WKD6 - Re-coding Control Unit for Assistance Systems and Re-programming Various Other Control Units if Necessary (Workshop Campaign)

Model line: **Cayenne (9YA)**

Model Year: **2019**

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.

Subject: **Software update of the following control units:**

- Assistance systems
- Chassis control (PASM)
- Roll stabilization (PDCC)
- PCM 5.0

Information: **New software is available for the control units specified below.**

The new software will correct the problems described here and implement improvements and function enhancements:

Component/control unit	Function/symptom	Description of fault symptom/improvement
Assistance systems		Control unit for assistance systems is more robust.
Chassis control (PASM)	Messages "Chassis system fault" and "Chassis system failure" in the instrument cluster	Sporadic resets of the control unit due to a timing problem.
Roll stabilization (PDCC)	Message "Chassis system fault" in the instrument cluster	The PDCC system fails at low speeds (up to 5 km/h or 3 mph) due to temporary asynchronous data processing between the front and rear axle.

	Message "Chassis system fault" in the instrument cluster - only for Hybrid vehicles	Sporadic failure of PDCC system. The function is available again after an ignition reset.
PCM 5.0	Touch display in the dashboard freezes	After pressing the individually programmable button on the steering wheel, individual parts of the touch display can no longer be used in some areas of North America. The function is available again after BUS idle.

Action Required: Re-code control unit for assistance systems and re-program various other control units if necessary

Information

Different tasks are required, depending on the campaign scope assigned to each vehicle. The required tasks are indicated clearly in the Technical Information.
For details of which campaign scope is assigned to each vehicle, see PCSS Vehicle Information.

Control unit	Action	Scope		
		1	2	3
Assistance systems	Coding	■	■	■
Chassis control (PASM)	Programming		■	■
Roll stabilization (PDCC)*	Programming		■	■
PCM 5.0	Programming			■

***** Depending on equipment

Affected Vehicles: Only the vehicles assigned to the campaign (see also PCSS Vehicle Information). This campaign affects 6,622 vehicles in North America.

Required tools

Tools:

- Battery charger with a current rating of **at least 90 A** and a **current and voltage-controlled charge map** for lithium starter batteries, e.g. **VAS 5908 - Battery charger 90A**
- **9900 - PIWIS Tester 3** with PIWIS Tester software version **38.400.020** (or higher) installed
- **Only for campaign scope 3**: SD memory card for PCM update

Overview of SD memory cards (campaign scope 3)		
Part No.	**Designation**	**Vehicle assignment**
9Y0919360D	SD memory card for PCM update	I-no. **ER3** (North America)

Preparatory work

NOTICE

Control unit programming or coding is aborted

- **Increased current draw during programming or coding can cause a drop in voltage, which can result in the abnormal termination of the programming process.**
- **Due to the long programming and coding time, the charging process can end prematurely, resulting in the abnormal termination of the programming or coding process, if a sufficiently long charging time is not set for the battery charger.**

⇒ **Before starting control unit programming, connect a suitable battery charger set to a charging voltage of 14.8 V and a charging current of at least 90 A to the vehicle.**

⇒ **Set a maximum charging time of at least 7 hours in the battery charger menu if possible before starting control unit programming and coding.**

⇒ **Route the line between the PIWIS Tester and the vehicle communication module (VCI) without tension to prevent the line from slipping out.**

⇒ **Make sure that the connectors are inserted fully into the PIWIS Tester and into the diagnostic socket.**

⇒ **Connect the PIWIS Tester to the power supply unit.**

NOTICE

Control unit programming or coding 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 or coding may be aborted.**

⇒ **During control unit programming or coding, always connect the PIWIS Tester to the vehicle communication module (VCI) via the USB cable.**

NOTICE

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

- **If the driver's key is not recognized in the vehicle, control unit programming or coding cannot be started or will be interrupted.**

