

AMB5 - Re-programming Power Electronics (Stop Delivery/Recall 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.

Model Year: 2020

Model Line: **Taycan (Y1A)**
Taycan Cross Turismo (Y1B)

Concerns: **Power electronics and engine electronics (DME)**

Information: **Due to an internal software error in the high-voltage power electronics, there is a possibility that the warning message "Drive system control fault. Park vehicle safety" will be displayed in the instrument cluster on the affected vehicles.**

If this is the case, the possibility of the drive system switching off sporadically while driving cannot be ruled out and it may be necessary to park the vehicle safely. The customer can start the vehicle again after switching the ignition off and on again.

- Action required:**
- Re-program the power electronics and engine electronics (DME control unit) using the PIWIS Tester with test software version **40.350.035** (or higher) installed.
 - Depending on the software version of the individual control units installed in the vehicle, other control units must also be re-programmed or coded.
 - Replace Owner's Manual in the on-board folder in the vehicle with an updated version.



Information

Each vehicle affected by this measure has been assigned **exactly one scope**, which includes the measures required for updating the software.

For details of the exact scope of this campaign that is assigned to each vehicle, see PCSS Vehicle Information.

An overview of the corresponding action required for each scope can be found in the table below.

Overview of scopes:

Allocation	Scope of work for control unit programming
Scope 1:	<ul style="list-style-type: none"> • VR8.6 • VR8.7 • VR12.1.1 • Power electronics
Scope 2:	<ul style="list-style-type: none"> • VR8.7 • VR12.1.1 • Power electronics
Scope 3:	<ul style="list-style-type: none"> • VR12.1.1 - Model year 2020 vehicles • Power electronics
Scope 4:	<ul style="list-style-type: none"> • VR12.1.1 - Model year 2021 vehicles • Power electronics
Scope 5:	<ul style="list-style-type: none"> • Power electronics



Information

After carrying out this campaign AMB5, carry out campaign WMA7 so that the Porsche Mobile Charger Connect software is also **version VR12.1.1**. See ⇒ *Technical Information 'WMA700 WMA7 Workshop campaign - Performing software update for charger (Porsche Mobile Charger Connect)'*.

Affected vehicles:

Only vehicles assigned to the campaign (see also PCSS Vehicle Information).

Parts required

Part No.: **Owner's Manual**

An overview of the required Owner's Manuals is provided under ⇒ *Technical Information 'WMA700 Overview of order numbers for Driver's Manuals'*.

Required tools



Information

The Taycan (Y1A/Y1B) is equipped as standard with a **lithium starter battery**.

Lithium starter batteries must only be charged using a **suitable battery charger** that has a current and voltage-controlled charge map.

For further information about the battery chargers to be used, see ⇒ *Workshop Manual '270689 Charging battery/vehicle electrical system'*.



Information

A blank or re-writable USB storage medium is additionally required for installing the onboard Owner's Manual.

If no additional USB storage medium is available for carrying out this campaign, a replacement USB storage medium (e.g. Part No. V04014999WW000) must be purchased. The costs for the USB storage medium cannot be invoiced under the workshop campaign number.

Tools:

- Battery charger with a current rating of **at least 90 A** and **also** with a **current and voltage-controlled charge map** for lithium starter batteries, e.g. **VAS 5908 battery charger 90 A**
- **9900 - PIWIS Tester 3** with test software version **40.350.035** (or higher) installed.
- **USB storage medium, type A+C 32 GB (for PCM update)**, Part No. V04014999WW000
- **USB storage medium, type C (for onboard Owner's Manual update)**, e.g. Part No. V04014999WW000



Information

The central computer (PCM) software update is performed using a USB storage medium. The software version that is specific to each region must be **downloaded** using the software tool **PiUS** (Porsche integrated Update Service) and **installed** on a blank USB storage medium.

Pay particular attention to the following:

- For this PCM software update, the USB storage medium USB Type A+C 32 GB with the part number V04014999WW000 must be used.
- To use the software tool, **one** blank or re-writable USB storage medium is required for **each** individual software.
- The software available in PiUS must **only** be used in accordance with the instructions provided in a Technical Information published for this purpose.

The software mentioned here must **only** be used on the **vehicles assigned to the campaign**. Damage to the central computer cannot be ruled out if the software is used on other vehicles.

You will find further information on how to install and use the PiUS software tool in the PPN portal under ***PiUS (Porsche integrated Update Service) goes live***.

Overview of PiUS software versions – PCM update VR12.1.1		
Part No.	Designation – Region	Vehicle allocation
9J1919360C	PCM update software – Europe – RoW	I-no. ER1/ER2

9J1919360D	PCM update software – North America – Mexico	I-no. ER3/ER4
9J1919360E	PCM software update – Japan – China – Korea – Taiwan	I-no. ER5/ER6/ER7/ER8

Preparatory work - all scopes

NOTICE

Fault entry in the fault memory and control unit programming aborted due to undervoltage.

- 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 suitable battery charger with a current rating of at least 90 A to the vehicle.

NOTICE

Control unit programming will be aborted if the WiFi connection is unstable.

- An unstable WiFi connection can interrupt communication between the PIWIS Tester and the vehicle communication module (VCI). As a result, control unit programming may be aborted.
- ⇒ During control unit programming, always connect the PIWIS Tester to the vehicle communication module (VCI) via the USB cable.

NOTICE

Control unit programming will be aborted if the driver's key is not recognized

- If the driver's key is not recognized in the vehicle, programming cannot be started or will be interrupted.
- ⇒ Position the driver's key with the back facing forward upright between the holding struts in the rear cupholder (emergency start tray) to ensure a permanent radio link between the vehicle and remote control.

NOTICE

Programming interrupted

- Malfunctions in control unit
- Risk of damage to control unit

- ⇒ **Route the line between the vehicle communication module (VCI) and diagnostic socket on the vehicle without tension and make sure that the connector is inserted fully into the diagnostic socket.**
- ⇒ **Check that the rechargeable battery for the PIWIS Tester is charged sufficiently. Connect the PIWIS Tester to the power supply unit if necessary.**



Information

To carry out the campaign, the PIWIS Tester must be online and logged into the Porsche Partner Network (PPN).



Information

Use the **new** PIWIS Tester data cable to carry out the campaign. The difference between the old ⇒ *PIWIS Tester data cable -1-* and new ⇒ *PIWIS Tester data cable -2-* data cable is shown in the illustration.

If the connection between the vehicle and PIWIS Tester is interrupted, check the data cable for the PIWIS Tester for signs of damage. If the data cable is damaged, it **must** be **replaced**. To do this, follow the instructions in the PPN for "Returning faulty USB cable caps" (PPN portal > Dr Ing. h.c. Porsche AG > Aftersales > Workshop > PIWIS > Documents).



PIWIS Tester data cable



Information

The procedure described here is based on the PIWIS Tester 3 software version **40.350.035**.

The PIWIS Tester instructions take precedence and in the event of a discrepancy, these are the instructions that must be followed.

A discrepancy may arise with later software versions for example.



Information

To prevent any excessive and potentially noticeable heating of the charging clamp of the negative cable while charging the 12-volt vehicle electrical system battery using an external battery charger, always check the following points:

- Always connect the charging terminal of the negative cable vertically from above to the ground point for the external power connection. Make sure that the charging clamp cable is routed loosely to prevent the charging clamp from tilting sideways at the ground point.

- When connecting the charging clamp, make sure that it is a sufficient distance away from peripheral parts (e.g. pneumatic supply line for air-spring strut).
- Before raising the vehicle using a lifting platform, always disconnect the battery charger completely from the vehicle in order to prevent the connecting line of the charging terminal from becoming taut and the charging terminal tipping sideways at the ground point as a result.



Information

The state of charge of the high-voltage battery should not be less than 30% or more than 80% for the software update.

Work Procedure: 1 Connect a suitable battery charger, e.g. **Battery charger 90A**, to the jump-start terminals in the luggage compartment and switch it on.

2 Position the **driver's key** with the back facing forward upright between the holding struts in the rear cupholder (**emergency start tray**) to guarantee a permanent radio link between the vehicle and remote control ⇒ *Emergency start tray*.



Emergency start tray

3 Connect **9900 - PIWIS Tester 3** to the vehicle communication module (VCI) via the **USB cable**. Then, connect the communication module to the vehicle and switch on the PIWIS Tester. Operate the PIWIS Tester **via the power supply unit**.

