

WF59 - Replacing Porsche Vehicle Tracking System (PVTs) Control Unit (Workshop Campaign)

Revisions: **Revision 1: March, 31, 2016**

- 1. Updated part number. Part number N 989 260 01 is now replaced by part number 999 075 057 09

Model Year: **2015**

Vehicle Type: **918 Spyder**

- Country/Market:
- USA (C02)
 - Canada (C36)

Concerns: **Porsche Vehicle Tracking System (PVTs) control unit**

Situation: **In the markets USA and Canada, the 2G telephone network will be phased out and changed over to the 3G telephone network by the end of 2016.**

Since communication between the current PVTs control unit and the telephone network provider will then no longer be possible via the 3G telephone network, drivers will not be able to retrieve any information about the vehicle using their app after the network is changed.

If a vehicle is stolen, no message will be sent to the service provider's control centre and as a result, it will no longer be possible to track the vehicle.

Action Required: Replace the existing PVTs control unit with a new 3G-compatible control unit.

Service Level: **This campaign must be carried out by a Service Level 2 Porsche Dealer.**

Service Level 0 Porsche Dealers are **not** authorised to carry out this campaign.

In accordance with the service concept for the 918 Spyder, the vehicle must be transferred to the nearest Service Level 2 Porsche Dealer in order to carry out this campaign.

In this case, please contact the nearest Service Level 2 Porsche Dealer and arrange for the transfer of the vehicle and implementation of the measure.

Information on invoicing for the transfer of the vehicle can be found under ⇒ *Technical Information 'WF5900 Invoicing'* at the end of this document.

**Information**

Please note the following points before carrying out the campaign:

- During vehicle acceptance, find out the current usage and contract status of PCC/PVTS by entering the vehicle identification number (VIN) of the vehicle in the '**Porsche Car Connect – Online Support**' portal.
- If the customer has not yet started using PCC/PVTS, ask whether he/she no longer wants to use PCC/PVTS or whether PCC/PVTS should be activated when replacing the control unit.
- If vehicle acceptance takes place in a Service Level 0 Porsche Centre, this information must be passed on to the relevant Service Level 1 or 2 Porsche Centre that will ultimately carry out the work.
- The campaign must always be carried out – irrespective of whether or not the customer uses PCC/PVTS.
- Before starting the work required for replacing the PVTS control unit, the replacement procedure must first be started in the '**Porsche Car Connect – Online Support**' portal. If PCC/PVTS is activated, you will then get the installation code required for commissioning and activating the new control unit. You will find further information about this under ⇒ *Technical Information 'WF5900 Starting replacement procedure for the PVTS control unit and getting installation code'*.

**Information**

The vehicle must be checked for defects and damage (damage to paintwork, missing parts, etc.) **each time** it is handed over, transferred or delivered. Confirmation that the vehicle is in good condition or details of any damage to the vehicle must be documented and archived for feedback purposes.

Overview: To replace the PVTS control unit, the following steps must be completed:

- Start the replacement procedure via Porsche Car Connect – Online Support and get the installation code (the installation code is always required if PCC/PVTS was activated)
- Create Vehicle Analysis Log (before starting repairs)
- Replace PVTS control unit
- Start the PVTS control unit and run a function test
- Read out and erase fault memories
- Create Vehicle Analysis Log (after carrying out repairs)

Affected Vehicles: Only the vehicles assigned to the campaign (see also PIWIS Vehicle Information). This campaign affects 289 vehicles in North America.

Parts Info: **NOTE: PARTS WILL NOT BE AUTOMATICALLY ALLOCATED TO YOUR DEALERSHIP. ALL PARTS MUST BE ORDERED VIA A PTEC/PAV.**

Part No.	Designation – Use	Qty.
000 043 303 66	⇒ PVTS control unit	1 ea.

999 075 057 09	⇒ Fastening screw – Seat belt mount	1 ea.
999 073 312 09	⇒ Screw, M10 x 30.6 – Seat rail	2 ea.
900 817 003 02	⇒ M10 nut – Seat rail	2 ea.

- Tools:
- Suitable battery charger, e.g. **VAS 5908 - Battery charger 90A** (charging current limit of max. 60 A required)
 - **9818 - PIWIS Tester II** with PIWIS Tester test software version **16.000** (or higher) installed.
 - Torque wrench, 6–50 Nm (4.5–37 ftlb.), e.g. **V.A.G 1331 - Torque wrench, 6-50 Nm (4.5-37 ftlb.)**
 - Torque wrench, 20–100 Nm (15–74 ftlb.), e.g. **VAS 5820 - Torque wrench, 20-100 Nm (15-74 ftlb.)**
 - **9002 - Lifting platform holders**
 - **9453 - Access ramps**
 - **9027 - Release pin**
 - **T40262 - Locking cap**
 - **VAS 6558/9-6 - High-voltage test adapter HVA 280**

Starting replacement procedure for the PVTs control unit and getting installation code



Information

Before starting the work required for replacing the PVTs control unit, the replacement procedure must first be started in the '**Porsche Car Connect – Online Support**' portal in accordance with the description below. If PCC/PVTs is activated, you will then get the installation code required for commissioning and activating the new control unit.