⇒ **Position the driver's key in the rear area of the left cupholder in the center console between the holding struts (emergency start tray) in order to guarantee a permanent radio link between the vehicle and driver's key.**

Information

The new Cayenne is equipped as standard with a **lithium starter battery**, which must only be charged using suitable battery chargers.
For further information about the battery chargers to be used, see:

- ⇒ *Workshop Manual '2706IN General information on the 12-volt lithium-ion battery'*
- ⇒ *Workshop Manual '270689 Charging vehicle electrical system battery'*

Information

Use the **new** PIWIS Tester data cable to carry out the campaign, if it is already available. The difference between the old ⇒**-1-** and new ⇒**-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 > Porsche Cars North America> Aftersales > Workshop > PIWIS > Documents).

Work Procedure:

1 Connect a battery charger that is suitable for lithium starter batteries with a current rating of at least 90 A (e.g. **VAS 5908 - Battery charger 90A**) to the jump-start terminals in the engine compartment.
For instructions, see ⇒ *Workshop Manual '2706IN External power connection, jump-lead starting'*.

2 **Position** the **driver's key** in the rear area of the left cupholder in the center console between the holding struts (emergency start tray) in order to guarantee a permanent radio link between the vehicle and driver's key ⇒ *Emergency start tray*.

Emergency start tray

3 Switch on the ignition.

4 **9900 - PIWIS Tester 3** must be connected to the vehicle communication module (VCI) via the **cable**. Then connect the communication module to the vehicle and switch on the PIWIS Tester.

5 On the PIWIS Tester start screen, call up the **'Diagnostics'** application.
The vehicle type is then read out, the diagnostic application starts 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.

All vehicles: Re-coding control unit for assistance systems

Work Procedure: 1 Select the '**Assistance systems**' control unit in the control unit selection screen (**'Overview'** menu) and confirm your selection by pressing •F12 " ('Next').

2 Once the control unit for assistance systems has been found, call up the **'Codings/adaptations'** menu.

3 Select the **'Automatic coding'** function and press •F12 " ('Next') to start control unit coding ⇒ *Automatic coding*.

4 When coding is complete, the message "Coding has been completed successfully" is displayed and a check appears in the 'Status' box.

If coding is **not** completed successfully (error message "Coding was not completed successfully"), coding must be **repeated**.

Automatic coding

5 Once coding is completed successfully, press •F12 " ('Next').

6 Press •F11 " ('Back') to return to the control unit overview.

Depending on the campaign scope assigned to the vehicle, go to the next step as described below.

- For vehicles with **campaign scope 1**, continue with ⇒ *Technical Information '2706IN Concluding work'*.
- For vehicles with **campaign scope 2**, continue with ⇒ *Technical Information '2706IN Vehicles with campaign scope 2: Performing software update for chassis control (PASM) and roll stabilisation (PDCC) if necessary'*.
- For vehicles with **campaign scope 3**, continue with ⇒ *Technical Information '2706IN Vehicles with campaign scope 3: Re-programming PCM 5.0 and other control units if necessary'*.

Vehicles with campaign scope 2: Performing software update for chassis control (PASM) and roll stabilization (PDCC) if necessary

The following control units are **re-programmed** and then **re-coded** in the specified sequence:

- Chassis control (PASM)
- Roll stabilization (PDCC)*

***** Depending on equipment (This is checked automatically by the PIWIS Tester)

WARNING

Automatic lifting and lowering of the vehicle

- **Danger of limbs being trapped when working on the vehicle during the adjustment procedure.**

⇒ **The vehicle must stand freely and must not be jacked up.**

⇒ **Do not work on the vehicle.**

⇒ **Stay a safe distance away from the vehicle.**

1 **For specific information on control unit programming during this campaign, see the table below:**

