

**WG39 - Updating Porsche Communication Management (PCM) and Re-programming Instrument Cluster (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 the Equipment Information EQ1401 for a list of suitable battery chargers/power supplies.

**Model Year:** 2017

**Model line:** 718 (982)  
911 (991)

**Subject:**

- **Porsche Communication Management (PCM) 4.0**
- **Instrument cluster**

**Issue:** In the course of annual model improvements, various functionalities of the Porsche Communication Management (PCM) system have been enhanced, optimisations have been implemented and the general performance of the system has been further improved at the same time.

These function enhancements and optimisations must be implemented retrospectively even for vehicles manufactured before the model improvement measures were introduced.

To this end, the PCM software will be updated on the affected vehicles using an SD card.

Due to the changes to the PCM, the instrument cluster must also be re-programmed using the PIWIS Tester in order to ensure consistency between the displays in PCM and the instrument cluster.

A description of the topics and optimisations that are enhanced or implemented with the software update for PCM and the instrument cluster can be found in the following Technical Information: ⇒ *Technical Information '911000 PCM 4.0 integrated system: Complaints and repair instructions (01/16)'*.

**Overview of the most important PCM model improvement measures:**

- Connect two phones to the PCM in parallel via Bluetooth®
- Optimisations to MyScreen (Drag & Drop) and new widgets
- Simplification of the device manager for connecting to other devices
- Actuation of Slri using Push-to-Talk (PTK) switch on the steering column stalk

**Action Required:**

- Update PCM software using an SD card
- Re-program instrument cluster using the PIWIS Tester



**Information**

Overview of programming times for the various modules:

- PCM update approx. **45 minutes**
- Re-programming instrument cluster approx. **20 minutes**



### Information

When the instrument cluster is re-coded, the **individual settings** implemented in the instrument cluster by the customer will be **lost** and are reset to the **default values** of the **country version** that applies to the vehicle.

**After carrying out the campaign, therefore, please inform** your customers that personal settings they have implemented in the instrument cluster will have to be **set again** and provide them with any **help and support** they need for setting the relevant options.

This affects the following settings in the Vehicle menu, for example:

- Lowering of door mirror on passenger's side during parking manoeuvres
- Locking settings
- Light & Visibility settings
- Units (kilometres/miles, Celsius/Fahrenheit, ...)
- Language

Affected Vehicles: Only the vehicles assigned to the campaign (see also PIWIS Vehicle Information). This campaign affects 1,281 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 test software version **33.700.000** (or higher) installed
- or**
- **9818 - PIWIS Tester II** with PIWIS Tester test software version **17.700.000** (or higher) installed.
  - **SD memory cards for PCM update**



**Information**

The PCM update is performed using an SD memory card for each specific region.

**The SD memory cards for the PCM update listed below must be re-used as part of the workshop equipment and remain in the Porsche Dealer.** The SD memory cards must not therefore be left in the vehicle or handed over to the customer.

The **SD memory cards** required for carrying out this campaign are **identical** to the SD memory cards required for carrying out the **PCM update as part of campaign WG47**.

Given this, the maximum number of SD memory cards that **may be ordered for each Porsche Dealer** depends on **how many vehicles will be worked on by the respective Porsche Dealer as part of workshop campaigns WG39 and WG47**.

The following specifications apply here:

<p><b>Number of vehicles on which work is to be performed by the Porsche Centre as part of campaigns WG39 and WG47</b></p>	<p><b>Maximum order quantity of SD memory cards for the PCM update</b></p>
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**Overview of SD memory cards for PCM update**

Part No.	Designation – Region	Vehicle assignment
9P1 906 961 A	SD memory card for PCM update – North America – Mexico	I-no. ER3/ER4



**Information**

To make it easy to determine which SD card is required for performing the PCM update on each vehicle, the vehicles are assigned fixed campaign scopes.

The campaign scope assigned to the respective vehicle can be displayed by entering the vehicle identification number (VIN) in the 'Vehicle information' menu in PIWIS.

Based on the assigned campaign scope, the SD card required for the PCM update can be determined using the overview of campaign scopes provided under ⇒ *Technical Information 'WG3900 Warranty processing'*.

Note: Each Porsche Dealer will receive 3 of the required SD memory cards for the PCM update and 3 SD memory cards for the navigation map update (WG47). If you require additional need for SD memory cards, please create a PTEC/PAV for ordering instructions.