4 Establish operational readiness (switch on ignition).

5 On the PIWIS Tester start screen, call up the **'Diagnostics'** application.

The vehicle type is then read out, the diagnostic application is started and the control unit selection screen is populated.

6 Create vehicle analysis log (VAL) using the PIWIS Tester.

Mark the vehicle analysis log you have just created with the attribute "Pre-VAL" and after carrying out the campaign, return it using the PIWIS Tester.

7 Read out and check the fault memory.

Mark the vehicle analysis log you have just created with the attribute **"Pre-VAL"** and after carrying out the campaign, return it using the PIWIS Tester.

Then, perform the control unit update in accordance with the scope that is uniquely assigned to the respective vehicle.

For details of the exact scope of this campaign that is assigned to each vehicle, see PCSS Vehicle Information.

Allocation	Software release	Action required
Scope 1:	<ul style="list-style-type: none"> VR8.6 VR8.7 VR12.1.1 Power electronics 	⇒ <i>Technical Information '270689 Updating software for various control units - Scope 1'.</i>
Scope 2:	<ul style="list-style-type: none"> VR8.7 VR12.1.1 Power electronics 	⇒ <i>Technical Information '270689 Updating software for various control units - Scope 2'.</i>
Scope 3:	<ul style="list-style-type: none"> VR12.1.1 Power electronics 	⇒ <i>Technical Information '270689 Updating software for various control units - Scope 3'.</i>
Scope 4:	<ul style="list-style-type: none"> VR12.1.1 Power electronics 	Not relevant for this model year.
Scope 5:	<ul style="list-style-type: none"> Power electronics 	⇒ <i>Technical Information '270689 Re-programming power electronics - Scope 5'.</i>

Updating software for various control units - Scope 1



WARNING

Electrically moved side windows and rear spoiler

- Danger of limbs being trapped or severed
 - Risk of damage to components
- ⇒ Do not reach into the danger area.
- ⇒ Keep third parties away from the danger area.
- ⇒ Do not move components or tools into the danger area.

NOTICE

Using the software on vehicles that are not assigned to this campaign:

- Risk of damage to control unit
- ⇒ Use the listed software versions only for the vehicles assigned to the campaign.

Work Procedure: 1 **Only relevant for vehicles with Scope 1:** Start control unit programming of **VR8.6**.

The basic procedure for control unit programming is described in the Workshop Manual ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*

For specific information on control unit programming of VR8.6 during this campaign, see the table below:

Required PIWIS Tester software version:	40.350.035 (or higher)
Type of control unit programming:	Control unit programming using the ' Campaign ' function in the Additional menu on the PIWIS Tester by entering a programming code.
Programming code:	P5P8E
Programming sequence:	Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence. Do not interrupt programming and coding. A backup documentation process for the re-programmed software versions starts as soon as programming and coding is complete.
Programming time (approx.):	120 minutes
Software versions programmed during this campaign:	<ul style="list-style-type: none"> • Over-the-air (OTA) control unit 0861 • High-voltage power electronics, front and rear 0006 • Control unit for high-voltage charger (OBC) 1073 • High-voltage battery control unit (BMCe) E860 • Chassis control (PASM) 0896 • Rear air conditioning control 0897 • Instrument cluster 0394 <p>Following control unit programming, the software version can be read out of the relevant control unit in the 'Extended identifications' menu using the PIWIS Tester.</p>

<p>Procedure in the event of abnormal termination of control unit programming:</p>	<ul style="list-style-type: none"> • End and restore operational readiness (switch ignition off and then on again). • Read out and erase the fault memory ⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'</i>. • Repeat control unit programming by entering the programming code again, whereby extended logging must be started using the key combination •Ctrl“ + •L“ . • Extended logging records diagnostic software data, particularly vehicle communication data, which is required for analysing the issues that caused programming to be aborted. • If control unit programming is aborted a second time, end operational readiness for approx. 15 minutes (switch off ignition) and repeat the procedure described here again.
<p>Procedure in the event of error messages appearing during the programming sequence:</p>	<p>⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"</i>.</p>

- 2 Then, perform software update to software release **VR8.7**, see ⇒ *Technical Information '9X00IN Updating software for various control units - Scope 2'*.

Updating software for various control units - Scope 2



Electrically moved side windows and rear spoiler

- Danger of limbs being trapped or severed
 - Risk of damage to components
- ⇒ Do not reach into the danger area.
- ⇒ Keep third parties away from the danger area.
- ⇒ Do not move components or tools into the danger area.

Work Procedure: 1 **Only relevant for vehicles with Scope 1 and 2:** Start control unit programming of **VR8.7**.

The basic procedure for control unit programming is described in the Workshop Manual ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*.

For specific information on control unit programming of VR8.7 during this campaign, see the table below:

Required PIWIS Tester software version:	40.350.035 (or higher)
Type of control unit programming:	Control unit programming using the ' Campaign ' function in the Additional menu on the PIWIS Tester by entering a programming code.
Programming code:	V6P8C
Programming sequence:	Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence. Do not interrupt programming and coding. A backup documentation process for the re-programmed software versions starts as soon as programming and coding is complete.
Programming time (approx.):	100 minutes
Software versions programmed during this campaign:	<ul style="list-style-type: none"> • High-voltage power electronics, front and rear 0007 • Control unit for high-voltage charger (OBC) 1079 • High-voltage battery control unit (BMCe) E870 • HV voltage converter 0899 • Brake booster (electric brake booster) 0100 • High-voltage DC charger (booster) 0990 • Engine electronics (DME) 0005 • Brake electronics (PSM) 0094 • Driver's seat and passenger's seat adjustment 0064 • Assistance systems (zFAS) 0355 <p>Following control unit programming, the software version can be read out of the relevant control unit in the 'Extended identifications' menu using the PIWIS Tester.</p>

<p>Procedure in the event of abnormal termination of control unit programming:</p>	<ul style="list-style-type: none"> • End and restore operational readiness (switch ignition off and then on again). • Read out and erase the fault memory ⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'</i>. • Repeat control unit programming by entering the programming code again, whereby extended logging must be started using the key combination •Ctrl“ + •L“ . • Extended logging records diagnostic software data, particularly vehicle communication data, which is required for analysing the issues that caused programming to be aborted. • If control unit programming is aborted a second time, end operational readiness for approx. 15 minutes (switch off ignition) and repeat the procedure described here again.
<p>Procedure in the event of error messages appearing during the programming sequence:</p>	<p>⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"</i>.</p>

- 2 Then, perform software update to software release **VR12.1.1**, see ⇒ *Technical Information '9X00IN Updating software for various control units - Scope 3'*.

Updating software for various control units - Scope 3



Electrically moved side windows and rear spoiler

- Danger of limbs being trapped or severed
 - Risk of damage to components
- ⇒ Do not reach into the danger area.
- ⇒ Keep third parties away from the danger area.
- ⇒ Do not move components or tools into the danger area.

Work Procedure: 1 Select the guest account from the central display (PCM) and activate Privacy mode (available in some countries).



Information

To ensure that no user-specific settings from **cloud-based services (Porsche Connect & My Porsche)** are lost during the update, activate **Privacy mode** before starting the update. When Privacy mode is activated, communication between the vehicle and the Porsche Connect app and My Porsche is disabled. No vehicle-specific information is transferred. As a result, settings cannot be configured on the vehicle using the Porsche Connect app or My Porsche.

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

After carrying out the campaign, please inform customers that personal settings they have implemented in the instrument cluster and central display of the central computer 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, for example:

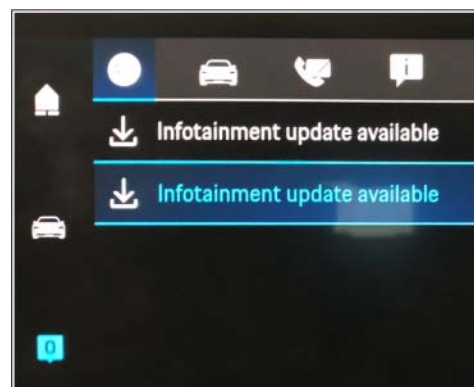
- Individual settings for tubes 1 to 3 of the instrument cluster as well as the extended map view or reduced view of the instrument cluster
- Individual settings of the head-up display (HUD)
- Selected functions of individual tubes in the instrument cluster, e.g. auto zoom, 3D map and satellite map
- Arrangement of tiles in the home screen and MyScreen on the central display
- Individual seat, exterior mirror and ergonomic settings
- Air conditioning settings, such as ventilation and air quality
- Privacy settings
- Frequency setting of the garage door opener (Homelink)



Information

After carrying out the campaign, please inform customers that Infotainment updates are available via the central computer (PCM) and provide them with any help and support they need during installation ⇒ *Infotainment update in central display*.