Required PIWIS Tester software version:	**38.400.020** (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:	**Y7F6S**
Programming sequence:	Read and follow the **information and instructions on the PIWIS Tester** during the guided programming sequence. **Several control units** are **re-programmed** and **re-coded** during the programming sequence. **Do not interrupt programming and coding.**
Programming time (approx.):	**up to 20 minutes*** * The time required for the update depends on the respective vehicle equipment.
Software versions programmed during this campaign:	• Chassis control (PASM) 0918
	• Control unit for roll stabilization (PDCC)* 0412
	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:	Repeat control unit programming by entering the programming code again. During **repeated** control unit programming, all control units that have already been programmed successfully are automatically **skipped** and are **not** programmed again.
Procedure in the event of error messages appearing during the programming sequence:	*⇒ Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"'.*

When programming is complete, continue with *⇒Technical Information '9X00IN Concluding work'*.

Work Procedure: 1 **Read out the current Porsche Communication Management (PCM) software version.**

1.1 Select the **PCM 5.0** control unit in the control unit selection screen (**'Overview'** menu) and press •F12 " ('Next') to confirm your selection.

1.2 Once the control unit has been found and is displayed in the 'Overview', select the **'Extended identifications'** menu.

1.3 Read out the value in the 'Identification' column under "Software version".

- If the software version is **2483** and if optional equipment I-no. **ER3** is installed, continue with Step 2.
- For **all other** software versions, **no** PCM 5.0 software update is necessary. In this case, continue with ⇒ *Technical Information '9X00IN Re-coding all control units - all vehicles'*.

2 Open the glove compartment and remove any inserted SD card from the SD card slot.
To do this, first press on the SD card to release it. Then, pull the SD card out of the card slot.

NOTICE

Using the SD cards on vehicles that are not assigned to this campaign

- **Risk of damage to control unit**

⇒ **Use the specified SD cards only for the vehicles assigned to the campaign.**

3 **Insert SD card** for the **PCM update** into the **SD card slot** in such a way that the bevelled edge of the SD card is at the front right.

Part No.	Designation – Region	Vehicle assignment
9Y0919360D	SD memory card for PCM update – North America	– I-no. ER3 – PCM software version 2483

4 **Start the PCM 5.0 software update using the PIWIS Tester**.

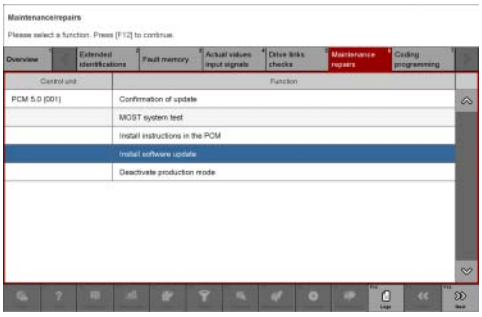
4.1 Select the **PCM 5.0** control unit in the control unit selection screen (**'Overview'** menu) and press •F12 " ('Next') to confirm your selection.

4.2 Once the PCM 5.0 control unit has been found and is displayed in the 'Overview', select the **'Maintenance/repairs'** menu.

4.3 Select the **'Install software update'** function and press •F12 " ('Next') to perform the software update ⇒ *Installing PCM 5.0 software update*.

4.4 Confirm the information that is displayed by pressing •F12 " ('Next').

4.5 After meeting the preconditions, confirm by checking the 'Status' column. Then, press •F12 " ('Next') to continue.



Installing PCM 5.0 software update

4.6 Enter the required programming code in the relevant column ⇒ *Entering PCM 5.0 programming code* and press •F12 " ('Next') to confirm ⇒ *Entering PCM 5.0 programming code*.

Existing PCM software version	Part No. of SD memory card	**Programming code**
2483	9Y0919360D	**M2T4V**

Entering PCM 5.0 programming code

4.7 Press •F8 " ('Start') to start.

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

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

The time required for the update depends on the respective vehicle equipment and can be up to 40 minutes.

Read and follow the instructions displayed on the PIWIS Tester during the update. The PCM is **restarted several times**. The PCM screen remains **dark** for up to **3 minutes**.