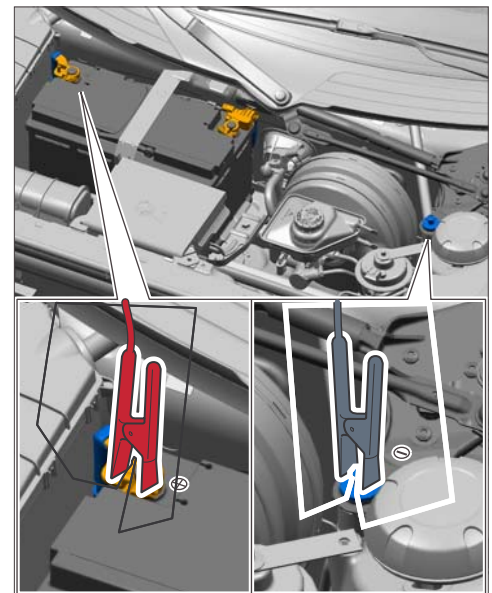
## Preparatory work

### 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.

- Procedure:
- 1 Connect battery charger.  
First connect the positive cable of the charger to the positive terminal of the battery and then connect the negative cable of the charger to the ground point for jump-lead starting ⇒ *External power connection*.
  - 2 Switch on the ignition using the **original driver's key**. For vehicles with "Porsche Entry & Drive", replace the control panel in the ignition lock with the original driver's key, if necessary.



*External power connection*

## Performing software update for Porsche Communication Management (PCM)

- Procedure:
- 1 Switch on PCM.
  - 2 Open the flap covering the drives on the PCM.
  - 3 Remove any inserted SD cards from the SD card slots.  
To do this, first press on the SD card to release it. Then, pull the SD card out of the card slot.
  - 4 **Insert SD card** for the **PCM update** (Part No. 9P1 906 961 x) into the **left SD card slot** (SD 1) in such a way that the bevelled edge of the SD card is at the front right.
  - 5 Press the **•CAR** and **•MEDIA** buttons on the PCM **for at least 3 seconds at the same time** to go to the Developer menu.

- 6 Select the **'Software update'** function in the **'Developer menu (SWDL)'**.
- 7 Select and confirm the installation medium **'SD1'**.  
The status messages "Reading version description" and "Loading metadata" then appear.
- 8 Select and confirm the update scope **'Standard'**.
- 9 Select the option **'Start update'** in the display of devices in the footer.
- 10 Confirm the message "Update must not be interrupted" by pressing **'Start update'** again.

The PCM is then restarted and the message "Update will continue after restart" appears. The individual components and modules are then updated. The update progress is shown as a percentage for each module.

**The update takes approx. 45 minutes.**

The PCM is restarted several times during the update. The PCM screen remains dark for up to 3 minutes.



**Information**

If the software update is interrupted or if **error messages** are displayed (e.g. as a result of read errors), the update must be **repeated**.

- 11 When the update is finished, **'OK'** will appear next to the updated components and modules in the 'Summary of devices' display. Press **'Continue'**.  
**After the PCM update**, you are prompted to perform the **backup documentation** process using the PIWIS Tester.
- 12 Connect the PIWIS Tester to the vehicle and switch it on.
- 13 If necessary, select the relevant vehicle type and start the diagnostic application.
- 14 Select the **PCM** control unit in the control unit selection screen ('Overview' menu) and press **•F12** ("Next") to confirm your selection.
- 15 Call up the **'Maintenance/repairs'** menu.

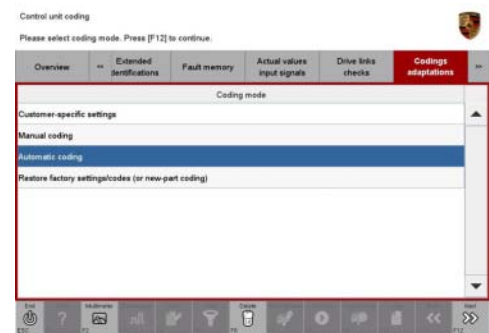
*Update confirmation*

- 16 Select **'Confirmation Update'** in the menu and press **•F12** ("Next") to continue .
- 17 Read the information that is displayed and press **•F12** ("Next") to confirm.
- 18 Start the update confirmation process by pressing **•F8** ("Execute"). The backup documentation process is performed.

- 19 When the backup documentation process is complete, all status fields will be ticked. If the backup documentation process is **not** completed successfully, the process must be **repeated**. Then press •F12" ("Next") to return to the start page of the '**Maintenance/repairs**' menu.
- 20 Remove SD card for the PCM update from the left SD card slot on the PCM. To do this, first press on the inserted card to release it. Then, pull the SD card out of the card slot.
- 21 Any SD cards that were removed before starting the PCM update must now be re-inserted into the SD card slots.