Without the installation code, the PVTs control unit cannot be replaced and subsequent commissioning of the new control unit is not possible for an activated PCC/PVTs.

- Procedure:
- 1 Select Porsche Partner Network (PPN).
 - 2 Select the '**Porsche Car Connect - Online Support**' application in the PPN menu.
 - 3 Select the menu ⇒ '**Device Replacement**' ⇒ *Requesting PVTs control unit replacement -1-*.

Device Replacement Request
This section allows you to initiate the procedure for replacing a faulty device in an existing contract.

Vehicle Identification Number (VIN)

Vehicle model - **2**

Vehicle contract status - **3**

Demo contract status -

PCC Services

eMobility - -

Remote - -

VTS - -

Garage Mode -

Crank Inhibition -

Country of service -

Number of activated phone(s) -

Last APP login -

Porsche dealer code -

4

Requesting PVTs control unit replacement

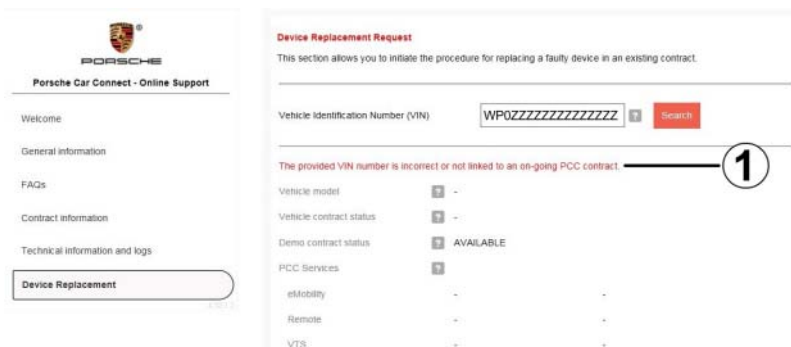
- 4 Click in the '**Vehicle Identification Number (VIN)**' field ⇒ *Requesting PVTs control unit replacement -2-* and enter the **complete VIN** (17 characters) of the vehicle and then press the '**Search**' button ⇒ *Requesting PVTs control unit replacement -3-*.

The entered VIN is then checked and the vehicle data and contract status are displayed.



Information

After you have entered the VIN and pressed the 'Search' button, if an **error message** appears informing you that the **VIN was not found** or that there is **no contract information available** ⇒ *Error message - wrong VIN or no contract information available -1-* for the entered VIN, no contract information will be displayed.



Error message - wrong VIN or no contract information available

Proceed as follows in this case:

- Check the **VIN you entered**
- If the **VIN is correct**, **contact the customer** if necessary and **ask whether he/she uses PCC/PVTS**

If PCC/PVTS is not activated and as a result, there is no contract information available, the PVTS control unit can be replaced **without** first starting the replacement procedure in the **'Porsche Car Connect – Online Support'** portal. In this case, skip Steps 5 to 10 and continue with ⇒ *Technical Information 'WF5900 Preliminary work'*.

- 5 Press the button **'Initiate a Vehicle Device Replacement procedure'** ⇒ *Requesting PVTS control unit replacement -4-* to start the PVTS control unit replacement procedure.

Requesting PVTs control unit replacement

- 6 In the contract status display ⇒ *PVTs contract status -1* in the selection window ⇒ *PVTs contract status -2*, select the symptom **'No communication when activating'**.

PVTs contract status

- 7 Click in the text box ⇒ *PVTs contract status -3* and enter **'Changeover from 2G to 3G network (USA/Canada) – campaign WF59'** as the reason for replacement.

- 8 Press the button '**Start device replacement**' ⇒ *PVTS contract status -4-* to continue the replacement procedure.
- 9 Click '**Next**' in the window that appears then until the existing installation code is displayed.
- 10 Write down the installation code.

Preliminary work



Information

The required work must only be carried out by **high voltage technicians (HVT)** with relevant qualifications for working on the 918 Spyder.

Employees **without the corresponding qualifications** must **not** carry out these tasks.

Observe general warning notes for working on the high-voltage vehicle electrical system ⇒ *Workshop Manual '2X00IN General warning notes for working on the high-voltage vehicle electrical system'*.

- Procedure:
- 1 Raise the vehicle on a lifting platform ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*.
 - 1.1 Position the vehicle between the arms of the lifting platform and push it onto the **9453 - access ramps**.
 - 1.2 Remove underbody covers and fit mounting plates **9002 - Lifting platform holders**, ⇒ *Workshop Manual '518119 Removing and installing jacking points'*.
 - 1.3 Jack the vehicle at the mounting plates.

NOTICE

Fault entry in the fault memory and abnormal termination of PVTS control unit activation in the event of under-voltage.