Information

Once the PCM software update has been performed, the last step 'Check PCM status' is next. An error message may be displayed here. This error message can be ignored if there is no active fault memory entry in the PCM fault memory after carrying out this campaign.

If there is an active fault memory entry, it must be **found** and **corrected**.

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

4.10 Press •F11 “ ('Back') to return to the control unit overview.

Software version programmed during this campaign:

Software version* before programming	**Software version* programmed during this campaign:**
2483	**9807**

* Following control unit programming, the software version can be read out of the PCM 5.0 control unit in the 'Extended identifications' menu using the PIWIS Tester.

5 Open the glove compartment and remove the inserted SD card from the SD card slot.

6 **Re-code PCM 5.0 and loudspeaker booster**.

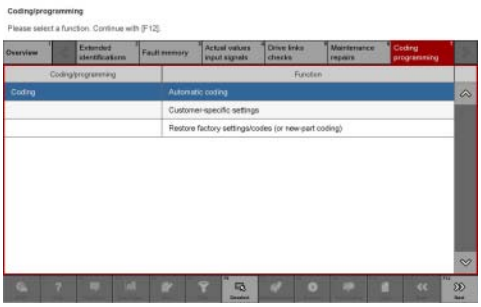
6.1 Select the **'PCM 5.0'** and **'Loudspeaker booster'** control unit in the control unit selection screen (**'Overview'** menu) and press •F12 “ ('Next') to confirm your selection.

6.2 Once the PCM 5.0 and loudspeaker booster control units have been found, select the **'Codings/adaptations'** menu.

6.3 Select the **'Automatic coding'** function and press •F12 “ ('Next') to start control unit coding ⇒*Automatic coding*.

6.4 When coding is complete, the message “Coding has been completed successfully” is displayed and a check will appear in the relevant 'Status' box.

If coding is **not** completed successfully (error message “Coding was not completed successfully”), coding must be **repeated**.



Automatic coding

6.5 Once coding is completed successfully, press •F12 “ ('Next').

6.6 Press •F11 “ ('Back') to return to the control unit overview.

7 **Perform software update for chassis control (PASM) and roll stabilization (PDCC) if necessary**

The following control units are **re-programmed** and then **re-coded** in the specified sequence:

- Chassis control (PASM)
- Roll stabilization (PDCC)*

***** Depending on equipment (This is checked automatically by the PIWIS Tester)

WARNING

Automatic lifting and lowering of the vehicle

- **Danger of limbs being trapped when working on the vehicle during the adjustment procedure.**

⇒ **The vehicle must stand freely and must not be jacked up.**

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

Required PIWIS Tester software version:	**38.400.020** (or higher)
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Programming code:	**Y7F6S**
Programming sequence:	Read and follow the **information and instructions on the PIWIS Tester** during the guided programming sequence. **Several control units** are **re-programmed** and **re-coded** during the programming sequence. **Do not interrupt programming and coding.**
Programming time (approx):	**up to 20 minutes*** * The time required for the update depends on the respective vehicle equipment.
Software versions programmed during this campaign:	• Chassis control (PASM) 0918
	• Control unit for roll stabilization (PDCC)* 0412
	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:	Repeat control unit programming by entering the programming code again. During **repeated** control unit programming, all control units that have already been programmed successfully are automatically **skipped** and are **not** programmed again.
Procedure in the event of error messages appearing during the programming sequence:	⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"'*.

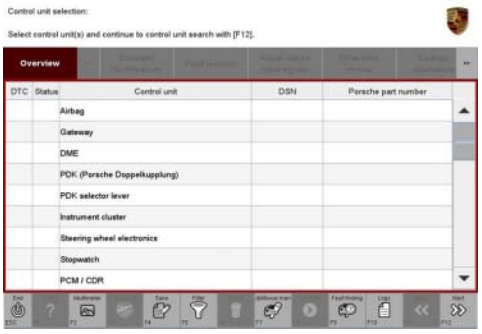
When programming is complete, continue with ⇒ *Technical Information '9X00IN Concluding work'*.