These updates are only available if the customer has logged in on the vehicle using his/her main user credentials (Porsche ID). Several updates are available depending on equipment and these must be installed one after the other in steps. It can take several minutes to install these. New functions can only be used when all updates have been completed and the vehicle has established bus idle for at least 15 minutes.



Infotainment update in central display



Information

Special features of sequence 1:

- **Distance measuring sensor control unit (ACC):** Programming is performed in two stages because of the high data volume. First, the bootloader ACC is programmed and an error message is displayed. This error message in step 5 can be ignored and you can continue with the campaign. Follow the instructions on the PIWIS Tester.
- **Airbag control unit:** Manual intermediate steps are required after programming the central control unit for assistance systems (zFAS). For safety reasons, the airbag is unlocked during a guided procedure prior to coding and is then locked again when coding is complete. Follow the instructions on the PIWIS Tester. If the guided airbag procedure is aborted, the airbag must be locked again manually after completion of sequence 1. For instructions, see: ⇒ *Workshop Manual '695355 Replacing airbag control unit'*
- **Rear-end electronics control unit (BCM 2):** If the driver's key is not detected in the vehicle, programming of the rear-end electronic cannot be started or will be interrupted. You must therefore position the **driver's key** with the back facing forward upright between the holding struts in the rear cupholder (**emergency start tray**) to guarantee a permanent radio link between the vehicle and remote control.

2 Start control unit programming **sequence 1**.

The basic procedure for control unit programming is described in the Workshop Manual ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*.

Sequence 1:

For specific information on control unit programming in this sequence, see the table below:

Required PIWIS Tester software version:	40.350.035 (or higher)
Type of control unit programming:	Control unit programming using the 'Campaign' function in the Additional menu on the PIWIS Tester by entering a programming code.
Programming code:	K4M1S

Programming sequence:	<p>Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence.</p> <p>Do not interrupt programming and coding.</p> <p>A backup documentation process for the re-programmed software versions starts as soon as programming and coding is complete.</p>
Programming time (approx.):	125 minutes
Software versions programmed during this sequence:	<ul style="list-style-type: none"> • Distance measuring sensor control unit (ACC) 0496 • Front-end electronics control unit (BCM1) 0712 • Rear-end electronics control unit (BCM2) 0565 • Radar sensor for front corner radar, left and right 0485 • Lane Change Assist control unit, left and right 0486 • Central control unit for assistance systems (zFAS) 0365 • Airbag control unit 3303 <p>Following control unit programming, the software version can be read out of the relevant control unit in the 'Extended identifications' menu using the PIWIS Tester.</p>
Procedure in the event of abnormal termination of control unit programming:	<ul style="list-style-type: none"> • End and restore operational readiness (switch ignition off and then on again). • Read out and erase the fault memory ⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'</i>. • Repeat control unit programming by entering the programming code again, whereby extended logging must be started using the key combination •Ctrl" + •L" . • Extended logging records diagnostic software data, particularly vehicle communication data, which is required for analysing the issues that caused programming to be aborted.

	<ul style="list-style-type: none"> If control unit programming is aborted a second time, end operational readiness for approx. 15 minutes (switch off ignition) and repeat the procedure described here again.
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> .



Information

Special features of sequence 2:

- Battery sensor (12-volt vehicle electrical system battery):** An actual voltage of at least 14 volts is required for programming the 12-volt battery sensor. Switching the ignition off and on again after one minute is therefore integrated in the programming sequence. As a result, the voltage of the 12-volt vehicle electrical system battery increases briefly and the programming sequence can be started. Follow the instructions on the PIWIS Tester.
- 3 Start control unit programming **sequence 2**.

For specific information on control unit programming in this sequence, see the table below:

Required PIWIS Tester software version:	40.350.035 (or higher)
Type of control unit programming:	Control unit programming using the ' Campaign ' function in the Additional menu on the PIWIS Tester by entering a programming code.
Programming code:	K4M2S
Programming sequence:	<p>Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence.</p> <p>Do not interrupt programming and coding.</p> <p>A backup documentation process for the re-programmed software versions starts as soon as programming and coding is complete.</p>
Programming time (approx.):	125 minutes

Software versions programmed during this campaign:	• Power electronics, front and rear	0012
	• Engine electronics (DME) control unit	0014
	• High-voltage battery control unit (BMCE)	1401
	• High-voltage DC charger (booster)	1250
	• HV voltage converter	1230
	• Control unit for chassis control (PASM)	1160
	• Power steering control unit (EPS)	0430
	• Brake electronics (PSM) control unit	0120
	• Control unit for steering column adjustment	0210
	• Control unit for rear axle steering	0962
	• Rear lid control unit	0172
	• Air-conditioning control unit	1160
	• Rear-differential lock control unit	2021
	• Thermal management control unit (TME)	0323
	• Electric passenger compartment heater (PTC)	0015
	• Gateway control unit	2591
	• Instrument cluster	0595
	• Over-the-air (OTA) control unit	1221
	• OTA partition	1221
	• High-voltage charger (OBC) 11 kW	1083
• Battery sensor	4174	
• Transmission control unit (EGS)	0250	
Following control unit programming, the software version can be read out of the relevant control unit in		

	the 'Extended identifications' menu using the PIWIS Tester.
Procedure in the event of abnormal termination of control unit programming:	<ul style="list-style-type: none"> • End and restore operational readiness (switch ignition off and then on again). • Read out and erase the fault memory ⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'</i>. • Repeat control unit programming by entering the programming code again, whereby extended logging must be started using the key combination •Ctrl“ + •L“ . • Extended logging records diagnostic software data, particularly vehicle communication data, which is required for analysing the issues that caused programming to be aborted. • If control unit programming is aborted a second time, stop operational readiness for approx. 15 minutes (switch off ignition) and repeat the procedure described here again.
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> .



Information

Special features of sequence 3:

- The new software version of the **additional instrument (stopwatch)** and **multifunction steering wheel** is only shown after restarting these components. This restart takes place in bus idle during the concluding work.
- 4 Start control unit programming **sequence 3**.

For specific information on control unit programming in this sequence, see the table below:

Required PIWIS Tester software version:	40.350.035 (or higher)
Type of control unit programming:	Control unit programming using the 'Campaign' function in the Additional menu on the PIWIS Tester by entering a programming code.
Programming code:	K4M3S

Programming sequence:	<p>Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence.</p> <p>Do not interrupt programming and coding.</p> <p>A backup documentation process for the re-programmed software versions starts as soon as programming and coding is complete.</p>
Programming time (approx.):	130 minutes
Software versions programmed during this campaign:	<ul style="list-style-type: none"> • Multifunction steering wheel 0091 • Seat adjustment control unit, front 0064 • Additional instrument control unit (stopwatch) 0015 • Door control unit, front and rear 0390 • Control unit for exterior acoustics (eSound) 0100 • Control unit for interior acoustics (iSound) 0290 • Display and operator control unit in rear center console 1170 • Connect control unit 0236 or 0237 or 0238 or 0239 <p>Following control unit programming, the software version can be read out of the relevant control unit in the 'Extended identifications' menu using the PIWIS Tester.</p>

<p>Procedure in the event of abnormal termination of control unit programming:</p>	<ul style="list-style-type: none"> • End and restore operational readiness (switch ignition off and then on again). • Read out and erase the fault memory ⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'</i>. • Repeat control unit programming by entering the programming code again, whereby extended logging must be started using the key combination •Ctrl“ + •L“ . • Extended logging records diagnostic software data, particularly vehicle communication data, which is required for analysing the issues that caused programming to be aborted. • If control unit programming is aborted a second time, end operational readiness for approx. 15 minutes (switch off ignition) and repeat the procedure described here again.
<p>Procedure in the event of error messages appearing during the programming sequence:</p>	<p>⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"</i>.</p>

- 5 Re-program the central computer (PCM) (**sequence 4**).
 - 5.1 Open the armrest and remove the external device, e.g. iPod, USB storage medium, from the USB interface if necessary.