- **Increased current draw during diagnosis or control unit commissioning can cause a drop in voltage, which can result in one or more fault entries and the abnormal termination of the commissioning process.**
- ⇒ **Before starting any work for which the PIWIS Tester is required, connect a suitable battery charger to the vehicle.**

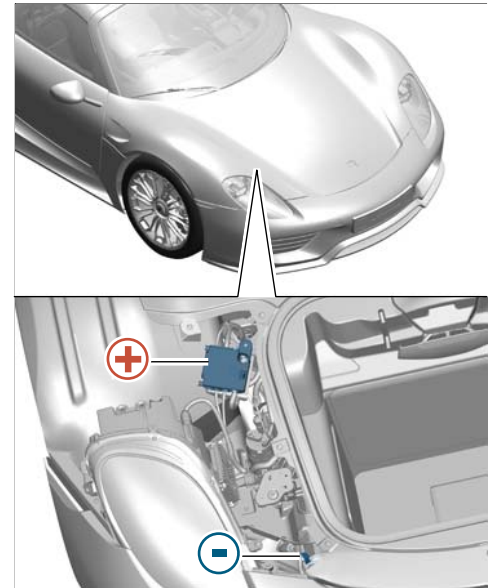
NOTICE

Use of non-insulated terminal clamps

- **Risk of short circuit**
 - **Risk of damage to carbon parts**
- ⇒ **Only use battery chargers with insulated terminal clamps.**
- ⇒ **Position terminal clamps in such a way that they are not touching any carbon parts.**

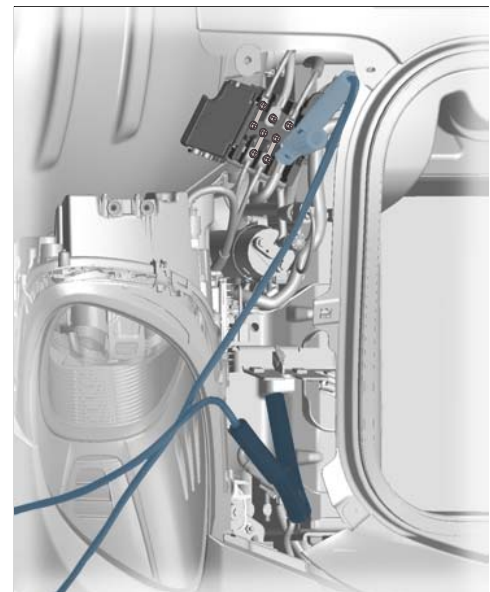
- 2 Connect a battery charger, e.g. **VAS 5908 - Battery charger 90A** (charging current limit of max. 60 A required), to the jump-start terminals in the luggage compartment and switch it on ⇒ *Installation position of external power connection*.

For instructions and details of the required battery charger settings, see ⇒ *Workshop Manual '9X00IN Battery trickle charging'*.



Installation position of external power connection

- 3 Check the position of the terminal clamps and line routing ⇒ *Position of charging clamps* and then start charging the battery.
- 4 **9818 - PIWIS Tester II** 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.
- 5 Switch on ignition.



Position of charging clamps

Creating Vehicle Analysis Log (VAL) before starting repairs

Procedure: 1 On the PIWIS Tester start screen, call up the menu ⇒ **'Diagnostics'** ⇒ **'Other model lines'** and select the vehicle type ⇒ **'918 Spyder'**.

The diagnostic application is then started and the control unit selection screen is populated.

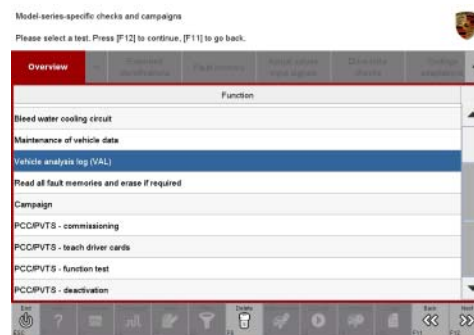
2 In the control unit selection screen (⇒ **'Overview'** menu), press **•F7** to call up the Additional menu.



Information

If a prompt appears when you select the Additional menu asking whether you want to create a Vehicle Analysis Log (VAL), this can be confirmed straight away by pressing **•F12** ("Yes") and a vehicle analysis log can be created. An After Sales (AS) VAL is created automatically in this case. Once the vehicle analysis log has been created, continue with Step 5.

3 Select the ⇒ **'Vehicle Analysis Log (VAL)'** function so that the text line turns blue and press **•>>** to confirm ⇒ *Vehicle analysis log*.



Vehicle analysis log

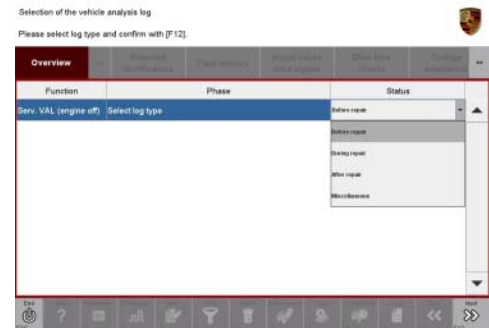
4 Select the log type **'AS VAL'** so that the text line turns blue and press **•F8** ("Execute") to start creating the vehicle analysis log ⇒ *Selecting VAL log type*.