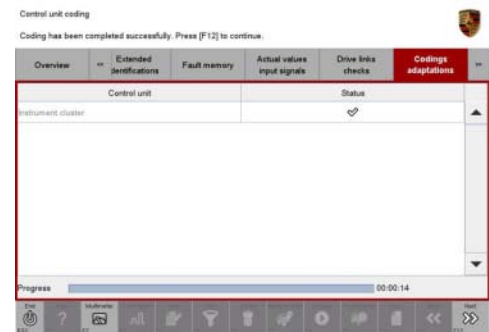
### Re-coding Porsche Communication Management (PCM)

- Procedure:
- 1 Call up the '**Codings/programming**' menu in the '**PCM**' control unit.
  - 2 Select the '**Automatic coding**' function and press •F12" ("Next") to start coding ⇒ *Automatic coding*.



*Automatic coding*

- 3 When coding is complete, the message "Coding has been completed successfully" is displayed and a tick appears in the 'Status' box ⇒ *Coding successful*.  
If coding is not completed successfully (error message "Coding was not completed successfully"), coding must be **repeated**.
- 4 Once coding has been completed successfully, press •F12" ("Next") to return to the start page of the '**Codings/programming**' menu.
- 5 Select the '**Overview**' menu and press •F11" ("Back") to return to the control unit selection screen.
- 6 Perform a function test on the PCM.



*Coding successful*

### Re-programming instrument cluster

- Procedure:
- 1 **Re-program the instrument cluster.**

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"*.

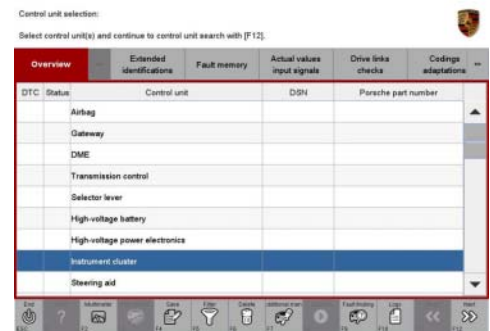
**Specific information on control unit programming during this campaign:**

Required PIWIS Tester software version:	<ul style="list-style-type: none"> <li>• PIWIS Tester 3: <b>33.700.000</b> (or higher)</li> <li>• PIWIS Tester II: <b>17.700.000</b> (or higher)</li> </ul>
Type of control unit programming:	Control unit programming using the <b>"Campaign" function in the Additional menu</b> on the PIWIS Tester by entering a programming code.
Programming code:	<b>D7E7X</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 instrument cluster is <b>re-programmed</b> and then <b>re-coded automatically</b>.</p> <p>The display in the instrument cluster is switched off during programming. "bLF" appears on the digital speedometer display.</p> <p>The ignition is still active in the background.</p> <p>The display in the instrument cluster will be switched on again automatically as soon as programming is complete.</p> <p><b>Switch the ignition off and then on again only when prompted to do so by the PIWIS Tester because otherwise, programming will be interrupted and will then have to be started again.</b></p>
Time required for programming and coding (approx.):	<b>20 minutes</b>
Software version programmed during this campaign:	<b>0786</b> Following control unit programming, the software version can be read out of the instrument cluster in the 'Extended identification' 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> .

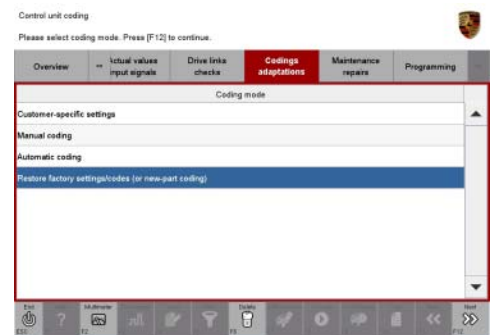
Procedure in the event of abnormal termination of control unit programming:	Repeat control unit programming by entering the programming code again.
Procedure in the event of other malfunctions <b>following</b> control unit programming (e.g. analogue speedometer does not work):	<ul style="list-style-type: none"> <li>• Switch off ignition and lock the vehicle.</li> <li>• Wait for at least 5 minutes before unlocking the vehicle again and switching on the ignition.</li> <li>• Check to see if the problem persists.</li> </ul>

## Resetting instrument cluster to factory settings

- Procedure:
- 1 Select **'Instrument cluster'** in the control unit selection screen (**'Overview'** menu) and press **•F12** ("Next") to confirm your selection ⇒ *Control unit selection – Instrument cluster*.
  - 2 Once the instrument cluster has been found and is displayed in the overview, select the **'Codings/adaptations'** menu.
  - 3 Select **'Restore factory settings/codes'** and press **•F12** ("Next") to start the process ⇒ *Resetting instrument cluster to factory settings*.
  - 4 Once the settings have been reset successfully, press **•F12** ("Next") to continue.
  - 5 Select the **'Overview'** menu and press **•F11** ("Back") to return to the control unit selection screen.