NOTICE

Using the software on vehicles that are not assigned to this campaign:

- Risk of damage to control unit

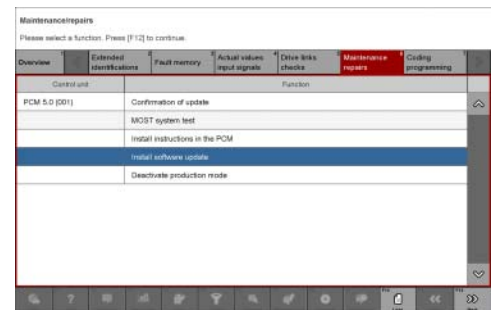
⇒ Use the listed software versions only for the vehicles assigned to the campaign.

- 5.2 Insert the **USB storage medium** with the software version specific to the respective region for the **PCM update** into the **USB interface**.

Part No.	Designation – Region	Vehicle assignment
9J1919360C	USB storage medium for PCM update – Europe – ROW	I-no. ER1/ER2

9J1919360D	USB storage medium for PCM update – North America – Mexico	I-no. ER3/ER4
9J1919360E	USB storage medium for PCM update – Japan – China – Korea – Taiwan	I-no. ER5/ER6/ER7/ER8

- 5.3 See Technical Information **TI 101/20** if programming is aborted during central computer (PCM) software updates ⇒ *Technical Information '915200 Complaint - PCM update cannot be performed/stops. Observe specified procedure (101/20)'*.
- 5.4 Check whether **guest account** is selected in the central display (PCM) and **Privacy mode** is activated (available in some countries).
- 5.5 Start the central computer (PCM) software update (**sequence 4**) using the PIWIS Tester.
- 5.6 Select the **PCM central computer** control unit in the control unit selection screen (**'Overview'** menu) and press •F12" ('Next') to confirm your selection.
- 5.7 Once the PCM central computer control unit has been found and is displayed in the 'Overview', select the **'Maintenance/repairs'** menu.
- 5.8 Select the **'Install software update'** function and press •F12" ('Next') to perform the software update ⇒ *Installing PCM 6.0 software update*.
- 5.9 Confirm the information that is displayed by pressing •F12" ('Next').
- 5.10 After meeting the preconditions, confirm by ticking the 'Status' column. Then, press •F12" ('Next') to continue.

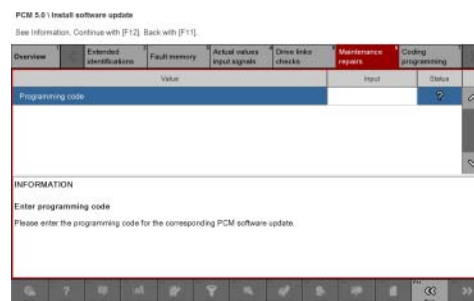


Installing PCM 6.0 software update

5.11 Enter the programming code **K4M4S** in the relevant column ⇒ *Entering PCM 6.0 programming code* and press •F12" ('Next') to confirm ⇒ *Entering PCM 6.0 programming code*.

5.12 Press •F8" ('Start') to start.

5.13 After checking the software data, press •F8" ('Start') to start programming.



Entering PCM 6.0 programming code

Once the update has started, the PCM is restarted in the Update menu and the individual components are then updated.

The update can take up to 60 minutes.

Read and follow the instructions displayed on the PIWIS Tester during the update. The PCM is restarted several times. **The PCM screen (central display) remains dark for a long time.**

5.14 Once the update is complete, an overview is displayed showing processes that have been completed successfully marked with a tick in the Status box. Press •F12" ('Next') to confirm.

Software versions programmed during this sequence

- Central computer (PCM): **3397**
- Front display and operator control unit (central display): **0210**
- Loudspeaker booster: **0150 (Bose), 0090 (Burmester)**
- Passenger display: **0310**
- Operator control unit in front center console: **1250**

Following control unit programming, the software version can be read out of the PCM central computer control unit in the 'Extended identifications' menu using the PIWIS Tester.

5.15 Open the armrest and remove the USB storage medium from the USB interface.

6 Then, carry out concluding work (**sequence 5**).

Concluding work - Scope 1-3



Electrically moved side windows and rear spoiler

- Danger of limbs being trapped or severed
- Risk of damage to components
- ⇒ Do not reach into the danger area.
- ⇒ Keep third parties away from the danger area.
- ⇒ Do not move components or tools into the danger area.

NOTICE

Movement of the rear wheels by activating the electric motor; vehicle driving off when the wheels are touching the ground

- Personal injury as a result of wheel or vehicle movement
 - Material damage to vehicle, drive or brake components
- ⇒ Raise the vehicle on a lifting platform until the drive wheels are free
- ⇒ Press the foot brake during adaptation
- ⇒ Cordon off the work area

NOTICE

Programming interrupted

- Malfunctions in control unit
 - Risk of damage to control unit
- ⇒ Route the line between the vehicle communication module (VCI) and diagnostic socket on the vehicle without tension and make sure that the connector is inserted fully into the diagnostic socket.
- ⇒ Check that the rechargeable battery for the PIWIS Tester is charged sufficiently. Connect the PIWIS Tester to the power supply unit if necessary.

**Information**

In the menu-guided procedure, check the '**Teach wheel IDs**' menu item after confirming with '•F12' to make sure that the function '**Teach 2nd wheel IDs without driving**' is selected. Then, select the function '**2nd wheel IDs unknown**' and continue the procedure according to menu guidance.

- Work Procedure: 1 Establish bus idle for at least 15 minutes.
- 1.1 End operational readiness (switch off ignition).
 - 1.2 Disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
 - 1.3 Lock the vehicle using the driver's key and remove the driver's key from the proximity of the vehicle (approx. 10 meter/ 32.8 ft).
 - 1.4 Unlock the vehicle again after waiting for at least 15 minutes.
 - 1.5 Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and restore communication with the vehicle.

- 2 Move the vehicle onto a lifting platform, but do not raise it yet.
Follow the instructions on the PIWIS Tester for raising the vehicle during the following sequence.



Information

The **current version** of the onboard Owner's Manual has been **available** online **since 5 March 2021**.

A blank USB storage medium is required for installing the onboard Owner's Manual (approx. 100 MB). If there is already data stored on the USB storage medium, this will be deleted during the procedure.



Information

Before starting sequence 5 (subsequent work), connect the PIWIS Tester to a network to establish an Internet connection. The PIWIS Tester **must** be **connected online** for the subsequent work described below and for installing the onboard Owner's Manual.



Information

Special features of sequence 5:

- **Component protection:** Component protection must only be taught for the control unit for assistance systems (zFAS). To do this, select component protection for **assistance systems (zFAS)** in the procedure. If the component protection teaching process is aborted, stop sequence 5 and read and follow the additional information provided under ⇒ *Technical Information '915200 Additional instructions for the concluding work'*.
 - **Enabled functions:** If function activation is aborted, component protection must first be taught again. Then, start sequence 5 again in order to restore the enabled functions.
 - **Coding of all control units:** Always allow coding to run to the end of the process. If individual coding routines fail, the relevant control units can be selected manually in the overview afterwards and coded again individually.
- 3 Start subsequent work for various control units (**sequence 5**).

Required PIWIS Tester software version:	40.350.035 (or higher)
Programming code:	K4M5S
Work Procedure:	Read and follow the information and instructions on the PIWIS Tester during the guided procedure for the subsequent work. Do not interrupt the process.
Programming time (approx.):	approx. 55 minutes

Subsequent work carried out during this process	<ul style="list-style-type: none"> Distance measuring sensor (ACC) - Reset personalization <p>For manual procedure, see ⇒ <i>Workshop Manual '278555 Replacing control unit for distance measuring sensor'</i>.</p>
	<ul style="list-style-type: none"> Air conditioning - Teach servo motors <p>For the manual procedure, see relevant servo motor Workshop Manual 872019xx.</p>
	<ul style="list-style-type: none"> Commissioning rear-differential lock <p>For manual procedure, see ⇒ <i>Workshop Manual '397555 Replacing control unit for rear-differential lock'</i>.</p>
	<ul style="list-style-type: none"> Engine electronics (DME) transmission adaptation <p>For manual procedure, see ⇒ <i>Workshop Manual '247055 Replacing DME control unit'</i>.</p>
	<ul style="list-style-type: none"> Door standardization, front and rear <p>For manual procedure, see</p> <ul style="list-style-type: none"> ⇒ <i>Workshop Manual '577355 Replacing front door control unit'</i> ⇒ <i>Workshop Manual '587355 Replacing rear door control unit'</i>
	<ul style="list-style-type: none"> Teaching component protection <p>For manual procedure, see ⇒ <i>Workshop Manual '903555 Replacing gateway control unit'</i>. Select the control unit for assistance systems (zFAS) in the PIWIS Tester procedure.</p>
	<ul style="list-style-type: none"> Restoring enabling functions <p>For manual procedure, see ⇒ <i>Workshop Manual '903555 Replacing gateway control unit'</i>.</p>
	<ul style="list-style-type: none"> Installing onboard operating instructions <p>For manual procedure, see ⇒ <i>Workshop Manual 'OX01IN Diagnostic system: Performing vehicle handover'</i>.</p>