Selecting VAL log type

5 Once the vehicle analysis log has been created, check the displayed vehicle identification number, change it as required and press **•>>** to confirm. Finally, confirm the vehicle identification number again by pressing **•F12** ("Yes").

- 6 When selecting the log type in the "**Status**" field, select the value "**before repairs**" and confirm your selection with •>>" to complete the creation of the vehicle analysis log ⇒ *Selecting VAL log type*.
- 7 When you have finished the work, use the PIWIS Tester function '**Data management**' > '**VAL data return**' to send the vehicle analysis log to Porsche AG.



Selecting VAL log type

Replacing PVTS control unit

- 1 De-energise the high-voltage system and complete the relevant documentation ⇒ *Workshop Manual '2X00IN Isolating high-voltage electrical system from power supply/Starting high-voltage electrical system (diagnostics)'*.

If absence of electric charge could not be verified automatically or if the function could not be run (see relevant display in the PIWIS Tester), the voltage must be measured manually ⇒ *Workshop Manual '2X00IN Isolating high-voltage electrical system from power supply/Starting high-voltage electrical system (manual)'*.

- 2 Disconnect the PIWIS Tester from the vehicle.
- 3 Switch off and disconnect the battery charger.

NOTICE

Disconnect the vehicle battery if the Porsche Vehicle Tracking System is activated.

- **Risk of triggering a costly false alarm.**
- ⇒ **If PVTS is activated, make sure to start the replacement procedure in the 'Porsche Car Connect – Online Support' portal before disconnecting the battery or the PVTS control unit.**

- 4 Disconnect the low-voltage battery.
 - 4.1 Remove centre underbody cover (at the sides) at the left and right ⇒ *Workshop Manual '51931901 Removing and installing cover for centre underbody (at the sides)'*.
 - 4.2 Remove front wheel housing liner (front part) at the right ⇒ *Workshop Manual '50561901 Removing and installing front wheel housing liner (front part)'*.
 - 4.3 Remove front wheel housing liner (rear part) at the left and right ⇒ *Workshop Manual '50561905 Removing and installing front wheel housing liner (rear part)'*.
 - 4.4 Remove front underbody cover ⇒ *Workshop Manual '519219 Removing and installing cover for front underbody'*.

- 4.5 Remove centre underbody cover ⇒ *Workshop Manual '51931900 Removing and installing cover for centre underbody'*.
- 4.6 Disconnect the low-voltage battery. For instructions, see ⇒ *Workshop Manual '270619 Removing and installing battery'*.
- 5 Remove roof panels.
- 6 Remove passenger seat ⇒ *Workshop Manual '720119 Removing and installing front seat'*.
- 7 Remove footrest on passenger's side ⇒ *Workshop Manual '703519 Removing and installing footrest (on passenger's side)'*.
- 8 Loosen main fuse box and move it aside with lines connected. For instructions, see ⇒ *Workshop Manual '978919 Removing and installing power distributor (main fuse box)'*.

NOTICE

Replacing the PVTs control unit with Porsche Vehicle Tracking System activated without first starting the replacement procedure and getting the installation code.

- **The new PVTs control unit cannot be commissioned and activated.**
- ⇒ **If PVTs is activated, make sure you have started the replacement procedure in the 'Porsche Car Connect – Online Support' portal and obtained the installation code before replacing the PVTs control unit.**

- 9 Remove existing PVTs control unit and install new PVTs control unit, Part No. 000 043 303 66 ⇒ *Workshop Manual '906455 Replacing control unit for auxiliary alarm system'*.
- 10 Secure the main fuse box ⇒ *Workshop Manual '978919 Removing and installing power distributor (main fuse box)'*.
- 11 Install footrest on passenger's side ⇒ *Workshop Manual '703519 Removing and installing footrest (on passenger's side)'*.
- 12 Install passenger seat ⇒ *Workshop Manual '720119 Removing and installing front seat'*.
- 13 Install roof panels.
- 14 Connect the low-voltage battery ⇒ *Workshop Manual '9X00IN Work instructions after disconnecting the battery'*.
- 15 Install underbody covers.
 - 15.1 Install centre underbody cover ⇒ *Workshop Manual '51931900 Removing and installing cover for centre underbody'*.

- 15.2 Install front underbody cover ⇒ *Workshop Manual '519219 Removing and installing cover for front underbody'*.
 - 15.3 Install front wheel housing liner (rear part) at the left and right ⇒ *Workshop Manual '50561905 Removing and installing front wheel housing liner (rear part)'*.
 - 15.4 Install front wheel housing liner (front part) at the right ⇒ *Workshop Manual '50561901 Removing and installing front wheel housing liner (front part)'*.
 - 15.5 Install centre underbody cover (at the sides) at the left and right ⇒ *Workshop Manual '51931901 Removing and installing cover for centre underbody (at the sides)'*.
- 16 Lower the vehicle onto the **9453 - access ramps** with the lifting platform.
 - 17 Start the high-voltage system and complete the relevant documentation ⇒ *Workshop Manual '2X00IN Isolating high-voltage electrical system from power supply/Starting high-voltage electrical system (diagnostics)'*.