*Control unit selection – Instrument cluster*



*Resetting instrument cluster to factory settings*

## Concluding work



### Information

The values for the Tyre Pressure Monitoring (TPM) system may be lost during re-coding of the instrument cluster.

If the Tyre Pressure Monitoring (TPM) system is reset, the wheel electronics must be re-taught and adapted to the system.

### Preconditions and procedure for teaching the wheel electronics units:



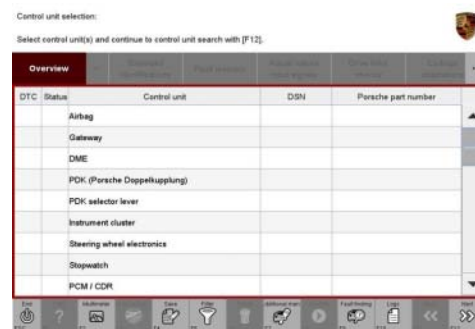
- Vehicle is stationary for at least 5 minutes.
- Select the type of tyres fitted (type and size) in the TPM menu in the instrument cluster. The message "No monitoring. System is learning from 25 km/h or 15 mph" then appears in the multi-function display.
- Drive at a speed of more than 25 km/h (15 mph) - ideally without stopping - until the tyre pressure values are displayed (learning time: less than 2 minutes).

The system learns the wheel electronics only while driving. Intermediate stops and deviations from the described teaching procedure can result in a much longer learning time.

Teaching can be performed during the test drive or later while the customer is driving. Please inform your customer about this if necessary.

Procedure: 1 Read out and erase all fault memories.

- 1.1 In the control unit selection screen ('Overview' menu), press •F7" to call up the 'Additional menu' (⇒ Control unit selection).
- 1.2 Select the function "Read all fault memories and erase if required" and press •F12" ("Next") to confirm your selection ⇒ Erasing fault memories.



Control unit selection

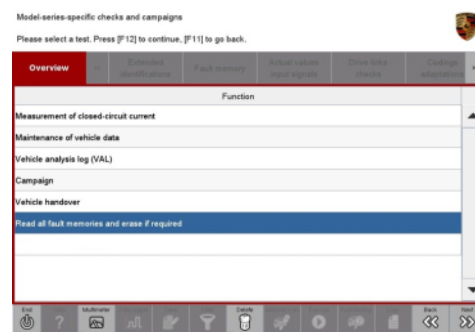
The fault memories of the control units are read out.

- 1.3 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.



Erasing fault memories

- 1.4 Press •F8" to delete fault memory entries.
- 1.5 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.
  - 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.
- 2 Switch off the ignition.
  - 3 Disconnect the PIWIS Tester from the vehicle.
  - 4 Switch off and disconnect the battery charger.
  - 5 On vehicles with Porsche Entry & Drive, replace the original driver's key in the ignition lock with the control unit again if necessary.
  - 6 Enter the campaign in the Warranty and Maintenance booklet.

**Warranty processing**

Scope 1: • **Vehicles with I-no. ER3 or ER4 (North America, Mexico)**

**Working time:**

Performing software update for PCM and instrument cluster

Labor time: **56 TU**

Includes:

- Connecting and disconnecting battery charger
- Connecting and disconnecting PIWIS Tester
- Performing update confirmation
- Re-coding PCM
- Resetting instrument cluster to factory settings
- Performing function test
- Reading out and erasing fault memory

**Required tools:**

9P1 906 961 A      SD memory card  
                                 – PCM update

The number of SD cards provided for each Porsche Dealer depends on how many vehicles will have to be worked on by each Porsche Dealer as part of this campaign and campaign WG47 (see section ⇒ *Technical Information 'WG3900 Required tools'*).

The SD memory cards must only be **invoiced once** for the first vehicle during **warranty processing**. Only the **working time** must be invoiced in the warranty claim for all other vehicles on which work is carried out as part of this campaign in the Porsche Dealer.

Please note that SD cards invoiced as part of this campaign must not be invoiced again for workshop campaign WG47.

**Invoicing: ⇒ Damage Code WG39 66 000, Repair Code 1**

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