<p>Procedure if the sequence is aborted:</p>	<ul style="list-style-type: none"> • Automatic coding of all control units • End and restore operational readiness (switch ignition off and then on again). • Read out and erase the fault memory ⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'</i>. • Repeat subsequent work sequence by entering the programming code again, whereby extended logging must be started using the key combination •Ctrl" + •L" . • Extended logging records diagnostic software data, particularly vehicle communication data, which is required for analysing the issues that caused programming to be aborted. • If subsequent work is aborted a second time, end operational readiness for approx. 15 minutes (switch off ignition) and repeat the procedure described here again. • In the case of further aborts, the subsequent work must be successively carried out manually.
<p>Procedure in the event of error messages appearing during the programming sequence:</p>	<p>⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"</i>.</p>

- 4 Establish bus idle for at least 15 minutes.
 - 4.1 End operational readiness (switch off ignition).
 - 4.2 Disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
 - 4.3 Lock the vehicle using the driver's key and remove the driver's key from the proximity of the vehicle (approx. 10 meter/ 32.8 ft).
 - 4.4 Unlock the vehicle again after waiting for at least 15 minutes.
 - 4.5 Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and restore communication with the vehicle.

- 5 Teach steering lock settings.

- 5.1 Select the **power steering 'EPS'** control unit in control unit selection ('**Overview**' menu) and press •F12" ('Next') to confirm.
 - 5.2 Once the power steering control unit has been found and is displayed in the list, select the '**Maintenance/repairs**' menu.
 - 5.3 Select the '**Commissioning**' function and confirm with •F12" ('Next').
 - 5.4 Follow the instructions on the Tester to perform the commissioning process.
 - 5.5 If the left and right steering lock settings are not saved during the procedure, adjust the height and depth of the steering wheel position and repeat the commissioning procedure.
- 6 **Only relevant for vehicles with Scope 1 and 2 or if fault memory entries are stored for seat adjustment:** Standardize seat adjustment for driver's and passenger's side.
- 6.1 Select the '**Seat adjustment on front passenger's side**' control unit in the control unit selection screen ('**Overview**' menu) and press •F12" ('Next') to confirm your selection.
 - 6.2 Once the seat adjustment on front passenger's side control unit has been found and is displayed in the overview, select the '**Maintenance/repairs**' menu.
 - 6.3 Select the '**Standardize seat motors**' function and press •F12" ('Next') to confirm your selection.
 - 6.4 Read the instructions and confirm by pressing •F12" ('Next').
 - 6.5 Press •F8" ('Start') to run the procedure.
 - 6.6 Once the seat motors on the **passenger's side** have been standardized, also teach the **driver's side**. To do this, select the '**Seat adjustment on front driver's side**' control unit in the control unit selection screen ('**Overview**' menu) and **repeat Steps 6.2 to 6.6**. Then, continue with **Step 2**.
- 7 Manually retract the rear spoiler, which extended automatically during programming.
- 7.1 Select the '**Rear spoiler**' control unit in the control unit selection screen ('**Overview**' menu) and press •F12" ('Next') to confirm.
 - 7.2 Once the rear spoiler control unit has been found and is displayed in the overview, select the '**Maintenance/repairs**' menu.
 - 7.3 Select the function '**Teach rear spoiler**' and press •F12" ('Next') to confirm.
 - 7.4 Read the instructions and confirm by pressing •F12" ('Next').
 - 7.5 Meet the displayed conditions that must be checked manually and tick the relevant '**Status**' box.
 - 7.6 Select the '**Teach rear spoiler**' function and press •F8" ('Execute') to confirm.
 - 7.7 Once the rear spoiler has been taught and retracted fully, select the '**Overview**' menu to return to the control unit selection screen.

- 8 Calibration of power electronics at front and rear.
 - 8.1 Select the '**Rear high-voltage power electronics**' control unit in the control unit selection screen ('**Overview**' menu) and confirm with **•F12**" ('Next').
 - 8.2 Once the high-voltage power electronics on rear axle control unit has been found and is displayed in the 'Overview', select the '**Drive links/checks**' menu.
 - 8.3 Select the '**Electric motor – Reset calibration**' function and confirm with **•F12**" ('Next').
 - 8.4 Set the entry to **Basic setting** in the Values column on the '**Parameters**' tab.
 - 8.5 Confirm that **calibration** has been reset with **•F8**" ('Execute').
 - 8.6 Go back to the control unit selection screen ('**Overview**' menu), select the '**Front high-voltage power electronics**' control unit and repeat **Steps 8.2 to 8.4** for the selected control unit.
 - 8.7 After resetting both calibrations, select the two control units '**Front high-voltage power electronics**' and '**Rear high-voltage power electronics**' in the control unit selection screen and open the '**Fault memory**' menu.
 - 8.8 Check whether the fault code '**P171900**' is displayed for **both** control units:
 - If the fault code '**P171900**' is displayed for the '**Rear high-voltage power electronics**' and '**Front high-voltage power electronics**' control unit, continue with **Step 8.9**.
 - The fault code '**P171900**' is **not displayed** or is displayed only for **one of the two control units**. Carry out **Steps 8.1 to 8.6** for the relevant control units again.
 - 8.9 Disconnect the PIWIS Tester from the vehicle.
 - 8.10 Switch off and disconnect the battery charger.



Information

Resetting the high-voltage power electronics will limit the maximum vehicle speed to 70 km/h (43 mph). The warning message "Reduced speed" will be displayed on the instrument cluster. Any road on which it is possible to accelerate to a speed of at least 60 km/h (38 mph) can be used as the calibration route.

Read and follow safety instructions:

- Only perform calibration on public roads if the road and traffic conditions are conducive to doing so
 - The road traffic regulations must always be observed
 - Other road users must not be at risk when performing calibration
 - Move the vehicle on public roads only if it is roadworthy
- 8.11 Start the calibration drive and complete the following steps.
 - Accelerate the vehicle to at least 60 km/h (38 mph).

- Release the accelerator pedal and allow the vehicle roll in overrun for at least 1 second. Calibration is performed during this overrun phase.
 - Switch ignition off and on again to reset the "Reduced speed" warning message.
- 9 Only relevant if the message "**Tire pressure monitoring fault - Service necessary**" is displayed: Teach Tire Pressure Monitoring (TPM) system using the PIWIS Tester.
For instructions, see:
⇒ *Workshop Manual '443225 Teaching wheel electronics'*
- 10 Read out and erase the fault memories of all control units.

10.1 Press •F7" in the control unit selection screen ('Overview' menu) to call up the Additional menu.

10.2 Select the function "Read all fault memories and erase if required" and press •F12" ('Next') to confirm ⇒ *Erasing fault memories*.

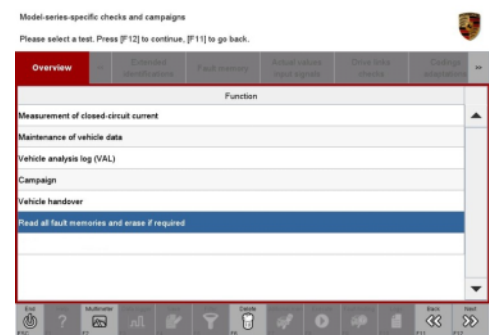
The fault memories of the control units are read out.

10.3 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

10.4 Press •F8" to delete fault memory entries.

10.5 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

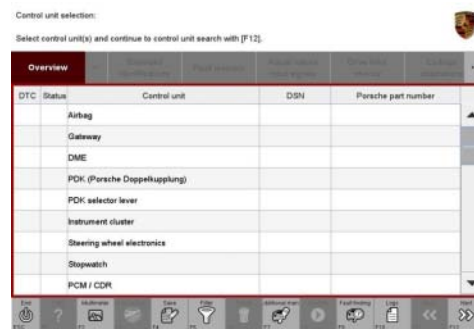
If fault memory entries for individual control units cannot be deleted, proceed as follows:

- End operational readiness (switch off ignition).
- Disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
- Lock the vehicle using the driver's key and remove the driver's key from the proximity of the vehicle (approx. 10 meter/ 32.8 ft).
- Unlock the vehicle again after waiting for at least 15 minutes.
- Restore operational readiness (switch on ignition).