Information

The subsequent procedure depends on the respective usage status of PCC/PVTS

- If PCC/PVTS has already been used and a valid user contract exists, the new PVTS control unit must be commissioned in order to guarantee continued use. This requires the installation code obtained previously from the **'Porsche Car Connect – Online Support'** portal. To commission the control unit, continue with ⇒ *Technical Information 'WF5900 Commissioning new PVTS control unit'*.
- If the customer has not yet started using PCC/PVTS or if there is no valid user contract and if the customer does not intend to use PCC/PVTS in the future, there is no need to commission the control unit and carry out the subsequent function test. In this case, continue with ⇒ *Technical Information 'WF5900 Reading out and erasing fault memories'*.
- If the customer has not yet started using PCC/PVTS or if there is currently no valid user licence, but the customer wants to activate or reactivate PCC/PVTS while the control unit is being replaced, proceed in accordance with the standard process for activating PCC/PVTS for the first time or reactivating PCC/PVTS. To do this, an account must be created and a new installation code must be requested via the **'Porsche Car Connect – Online Support'** portal. The new PCC/PVTS control unit must then be commissioned. To do this, continue with ⇒ *Technical Information 'WF5900 Commissioning new PVTS control unit'*.

Commissioning the new PVTS control unit

NOTICE

Control unit commissioning will be aborted if the Wi-Fi connection is unstable.

- **An unstable Wi-Fi connection can interrupt communication between PIWIS Tester II and the vehicle communication module (VCI). This can result in abnormal termination of the control unit commissioning process.**

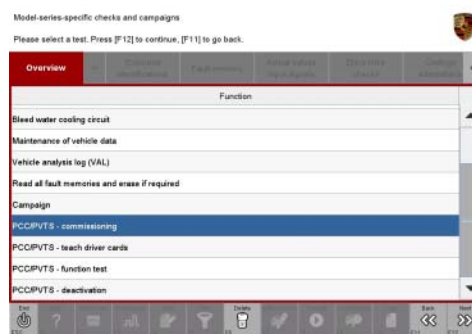
⇒ During control unit commissioning, always connect PIWIS Tester II to the vehicle communication module (VCI) via the USB cable.

- 1 On the PIWIS Tester start screen, call up the menu ⇒ 'Diagnostics' ⇒ 'Other model lines' and select the vehicle type ⇒ '918 Spyder'.

The diagnostic application is then started and the control unit selection screen is populated.

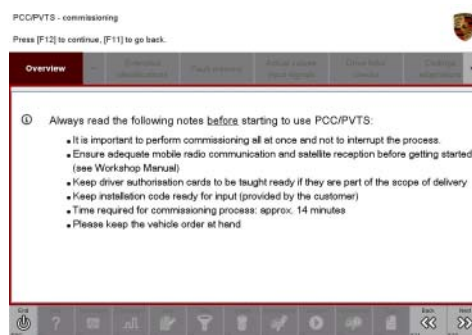
- 2 In the control unit selection screen (⇒ 'Overview' menu), press •F7" to call up the Additional menu.

- 3 Select the ⇒ 'PCC/PVTS commissioning' function so that the text line turns blue and press •>>" to confirm your selection ⇒ PCC/PVTS commissioning.



PCC/PVTS commissioning

- 4 Comply with the displayed conditions for commissioning and press •>>" to confirm ⇒ Conditions for commissioning.

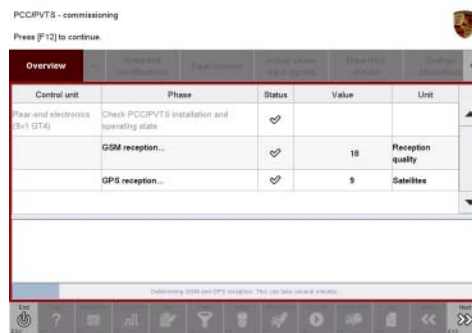


Conditions for commissioning

The individual preconditions for commissioning are then checked one by one.

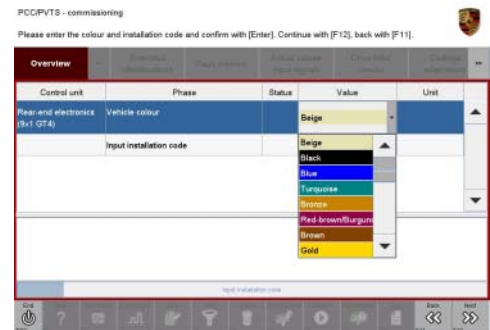
After each precondition has been checked successfully, a tick will appear in the "Status" field ⇒ Checking conditions.

- 5 As soon as each precondition has been checked successfully and is ticked, press •>>" to continue.



