher) installed

or

- **9818 - PIWIS Tester II** with PIWIS Tester test software version **18.000.020** (or higher) installed.

**Checking whether the measure for the "Maximum oil level exceeded - Below minimum oil level" warning was carried out on the vehicle**

Procedure:

**Information**

The procedure for programming the DME control unit as part of this campaign depends on whether the measure required for the "Maximum oil level exceeded - Below minimum oil level" warning has already been carried out on the vehicle.

- 1 Check whether the measure for the "Maximum oil level exceeded - Below minimum oil level" warning was carried out on the vehicle.  
You can do this, for example, by checking the vehicle history or by checking to see if the sticker showing the changed engine oil fill quantity was affixed after the measure was carried out.  
For further information, see ⇒ *Technical Information '247025 Eliminating symptoms in body interior: Re-programming DME control unit (Warning in instrument cluster "Maximum oil level exceeded - Below minimum oil level"/SY3511)'*.
  - The **measure** required for the "Maximum oil level exceeded - Below minimum oil level" warning was **not carried out** on the vehicle: Re-program the DME control unit using the **'Programming' menu**. For instructions, see ⇒ *Technical Information 'WG5000 Re-programming DME control unit using the "Programming" menu'*.
  - The **measure** required for the **"Maximum oil level exceeded - Below minimum oil level"** warning was **carried out** on the vehicle: Re-program the DME control unit by entering a **specific programming code**, see ⇒ *Technical Information 'WG5000 Re-programming DME control unit using the 'Campaign' function in the Additional menu on the PIWIS Tester'*.

### Re-programming DME control unit using the 'Programming' menu

#### 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.

- 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"*.
  - 2 Re-program the DME control unit using the 'Programming' menu.  
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 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:	<ul style="list-style-type: none"> <li>• PIWIS Tester 3: <b>34.010.020</b> (or higher)</li> <li>• PIWIS Tester II: <b>18.000.020</b> (or higher)</li> </ul>
Type of control unit programming:	Control unit programming using the ' <b>Automatic programming</b> ' function for the DME control unit.  <b>DME control unit – 'Programming' menu – 'Automatic programming' function.</b>
Programming sequence:	Read and follow the <b>information and instructions on the PIWIS Tester</b> during the guided programming sequence. During the programming sequence, the <b>DME control unit is re-programmed</b> and then <b>re-coded automatically</b> .  <b>Do not interrupt programming and coding.</b>  Once the control units have been programmed and coded, the PIWIS Tester will prompt you to switch the ignition off and then back on again after a <b>waiting time of approx. 10 seconds</b> .
Programming time (approx):	<b>8 minutes</b>

Porsche Part No. of the new DME data record:	970.618.5xx.09  Following control unit programming, the Porsche part number can be read out of the 'DME' control unit in the ' <b>Extended identification</b> ' menu using the PIWIS Tester.
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 "Fault finding"</i> .
Procedure in the event of abnormal termination of control unit programming:	Repeat control unit programming by restarting programming.

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

Then continue with ⇒ *Technical Information 'WG5000 Reading out and erasing fault memory'*.

### Re-programming DME control unit using the 'Campaign' function in the Additional menu on the PIWIS Tester

**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.

- 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"*.
  - 2 Re-program the DME control unit using the 'Campaign' function in the Additional menu on the PIWIS Tester.



### Information

If the measure required for the "Maximum oil level exceeded - Below minimum oil level" warning has already been carried out on the vehicle, the DME control unit **MUST** be programmed using the "Campaign" function in the Additional menu on the PIWIS Tester.

This ensures that the DME control unit will be programmed both with the updated data record for this campaign and with the data record for the measure required if the warning "Maximum oil level exceeded - Below minimum oil level" is displayed.

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 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:	<ul style="list-style-type: none"> <li>• PIWIS Tester 3: <b>34.010.020</b> (or higher)</li> <li>• PIWIS Tester II: <b>18.000.020</b> (or higher)</li> </ul>
Type of control unit programming:	Control unit programming using the " <b>Campaign</b> " <b>function in the Additional menu</b> on the PIWIS Tester by entering a programming code.
Programming code:	<b>L5G5Q</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 the programming sequence, the <b>DME control unit</b> is <b>re-programmed</b> and then <b>re-coded automatically</b>.</p> <p><b>Do not interrupt programming and coding.</b></p> <p>Once the control units have been programmed and coded, the PIWIS Tester will prompt you to switch the ignition off and then back on again after a <b>waiting time of approx. 10 seconds</b>.</p>
Programming time (approx):	<b>8 minutes</b>
Porsche Part No. of the new DME data record:	<p>970.618.5xx.<b>10</b></p> <p>Following control unit programming, the Porsche part number can be read out of the 'DME' control unit in the '<b>Extended identification</b>' menu using the PIWIS Tester.</p>
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 "Fault finding"</i> .
Procedure in the event of abnormal termination of control unit programming:	Repeat control unit programming by entering the programming code again.

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

Then continue with ⇒ *Technical Information 'WG5000 Reading out and erasing fault memory'*.

### Reading out and erasing fault memory

- Procedure:
- 1 Press •F7" in the control unit selection screen ('Overview' menu) 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.

- 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**. This work **cannot** be invoiced under the workshop campaign number.

- Press **•F8** to delete fault memory entries.
- Confirm the query as to whether you really want to delete all fault memory entries and press **•F12** ('Yes') to confirm.  
The faults stored in the fault memories of the various control units are then deleted.