- 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.

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

- 11 Create vehicle analysis log (VAL) using the PIWIS Tester.
Mark the vehicle analysis log you have just created with the attribute "Final VAL" and after carrying out the campaign, return it using the PIWIS Tester.



Control unit selection

- 12 End operational readiness (switch off ignition).
- 13 Disconnect the PIWIS Tester from the vehicle.



Information

Connect the PIWIS Tester to a network as soon as possible and log into the PPN in order to transfer the backup documentation created during this campaign to the PAG systems.

- 14 Switch off and disconnect the battery charger.
- 15 Replace Taycan Owner's Manual with an updated Taycan Owner's Manual with order number WKD Y1A 00 xx**21** (xx = language code, e.g. 10, 20, 30, etc.).
Also remove the old Owner's Manual from the vehicle and dispose of it.
- 16 Enter the campaign in the Warranty and Maintenance booklet.
– End of action required –

For warranty processing, see **Scopes 1-3** under ⇒ *Technical Information '443225 Warranty processing'*

Re-programming power electronics - Scope 5



Information

When the front and rear power electronics is programmed, the DME control unit is also **re-programmed automatically**. It takes **approx. 10 minutes** in total to **program** these control units.

Before starting programming and after the control units have been programmed successfully, the procedure for sending **backup documentation** of the software versions installed on the control units to the PAG systems will be started **automatically**.

Work Procedure: 1 **Re-program power electronics and engine electronics (DME) control unit.**

General preliminary work and 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'*.

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

Required PIWIS Tester software version:	40.350.035 (or higher)
Type of control unit programming:	Control unit programming using the ' Automatic programming ' function for the DME control unit: 'DME' control unit – ' Coding/programming ' menu – ' Automatic programming ' function.
Programming sequence:	Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence. First the DME control unit and then the front power electronics and rear power electronics are re-programmed during the programming sequence. The control units are then re-coded automatically . Do not interrupt programming and coding. Once the control units have been programmed and coded, you will be prompted to end and then restore operational readiness after a certain waiting time. Backup documentation of the new software versions is then performed.
The programming sequence takes (approx.):	10 minutes
Software version programmed during this campaign:	Power electronics, front and rear Software version: 0012 Engine electronics (DME) Software version: 0014 Following control unit programming, the software version can be read out of the relevant control unit in the 'Extended identifications' menu using the PIWIS Tester.

<p>Procedure in the event of abnormal termination of control unit programming:</p>	<ul style="list-style-type: none"> • End and restore operational readiness (switch ignition off and then on again). • Read out and erase the fault memory ⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'</i>. • Repeat control unit programming by entering the programming code again, whereby extended logging must be started using the key combination •Ctrl" + •L". • Extended logging records diagnostic software data, particularly vehicle communication data, which is required for analysing the issues that caused programming to be aborted. • If control unit programming is aborted a second time, end operational readiness for approx. 15 minutes (switch off ignition) and repeat the procedure described here again.
<p>Procedure in the event of other error messages appearing during the programming sequence:</p>	<p>⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"</i>.</p>

Concluding work - Scope 5



Electrically moved side windows and rear spoiler

- **Danger of limbs being trapped or severed**
 - **Risk of damage to components**
- ⇒ **Do not reach into the danger area.**
- ⇒ **Keep third parties away from the danger area.**
- ⇒ **Do not move components or tools into the danger area.**

- Work Procedure: 1 Manually retract the rear spoiler, which extended automatically during programming.
- 1.1 Select the **'Rear spoiler'** control unit in the control unit selection screen (**'Overview'** menu) and press **•F12"** ('Next') to confirm.
 - 1.2 Once the rear spoiler control unit has been found and is displayed in the overview, select the **'Maintenance/repairs'** menu.
 - 1.3 Select the function **'Teach rear spoiler'** and press **•F12"** ('Next') to confirm.
 - 1.4 Read the instructions and confirm by pressing **•F12"** ('Next').

- 1.5 Meet the displayed conditions that must be checked manually and tick the relevant **'Status'** box.
 - 1.6 Select the **Teach rear spoiler** function and press **•F8** ("Execute") to confirm.
 - 1.7 Once the rear spoiler has been taught and retracted fully, select the **'Overview'** menu to return to the control unit selection screen.
- 2 Read out and erase the fault memories of all control units.
 - 2.1 Press **•F7** ("") in the control unit selection screen ('Overview' menu) to call up the Additional menu.
 - 2.2 Select the function "Read all fault memories and erase if required" and press **•F12** ("Next") to confirm ⇒ *Erasing fault memories*.

The fault memories of the control units are read out.
 - 2.3 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.

- 2.4 Press **•F8** ("") to delete fault memory entries.
- 2.5 Press **•F12** ("Yes") in response to the question as to whether you really want to delete all fault memory entries.

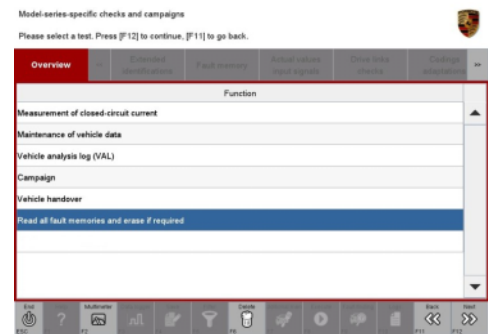
The faults stored in the fault memories of the various control units are deleted.



Information

If fault memory entries for individual control units cannot be deleted, proceed as follows:

- End operational readiness (switch off ignition).
- Disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
- Lock the vehicle using the driver's key and remove the driver's key from the proximity of the vehicle (approx. 10 meter/ 32.8 ft).
- Unlock the vehicle again after waiting for at least 15 minutes.
- Restore operational readiness (switch on ignition).
- Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and restore communication with the vehicle.



Erasing fault memories

- Read out the fault memory again and delete any fault memory entries that are stored.
- 2.6 Once you have erased the fault memories, select the **'Overview'** menu to return to the control unit selection screen ⇒ *Control unit selection*.
 - 3 Create vehicle analysis log (VAL) using the PIWIS Tester.
Mark the vehicle analysis log you have just created with the attribute **"Final VAL"** and after carrying out the campaign, return it using the PIWIS Tester.
 - 4 End operational readiness (switch off ignition).
 - 5 Disconnect the PIWIS Tester from the vehicle.



Control unit selection



Information

Connect the PIWIS Tester to a network as soon as possible and log into the PPN in order to transfer the backup documentation created during this campaign to the PAG systems.

- 6 Switch off and disconnect the battery charger.

– End of action required –

For warranty processing, see **Scope 5** under ⇒ *Technical Information '9X00IN Warranty processing'*

Warranty processing



Information

The specified working time was determined specifically for carrying out this campaign and includes all necessary preliminary and subsequent work.

The working time may differ from the working times published in the Labor Operation List in the PCSS.



Information

Information on the working time:

Generally, the working time includes all work that requires the active participation of the service technician.

This also covers all required preliminary work and subsequent work.

The working time includes the following activities during control unit programming:

- All required steps for starting or finishing programming
- Required interaction during a programming sequence

- Waiting times until programming starts
- Random check of programming status

If no further interaction by the service technician is required once control unit programming has started because programming is performed automatically, there is no need for the service technician to remain at the vehicle for the entire programming time.

These waiting times are not included in the working time if the total programming time is more than 15 minutes.

If programming takes up to 15 minutes, the full waiting time is included in the working time.

Scope 1:

Re-programming power electronics and engine electronics

Working time:

Re-programming power electronics and engine electronics.

Labor time: **595 TU**

Includes:

- Connecting and disconnecting battery charger
- Connecting and disconnecting PIWIS Tester
- Updating various control units to software version VR8.6
- Updating various control units to software version VR8.7
- Updating software of various control units to software version VR12.1.1
- Commissioning power steering
- Retracting rear spoiler manually
- Standardising driver and front passenger seat adjustment
- Calibrating high-voltage power electronics (front and rear axle)
- Reading out and erasing fault memories
- Creating vehicle analysis logs (VALs) before and after the campaign

Required materials:

AMB50000001	Owner's Manual*	1 ea.
AMB50000002	Shipping costs**	1 ea.

* The cost of one Owner's Manual will be covered **for each vehicle**. For warranty processing, enter the Part No. **AMB50000001** with the designation "**Owner's Manual**" as **accessories** costing **\$0.01**.