Checking conditions

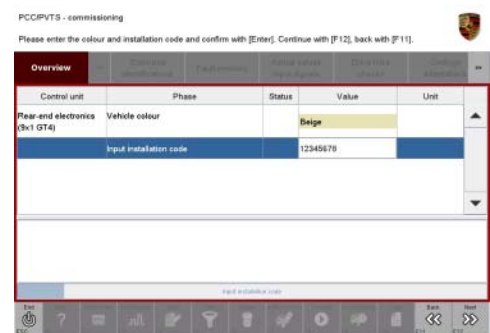
- 6 Then select the colour of the vehicle in the **'Vehicle colour'** field ⇒ *Vehicle colour*.



Vehicle colour

- 7 Click in the **'Enter installation code'** field and enter the installation code you received from Porsche Car Connect Online Support ⇒ *Entering installation code*. Then press **•>>** to continue.

The determined vehicle configuration is then displayed.



Entering installation code

- 8 Check the displayed vehicle configuration and compare it with the vehicle order if necessary. Correct any differences compared with the actual vehicle configuration as required.
- 9 Confirm the vehicle configuration by pressing **•>>** .
The PIWIS Tester then sends the installation code to the PVTs server. This process may take several minutes.
- 10 When the process is complete, you will get a message reporting that the installation code was verified successfully. Confirm the message by pressing **•>>** .

Carrying out a function test

Procedure: 1 Press **•F8** to start the PCC/PVTS function test
⇒ *PCC/PVTS function test*.

The following routines are carried out during the function test:

- "Re-start inhibitor" function test
- "Alarm horn and direction indicator" function test

At the start of the "Re-start inhibitor" function test, the PIWIS Tester will prompt you to switch off the ignition.

2 Switch off the ignition and press **•>>** to confirm the prompt.

The fault memory entry "Re-start inhibitor activated by PVTS" is written and a status message to this effect appears on the PIWIS Tester display.

3 Check that the re-start inhibitor is active.



Information

After the ignition is switched on, "E-power" driving mode is activated automatically if the state of charge of the high-voltage battery is high enough (SoC > 35%). Given that purely electric driving is the preferred driving style in this driving mode, the combustion engine is not started when terminal 50 (engine start) is actuated.

To make sure that the re-start inhibitor is active and the combustion engine cannot actually be started, the "Sport Hybrid" or "Race Hybrid" driving mode must first be selected using the MAP switch on the steering wheel.

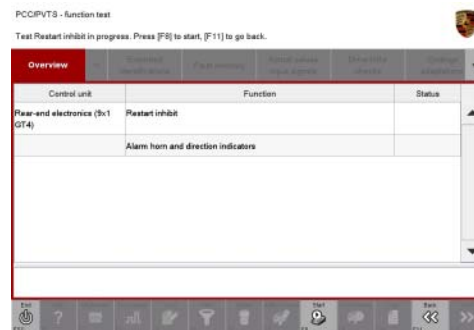
3.1 Switch on ignition.

3.2 Select "Sport Hybrid" or "Race Hybrid" driving mode. To do this, turn the MAP switch (driving mode controls) on the steering wheel until the LED corresponding to the letter "S" or "R" in the MAP switch lights up.
The display "Sport mode" or "Race mode" also appears in the information display on the instrument cluster.

3.3 Turn the ignition key in the ignition lock to position 2 (terminal 50 – 'Engine start') to make sure that the re-start inhibitor is active and the combustion engine **cannot** be started.

4 Once the re-start inhibitor is checked successfully, switch off the ignition again and press **•>>** to continue.

5 The PIWIS Tester will then prompt you to switch on the ignition.
Switch on the ignition and press **•>>** to confirm the prompt.



PCC/PVTS function test

- 6 The fault memory entry is deleted (this takes about 10 seconds). The message "Re-start inhibitor test carried out successfully" then appears on the PIWIS Tester display.
Press •>>" to continue.
- 7 Press •F8" to start the "Alarm horn and direction indicators" function test and check the functions.
The alarm horn and hazard warning lights will be activated for about one second (approx. 3 times each) during the function test.
- 8 When the function test is complete, the query as to whether the alarm horn and direction indicators were triggered correctly appears on the PIWIS Tester display. Confirm the query by pressing •Yes" .
- 9 A message confirming that the function test was completed successfully then appears on the PIWIS Tester display.
Confirm the message by pressing •>>" and conclude the commissioning process. PCC/PVTS is then commissioned.
- 10 Press •>>" to carry out a final Q-check.
- 11 When the Q-check is complete, the message "Q-check successful. Finish commissioning and activate PCC/PVTS" appears on the PIWIS Tester display.
Press •>>" to continue.
- 12 The message "PCC/PVTS was activated successfully" then appears on the PIWIS Tester display.
Confirm the message by pressing •>>" .
- 13 Return to the start page of the Additional menu.

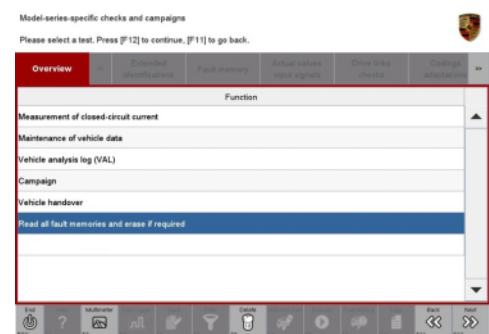
Reading out and erasing fault memories

- Procedure:
- 1 Select the function "Read all fault memories and erase if required" in the Additional menu on the PIWIS Tester and press •>>" to confirm ⇒ *Erasing fault memories*.