Concluding work

Work Procedure: 1 Read out and erase all fault memories.

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

1.2 Select the function **“Read all fault memories and erase if required”** and press •F12 “ ("Next") to confirm your selection ⇒ *Erasing fault memories*.



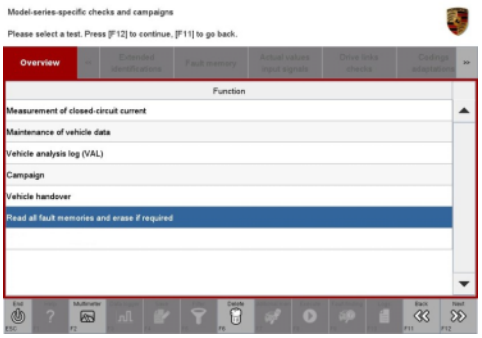
Control unit selection

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.

2 Create vehicle analysis log (VAL) using the PIWIS Tester.
Mark the vehicle analysis log you have just created with the attribute "Post VAL" and return it using the PIWIS Tester.

3 Disconnect the PIWIS Tester from the vehicle.

4 Switch off the ignition.

5 Switch off and disconnect the battery charger.

6 Enter the campaign in the Warranty and Maintenance booklet.

Warranty processing

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

Scope 1: Re-code control unit for assistance systems

Working time:

Re-coding control unit for assistance systems		Labor time: **30 TU**
Includes:	Connecting and disconnecting battery charger	
	Connecting and disconnecting PIWIS Tester	
	Re-coding control unit for assistance systems	
	Reading out and erasing fault memories	
	Creating vehicle analysis log (VAL) before and after repairs	

⇒ **Damage Code WKD6 066 000 1**

Scope 2: Re-code control unit for assistance systems and re-program various other control units

The following control units are **re-programmed**:

- **Chassis control (PASM)**
- **Roll stabilization (PDCC)***

* Depending on equipment

Working time:

Re-coding control unit for assistance systems and re-programming various other control units — Labor time: **60 TU**

Includes:
- Connecting and disconnecting battery charger
- Connecting and disconnecting PIWIS Tester
- Re-coding control unit for assistance systems
- Performing software update for chassis control (PASM) and roll stabilization (PDCC) if necessary
- Reading out and erasing fault memories
- Creating vehicle analysis log (VAL) before and after repairs

⇒ **Damage Code WKD6 066 000 1**

Scope 3: Re-coding control unit for assistance systems and re-programming various other control units

The following control units are **re-programmed**:

- **PCM 5.0**
- **Chassis control (PASM)**
- **Roll stabilization (PDCC)***

* Depending on equipment

Working time:

Re-coding control unit for assistance systems and re-programming various other control units — Labor time: **70 TU**

Includes:
- Connecting and disconnecting battery charger
- Connecting and disconnecting PIWIS Tester
- Re-coding control unit for assistance systems
- Performing software update for chassis control (PASM) and roll stabilization (PDCC) if necessary
- Re-programming PCM 5.0
- Re-coding PCM 5.0 and loudspeaker booster
- Reading out and erasing fault memories
- Creating vehicle analysis log (VAL) before and after repairs

Required tools:

9Y0919360D	SD memory card – PCM update for **North America**	1*

* The SD memory card 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 dealership.

⇒ **Damage Code WKD6 066 000 1**

Information

If malfunctions occur or if programming is aborted during this workshop campaign and these result in additional time being spent (e.g. if a control unit has to be replaced), this cannot be invoiced under the workshop campaign number. This work must be invoiced under an additional warranty claim using the following coding:

- Function unit code (FES) **91020**
- Damage category (SA) **9738** "Does not function following PAG campaign"