** If you incur **shipping costs** when ordering the Owner's Manual Supplement, please invoice these costs under the Part No. **AMB50000002**, with the designation "**Shipping costs**" as an additional part. Maximum cost **\$6.25**. Please document a copy of the invoice for this in the warranty claim.

⇒ **AMB5 099 000 1**

Scope 2: **Re-programming power electronics and engine electronics**

Working time:

Re-programming power electronics and engine electronics.

Labor time: **570 TU**

- Includes:
- Connecting and disconnecting battery charger
 - Connecting and disconnecting PIWIS Tester
 - Updating various control units to software version VR8.7
 - Updating software of various control units to software version VR12.1.1
 - Commissioning power steering
 - Retracting rear spoiler manually
 - Standardising driver and front passenger seat adjustment
 - Calibrating high-voltage power electronics (front and rear axle)
 - Teaching Tire Pressure Monitoring (TPM) system
 - Reading out and erasing fault memories
 - Creating vehicle analysis logs (VALs) before and after the campaign

Required materials:

AMB50000001	Owner's Manual*	1 ea.
AMB50000002	Shipping costs**	1 ea.

* The cost of one Owner's Manual will be covered **for each vehicle**. For warranty processing, enter the Part No. **AMB50000001** with the designation "**Owner's Manual**" as **accessories** costing **\$0.01**.

** If you incur **shipping costs** when ordering the Owner's Manual Supplement, please invoice these costs under the Part No. **AMB50000002**, with the designation "**Shipping costs**" as an additional part. Maximum cost **\$6.25**. Please document a copy of the invoice for this in the warranty claim.

⇒ **AMB5 099 000 1**

Scope 3: **Re-programming power electronics and engine electronics****Working time:**

Re-programming power electronics and engine electronics

Labor time: **527 TU**

Includes:

- Connecting and disconnecting battery charger
- Connecting and disconnecting PIWIS Tester
- Updating software of various control units to software version VR12.1.1
- Commissioning power steering
- Retracting rear spoiler manually
- Calibrating high-voltage power electronics (front and rear axle)
- Teaching Tire Pressure Monitoring (TPM) system
- Reading out and erasing fault memories
- Creating vehicle analysis logs (VALs) before and after the campaign

Required materials:

AMB50000001	Owner's Manual*	1 ea.
AMB50000002	Shipping costs**	1 ea.

* The cost of one Owner's Manual will be covered **for each vehicle**. For warranty processing, enter the Part No. **AMB50000001** with the designation "**Owner's Manual**" as **accessories** costing **\$0.01**.

** **If you incur shipping costs** when ordering the Owner's Manual Supplement, please invoice these costs under the Part No. **AMB50000002**, with the designation "**Shipping costs**" as an additional part. Maximum cost **\$6.25**. Please document a copy of the invoice for this in the warranty claim.

⇒ **AMB5 099 000 1**Scope 4: **Not relevant for this model year**

Scope 5: **Re-programming power electronics**

Working time:	
Re-programming power electronics	Labor time: 105 TU
Includes:	<ul style="list-style-type: none"> Connecting and disconnecting battery charger Connecting and disconnecting PIWIS Tester Retracting rear spoiler manually Reading out and erasing fault memories Creating vehicle analysis logs (VALs) before and after the campaign
⇒ AMB5 099 000 1	

Overview of order numbers for Owner's Manuals



Information

Owner's Manuals with order numbers WKD Y1A 00 xx **20** (xx = language code, e.g. 10, 20, 30, etc.) that are still available must not be placed in new vehicles or used as replacement Owner's Manuals. Owner's Manuals with these order numbers that are still in stock must be disposed of.

From now on, **only** use the Owner's Manuals with the order number WKD Y1A 00 xx **21** for the **vehicles assigned to the campaign**. These reflect the technical status of the vehicles following the software update.

The order numbers for the various language versions of the updated Owner's Manual are provided in the following table. You can order the Owner's Manual in the quantity you need using the standard ordering process.

Part No.:

Order No.:	Designation - Language	Ordering via		Onboard Owner's Manual
		PROS (Arvato)	Importer	
WKDY1A002121	Owner's Manual - English - US		■	■

Overview of control units for software version VR12.1.1

Overview:

Overview of control units for software version VR12.1.1			
Control unit	Programming time	Action required	
		program	code
Sequence 1: Combined software update for various control units (Update via PIWIS Tester) Includes: <ul style="list-style-type: none"> Distance measuring sensor control unit (ACC) Front-end electronics control unit (BCM1) Rear-end electronics control unit (BCM 2) Radar sensor for front corner radar Lane Change Assist control unit, left and right Central control unit for assistance systems (zFAS) Airbag control unit Reversing camera Interior surveillance sensor Seat occupancy detection Weather sensor Control unit for garage door opener Rear lid proximity sensor control unit Windscreen wiper motor 	approx. 125 minutes		
		■	■
		■	■
		■	■
		■	■
		■	■
		■	■
		■	■
		■	■
		■	■
		■	■
		■	■
		■	■
		■	■
		■	■

<p>Sequence 2: Combined software update for various control units (Update via PIWIS Tester)</p> <p>Includes:</p> <ul style="list-style-type: none"> Battery sensor for 12 V vehicle electrical system battery High-voltage charger (OBC), 11 kW High-voltage battery control unit (BMCe) High-voltage DC charger (booster) HV voltage converter Control unit for chassis control (PASM) Power steering (EPS) control unit Brake electronics (PSM) control unit Control unit for steering column adjustment Control unit for rear axle steering Rear lid control unit Air-conditioning control unit Rear-differential lock control unit Thermal management control unit (TME) Electric passenger compartment heater (PTC) Gateway control unit 	<p>approx. 120 minutes</p>	<p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p>	<p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p> <p>■</p>
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<ul style="list-style-type: none"> Head-up display Instrument cluster Over-the-air (OTA) control unit Engine electronics (DME) control unit Power electronics, front and rear Transmission electronics control unit (EGS) Roll stabilization control unit (PDCC) Headlight, left and right 		<ul style="list-style-type: none"> ■ ■ ■ ■ ■ ■ 	<ul style="list-style-type: none"> ■ ■ ■ ■ ■
<p>Sequence 3: Combined software update for various control units (Update via PIWIS Tester)</p> <p>Includes:</p> <ul style="list-style-type: none"> Multi-function steering wheel Control unit for memory seat adjustment (driver side) Additional instrument control unit (stopwatch) Door control unit, front and rear Control unit for exterior acoustics (eSound) Control unit for interior acoustics (iSound) Display and operator control unit in rear center console Connect control unit Brake booster control unit (eBKV) Night vision system control unit Control unit for Tire Pressure Monitoring (TPM) Control unit for memory seat adjustment (passenger side) Control unit for rear spoiler 	<p>approx. 130 minutes</p>	<ul style="list-style-type: none"> ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ 	<ul style="list-style-type: none"> ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■

<p>Sequence 4: Combined software update for various control units (update via PIWIS Tester and USB storage medium)</p> <p>Includes:</p> <ul style="list-style-type: none"> Porsche Communication Management (PCM) central computer Loudspeaker booster Front display and operator control unit 	<p>approx. 60 minutes</p>	<p style="text-align: center;">■</p>	<p style="text-align: center;">■ ■ ■</p>
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Overview of new features implemented by the software updates

Overview:

Function	Description	Software update		
		VR8.6	VR8.7	VR12.1.1
Navigation and infotainment: Porsche Communication Management (PCM)	<ul style="list-style-type: none"> • Quick filter "Charging stations" is permanently visible in the PCM in order to select charging stations as a destination 	<p style="text-align: center;">■</p>		
	<ul style="list-style-type: none"> • Further improvements have been made to the navigation system, such as the display of online information directly on the map and lane-specific traffic information 			<p style="text-align: center;">■</p>
	<ul style="list-style-type: none"> • Last destinations and favorites, such as "Home" and "Work", remain stored 	<p style="text-align: center;">■</p>		
	<ul style="list-style-type: none"> • Saved satellite map settings are optimized 	<p style="text-align: center;">■</p>		
	<ul style="list-style-type: none"> • Registration via Porsche ID is improved 	<p style="text-align: center;">■</p>		
	<ul style="list-style-type: none"> • Wireless Apple Car Play is enabled. If an Apple ID is linked to your vehicle, the Apple Podcasts including video streaming and Apple Music Lyrics can be used. 			<p style="text-align: center;">■</p>
	<ul style="list-style-type: none"> • Porsche Connect Care package with the breakdown call function is enabled for an inclusive period of 10 years. 			<p style="text-align: center;">■</p>
	<ul style="list-style-type: none"> • The functionality of the navigation system is optimized and system stability is improved. 			<p style="text-align: center;">■</p>
<ul style="list-style-type: none"> • The starting behavior and performance of the central display are improved. 			<p style="text-align: center;">■</p>	