The fault memories of the control units are read out.

- 2 Once you have read out the fault memories, delete the fault memory entries by pressing •F8" .
- 3 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.



Erasing fault memories



Information

If the fault memories of individual control units for the hybrid system (e.g. high-voltage battery control unit, etc.) cannot be erased, the reason for this may be that **on-board diagnosis of the hybrid system was not completed fully**.

Proceed as follows in this case:

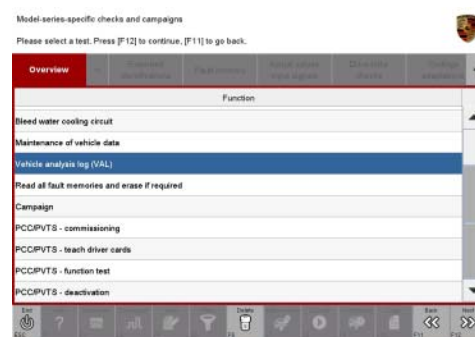
- Switch off ignition.
- Disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
- Lock the vehicle using the driver’s key.
- Unlock the vehicle again after a waiting time of at least **10 minutes**.
- Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and 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 deleted or are not caused by replacing the PVTs control unit, these faults must be found and corrected. This work **cannot** be invoiced under the workshop campaign number.

- 4 Once you have erased the fault memories, go back to the start page of the Additional menu.

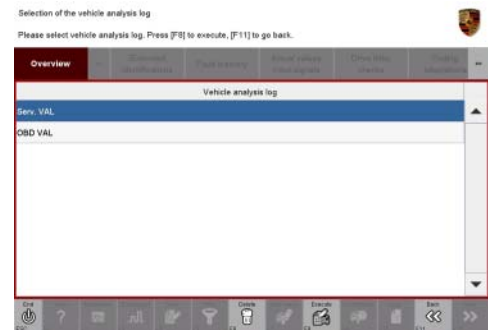
Creating Vehicle Analysis Log (VAL) after carrying out repairs

- 1 On the start page of the Additional menu, select the function ⇒ **'Vehicle Analysis Log (VAL)'** so that the text line turns blue and press **•>>“** to confirm ⇒ *Vehicle analysis log*.

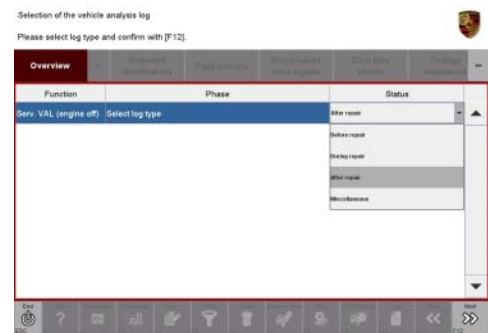


Vehicle analysis log

- 2 Select the log type '**AS VAL**' so that the text line turns blue and press **•F8** ("Execute") to start creating the vehicle analysis log ⇒ *Selecting VAL log type*.
- 3 Once the vehicle analysis log has been created, check the displayed vehicle identification number, change it as required and press **•>>** to confirm. Finally, confirm the vehicle identification number again by pressing **•F12** ("Yes").
- 4 When selecting the log type in the "**Status**" field, select the value "**after repairs**" and confirm your selection with **•>>** to complete the creation of the vehicle analysis log ⇒ *Selecting VAL log type*.
- 5 Send both vehicle analysis logs created during this campaign – both the "before repairs" VAL created before starting the work and the "after repairs" VAL you have just created – to Porsche AG using the PIWIS Tester function '**Data management**' > '**VAL data return**'.



Selecting VAL log type



Selecting VAL log type

Calibrating electric machines



Information

The electric machines 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.

When calibrating the electric machines, the relevant rotor position (phase angle) of the two electric machines is stored.

The process is performed synchronously for both electric machines and must only be performed once in accordance with the description provided below.

- Procedure:
- 1 Press the brake pedal and keep it pressed during the entire calibration process.
 - 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 machines is clearly audible. Calibration is complete once the calibration noise can no longer be heard.
 - 3 Release the ignition key and switch off ignition.

Subsequent work

Procedure: 1 Check that the electric machines were calibrated successfully by starting the combustion engine.



Information

After the ignition is switched on, "E-power" driving mode is activated automatically if the state of charge of the high-voltage battery is high enough (SoC > 35%). Given that purely electric driving is the preferred driving style in this driving mode, the combustion engine is not started when terminal 50 (engine start) is actuated.

To check whether calibration of the electric machines was successful and that the combustion engine can be started, the "Sport Hybrid" or "Race Hybrid" driving mode must first be selected using the MAP switch on the steering wheel.