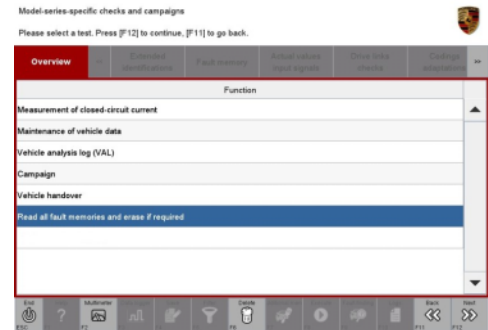
#### Information

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.
- 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 that 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 to return to the control unit selection screen ⇒ *Control unit selection*.



*Erasing fault memories*

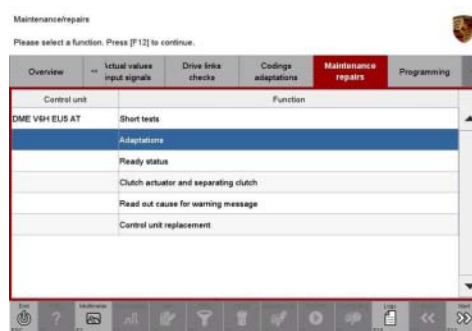


*Control unit selection*

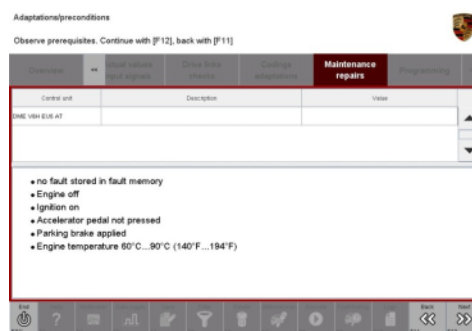


**Perform throttle valve adaptation**

- 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 '**Main-tenance/repairs**' menu.
  - 3 Select menu item '**Adaptations**' and confirm your selection by pressing •F12" ('Next') ⇒ *DME - Adap-tations*.
  - 4 Comply with the displayed preconditions and press •F12" ('Next') to confirm ⇒ *Adaptation precon-ditions*.
  - 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*.
  - 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, the adaptation must be **repeated**.
  - 7 Press •F8" ('Stop') to end throttle valve adaptation.



*DME - Adaptations*



*Adaptation preconditions*



*Throttle valve adaptation*

- 8 Press •F11" ('Back') to return to the start page of the '**Maintenance/repairs**' menu.
- 9 Select the '**Overview**' menu and press •F11" ('Back') to return to the control unit selection screen.

## 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:
- 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 0 (ignition off).

## Adapting the decoupler

- Procedure:
- 1 Leave the ignition switched off for at least 3 seconds and then switch it on again.  
Then, 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 '**Main-tenance/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*

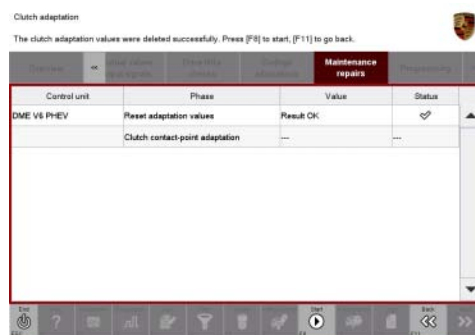
6 Select the '**Clutch adaptation**' function and press •F12" ('Next') to confirm your selection ⇒ *Adapting the decoupler*.

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.

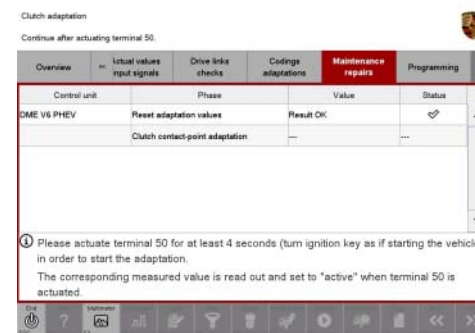
8 During adaptation, the adaptation values will first be deleted ⇒ *Resetting adaptation values*. The clutch contact point and the clutch characteristic will then be adapted ⇒ *Adapting contact point* and ⇒ *Adapting characteristic*. Start each step by pressing •F8" ('Start') and follow the instructions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



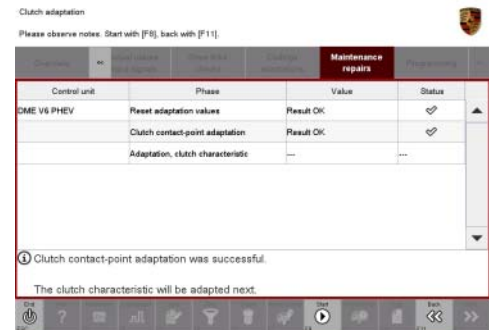
*Adapting the decoupler*



*Resetting adaptation values*



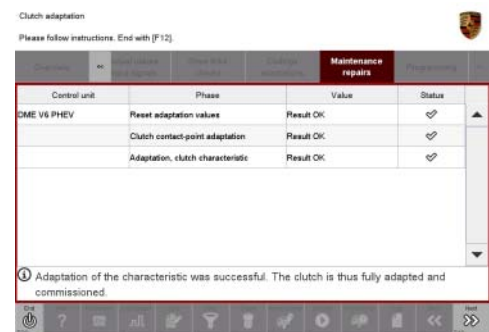
*Adapting contact point*

*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.

- 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.

*Adaptation successful*

## Concluding 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 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 control unit Labor time: **47 TU**

Includes:   Checking whether measure for oil level warning was carried out on the vehicle

                  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

                  Calibrating electric machine

                  Adapting the decoupler

**Invoicing: ⇒ Damage Code WG50 66 000, Repair Code 1**

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