Assistance systems	<ul style="list-style-type: none"> The functionality of Park Distance Control (PDC) is optimized and sporadic system failures that currently occur are corrected. 		■	
	<ul style="list-style-type: none"> Traffic sign recognition at double the time-dependent speed limits is further improved. 			■
Charging	<ul style="list-style-type: none"> A new charging cable with a cable length of 7.5 meter/ 24.6 ft can also be used in the future 	■		
	<ul style="list-style-type: none"> Calculation of the state of charge (SoC) of the high-voltage battery is further optimized. Incorrect calculation of the state of charge is avoided 	■		■
	<ul style="list-style-type: none"> At-home charging is improved. Stability during charging is improved and the timer charging function is further optimized. 		■	■
	<ul style="list-style-type: none"> The calculation of the battery capacity is optimized further 		■	
	<ul style="list-style-type: none"> Home charging with third-party charging equipment is improved. Discharge of the 12-volt vehicle electrical system battery during charging is prevented. 			■
	<ul style="list-style-type: none"> The Charging Planner functions are extended. For example, it is now possible to set the charge level at which your vehicle should reach the specified destination. 			■
	<ul style="list-style-type: none"> During a charging process with active route guidance, the vehicle and the app can also display the point at which the charge level needed for the rest of the route is reached and it is possible to resume driving. 			■
	<ul style="list-style-type: none"> With the new function for charging while preserving the battery, the charging power can be reduced from up to 270 kW to 200 kW if desired. The resulting lower battery temperature during charging further increases battery life. 			■

Air conditioning	<ul style="list-style-type: none"> The functionality of the air conditioning is optimized: Temperature settings in the rear air-conditioning control panel thus remain constant and sporadic failures of the air conditioning are corrected 	■		
Chassis and driving comfort	<ul style="list-style-type: none"> Starting comfort is further optimized 	■		■
	<ul style="list-style-type: none"> Possible chassis noises from the front axle area are reduced 	■		
	<ul style="list-style-type: none"> The lift function is improved. The set vehicle height is not lost after a restart 		■	
	<ul style="list-style-type: none"> With the new Smart Lift function, the Taycan can be programmed to lift automatically at certain points, such as speed bumps or garage driveways. 			■
	<ul style="list-style-type: none"> Further optimization of the suspension system application improves driving dynamics and race-track performance. 			■
	<ul style="list-style-type: none"> Software optimizations improve the functionality of the Porsche Stability Management (PSM) when driving downhill or during stop-and-go driving 		■	
	<ul style="list-style-type: none"> Any personalized settings are retained, even after a bus idle and account change. 			■
	<ul style="list-style-type: none"> Seat and ergonomic positions will now be stored even when using a guest profile and will available again after a restart. 			■
Digital cockpit display (instrument cluster)	<ul style="list-style-type: none"> Various software optimizations prevent the sporadic, short-lived display of various messages and thus improve the driving experience 	■	■	■
	<ul style="list-style-type: none"> The starting behavior and performance of the instrument cluster are further improved. 			■
	<ul style="list-style-type: none"> Sporadic loading spinners and resets are avoided. 			■

Seat adjustment	<ul style="list-style-type: none"> On vehicles in non-Connect markets, the chosen seat memory settings of the driver's seat will now also be preserved after the driving readiness is complete 	■		
	<ul style="list-style-type: none"> In future, when using a guest profile, seat and ergonomic positions will be stored and will not be lost after a restart. 		■	

Additional instructions if programming is aborted



Information

If individual programming steps or subsequent work could not be carried out correctly, see Workshop Manual for the basic procedure for control unit programming using the PIWIS Tester ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"*. :

You will also find further information and instructions specifically for the VR12.1.1 update in the table below:

Situation: SiriusXM is not available as a source in the PCM. The option for SiriusXM is greyed out. The user interface within the PCM screen does not allow the PCM to confirm SiriusXM service is available, presenting a "deadlock" condition.

Action required:

1. Press the Joker-key ('♦' button) on the steering wheel. This will allow you to assign a function to the Joker-key. A popup should appear on the PCM center display.
2. Press the button labeled "change button assignment."
3. Choose "steering wheel button."
4. Choose "change source."
5. Go to Media on the PCM screen.
6. Change the source to SiriusXM via the Joker-key on steering wheel. Confirm the source is available and no longer greyed out.

Work
Procedure:

Control unit:	Situation:	Action required:
Control unit for assistance systems (zFAS):	Fault memory entry B170AF1 or B200FF3 after coding and bus idle.	Perform Assistance systems drive link. <ul style="list-style-type: none"> • Select the Assistance systems control unit in the overview. • Select the Drive links/checks menu. • Select and start the Data input, Step 2 drive link and then follow the instructions on the PIWIS Tester.
Central computer (PCM):	The central computer freezes while loading:	<ul style="list-style-type: none"> • Start sequence 2 again in order to program the gateway control unit and OTA control unit again. The central computer (PCM) then starts as usual.
	Navigation data errors: DTC OXA02 , OXA03 or fault memory entry B126CF0	<ul style="list-style-type: none"> • Replace central computer (PCM).
Control unit for external communication (cBox):	Emergency call system status display lights up or flashes red:	<ul style="list-style-type: none"> • Check fault memory entries for the control unit (cBox). • Deactivate flight mode procedure. For instructions, see: ⇒ <i>Workshop Manual '903525 Deactivating flight mode'</i>
	Operational readiness cannot be established (ignition not active).	<ul style="list-style-type: none"> • Disconnect 12-volt vehicle electrical system battery • Remove and install back-up battery for the cBox in order to de-energize the control unit. For instructions, see: ⇒ <i>Workshop Manual '903525 Removing and installing battery for control unit for external communication'</i> • Operational readiness can be established (ignition

		<p>on) after a short waiting time and after you have reconnected the 12-volt vehicle electrical system battery and the cBox back-up battery. Continue with the remedial action.</p> <ul style="list-style-type: none"> If operational readiness cannot be established, the control unit for external communication (cBox) must be replaced. For instructions, see: ⇒ <i>Workshop Manual '912519 Removing and installing control unit for external communication (connection box)'</i>
Front corner radar control unit:	Fault memory entry after bus idle due to incorrect calibration of front corner radar.	Recalibrate front corner radars. ⇒ <i>Workshop Manual '916625 Calibrating front corner radar'</i>
Component protection:	Component protection activation has failed.	<ul style="list-style-type: none"> Start sequence 5 again. If terminal 30 is aborted again, perform a terminal change. For instructions, see: ⇒ <i>Workshop Manual '270619 Removing and installing vehicle electrical system battery'</i> After the terminal 30 change, start sequence 5 again and select component protection for assistance systems (zFAS).
	Fault memory entry for OTA FC control unit Component protection active	<ul style="list-style-type: none"> Select the OTA FC control unit in the control unit overview and perform automatic programming. Then teach component protection again.
	Activation of component protection for the control unit	<ul style="list-style-type: none"> Deactivate flight mode. For procedure, see: ⇒

	for external communication (connection box) has failed.	<p><i>Workshop Manual '903525 Deactivating flight mode'</i></p> <ul style="list-style-type: none"> Then, start sequence 5 again.
	Activation of component protection for assistance systems (zFAS) has failed.	<ul style="list-style-type: none"> Teach component protection again. For manual procedure, see: ⇒ <i>Workshop Manual '903555 Replacing gateway control unit'</i>. Select the control unit for assistance systems (zFAS) in the PIWIS Tester procedure in order to teach component protection for the control unit for assistance systems (zFAS). Perform terminal 30 change. Enable functions. For instructions, see: ⇒ <i>Workshop Manual '903555 Replacing gateway control unit'</i> Code all control units.
Parking brake (PSM):	Parking brake position lost after coding.	<p>Read the information on the instrument cluster and follow the instructions on the central display:</p> <ul style="list-style-type: none"> Press the brake pedal completely. Move selector lever to "N" and wait 5 seconds. After a waiting time of 5 seconds, apply the parking brake. <p>If the "Brake" warning light in the instrument cluster still comes on, perform calibration again and wait for longer.</p>

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