- 1.1 Switch on ignition.
- 1.2 Select "Sport Hybrid" or "Race Hybrid" driving mode. To do this, turn the MAP switch (driving mode controls) on the steering wheel until the LED corresponding to the letter "S" or "R" in the MAP switch lights up.
The display "Sport mode" or "Race mode" also appears in the information display on the instrument cluster.
- 1.3 Turn the ignition key in the ignition lock to position 2 (terminal 50 – 'engine start') to check whether the combustion engine starts.
- 1.4 Then stop the combustion engine again.
- 2 Switch off ignition.
- 3 Disconnect the PIWIS Tester from the vehicle.
- 4 Switch off and disconnect the battery charger.
- 5 Remove vehicle from the lifting platform ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*.
 - 5.1 Remove mounting plates **9002 - Lifting platform supports**.
 - 5.2 Install underbody covers ⇒ *Workshop Manual '518119 Removing and installing jacking points'*.
- 6 Enter the campaign in the Warranty and Maintenance booklet.

Warranty Invoicing

Service Level: **This campaign must be carried out by a Service Level 2 Porsche Dealer.**

Service Level 0 Porsche Dealers are **not** authorised to carry out this campaign.

In accordance with the service concept for the 918 Spyder, the vehicle must be transferred to the nearest Service Level 2 Porsche Dealer in order to carry out this campaign.

In this case, Service Level 0 Porsche Dealers can invoice the cost items listed below for vehicle acceptance, transporting the vehicle and accepting the vehicle following return transport using the **new vehicle warranty** for the vehicle in accordance with the specifications in the 918 Spyder After Sales Fact Book 2014:

• Vehicle acceptance	100 TU
• Transporting the vehicle	100 TU
• Acceptance of the vehicle following return transport	50 TU
• Costs for transporting the vehicle to and from the Porsche Centre	Amount as per invoice *

* Please document copy of invoice in PQIS

Please invoice the costs by specifying **Damage code C902 97 000** and enter the technical reason by specifying **Coding C9020 9735** in PQIS. Also specify **Campaign WF59** under Comment.

Service Level 2 Porsche Dealers must always submit an invoice for the **campaign scope**.

Scope:

Working time:

Replacing PVTs control unit

Labor time: **557 TU**

Includes:

- Starting replacement procedure via Porsche Car Connect – Online Support
- Connecting and disconnecting battery charger (2x)
- Connecting and disconnecting PIWIS Tester (2x)
- Creating Vehicle Analysis Log (VAL) (2x)
- Isolating high-voltage system from power supply and starting high-voltage system
- Removing and installing cover for centre underbody (at the sides) at the left and right
- Removing and installing front wheel housing liner (front part) at the right
- Removing and installing front wheel housing liner (rear part) at the left and right
- Removing and installing cover for front underbody
- Removing and installing cover for centre underbody
- Disconnecting and connecting battery
- Removing and installing roof panels
- Removing and installing passenger seat
- Removing and installing footrest on passenger's side
- Loosening and securing power distributor
- Commissioning PVTs control unit
- Performing function test

Reading out and erasing fault memories
 Calibrating electric machines

Parts required:

000 043 303 66	PVTS control unit	1 ea.
999 075 057 09	Fastening screw for seat belt mount	1 ea.
999 073 312 09	Screw for seat rail	2 ea.
900 817 003 02	Nut for seat rail	2 ea.

Warranty Invoicing: ⇒ **Damage code WF59 66 000, Repair code 2**

- References:
- ⇒ 918 Spyder Driver's Manual, chapter "Windows, Roof Panels", section on "Removable roof panels"
 - ⇒ *Workshop Manual '2X00IN General warning notes for working on the high-voltage vehicle electrical system'*
 - ⇒ *Workshop Manual '2X00IN Isolating high-voltage electrical system from power supply/Starting high-voltage electrical system (diagnostics)'*
 - ⇒ *Workshop Manual '2X00IN Isolating high-voltage electrical system from power supply/Starting high-voltage electrical system (manual)'*
 - ⇒ *Workshop Manual '270619 Removing and installing battery'*
 - ⇒ *Workshop Manual '50561901 Removing and installing front wheel housing liner (front part)'*
 - ⇒ *Workshop Manual '50561905 Removing and installing front wheel housing liner (rear part)'*
 - ⇒ *Workshop Manual '519219 Removing and installing cover for front underbody'*
 - ⇒ *Workshop Manual '51931900 Removing and installing cover for centre underbody'*
 - ⇒ *Workshop Manual '51931901 Removing and installing cover for centre underbody (at the sides)'*
 - ⇒ *Workshop Manual '703519 Removing and installing footrest (on passenger's side)'*
 - ⇒ *Workshop Manual '720119 Removing and installing front seat'*
 - ⇒ *Workshop Manual '9X00IN Battery trickle charging'*
 - ⇒ *Workshop Manual '9X00IN Work instructions after disconnecting the battery'*
 - ⇒ *Workshop Manual '906425 Activating PCC/PVTS'*
 - ⇒ *Workshop Manual '906455 Replacing control unit for auxiliary alarm system'*

⇒ Workshop Manual '978919 Removing and installing power distributor (main fuse box)'

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