

WD31 - Re-programming Rear-Differential Lock Control Unit (Workshop Campaign)

Note: **CRITICAL WARNING** - THIS CAMPAIGN INCLUDES STEPS WHERE SEVERAL CONTROL UNITS IN THE VEHICLE WILL BE PROGRAMMED WITH THE PIWIS TESTER. IT IS CRITICAL THAT THE VEHICLE VOLTAGE BE BETWEEN 13.5 VOLTS AND 14.5 VOLTS DURING THIS PROGRAMMING. OTHERWISE, THE PROGRAMMING COULD FAIL RESULTING IN DAMAGED CONTROL UNITS. CONTROL UNITS DAMAGED BY INADEQUATE VOLTAGE WILL NOT BE COVERED UNDER WARRANTY. THE TECHNICIAN MUST VERIFY THE ACTUAL VEHICLE VOLTAGE IN THE INSTRUMENT CLUSTER OR IN THE PIWIS TESTER BEFORE STARTING THE CAMPAIGN AND ALSO DOCUMENT THE ACTUAL VOLTAGE ON THE REPAIR ORDER. IT IS ALSO ADVISABLE TO MONITOR THE VEHICLE VOLTAGE DURING THE PROGRAMMING VIA THE INSTRUMENT CLUSTER. PLEASE REFER TO EQUIPMENT INFORMATION EQ-1105 FOR A LIST OF SUITABLE BATTERY CHARGERS/POWER SUPPLIES WHICH SHOULD BE USED TO MAINTAIN VEHICLE VOLTAGE.

Model Year: **As of 2011 up to 2014**

Vehicle Type: **Cayenne (92A) / Cayenne S Diesel (92A) / Cayenne S (92A) / Cayenne GTS (92A) / Cayenne Turbo (92A) / Cayenne Turbo S (92A)**

Equipment: Porsche Torque Vectoring (PTV Plus) incl. regulated rear-differential lock (I-no. 1Y1).

Concerns: **Rear-differential lock control unit**

Information: This is to inform you of a voluntary Workshop Campaign on the above-mentioned vehicles. **With the current data record for regulating the rear-differential lock, noises ("rattling") can occur in the rear axle area as a result of a certain driving style over the service life of the vehicle.**

This will not impair the function of the rear-differential lock.

Action Required: Re-program rear-differential lock control unit.



Information

Programming takes **approx. 4 minutes** to complete **in total**.

Affected Vehicles: The VIN(s) can be checked by using PIWIS Vehicle Information link to verify if the campaign affects the vehicle. This campaign is scope specific to the VIN! Failure to verify in PIWIS may result in an improper repair. This campaign affects 2,745 vehicles in North America.



Information

- This campaign must also be carried out on vehicles on which **workshop campaign WC26** or **workshop campaign WC64** has already been carried out.

Tools:

- **9818 - PIWIS Tester II** with PIWIS Tester software version **12.400** (or higher) installed.
- **Battery Charger/Power Supply** - Suitable for AGM Type batteries, recommended current rating of 70A fixed voltage 13.5V to 14.5V. Refer to Equipment Information EQ-1105.

Work Procedure: See Attachment "A".

Claim Submission: See Attachment "B".

Attachment "A":

NOTICE

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

- Increased current draw during diagnosis or control unit programming can cause a drop in voltage, which can result in one or more fault entries and the abnormal termination of the programming process.
- ⇒ Before commencing work, connect a battery charger or power supply - suitable for AGM Type batteries, recommended current rating of 70A fixed voltage 13.5V to 14.5V to the jump-start terminals in the engine compartment.
- ⇒ Disconnect electric plug connection for the fan blower to prevent the blower from coming on during control unit programming.

NOTICE

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

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

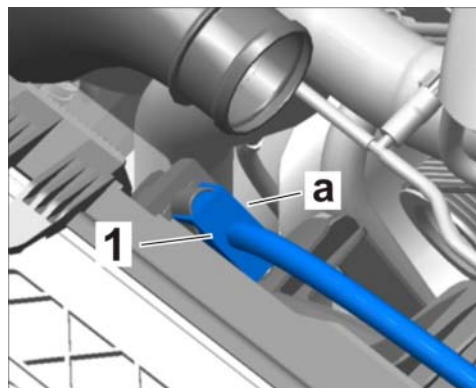
NOTICE

Control unit programming will be aborted if the vehicle key is not recognized

- If the vehicle key is not recognized in vehicles with Porsche Entry & Drive, programming cannot be started or will be interrupted.
- ⇒ Switch on the ignition using the original vehicle key. To do this, replace the original vehicle key in the ignition lock with the plastic key fob if it was previously removed at the start of this procedure.

Work Procedure: **NOTE:** VEHICLE VOLTAGE MUST REMAIN BETWEEN 13.5 AND 14.5 VOLTS DURING THE ENTIRE WORK PROCEDURE.

- 1 Disconnect electric plug connection for the fan blower ⇒ *Electric plug connection for fan blower -1-* (⇒ *Electric plug connection for fan blower -a-*) to prevent the fan blower from coming on during control unit programming.
Having the fan on and the associated increased current draw can cause a drop in voltage, which can result in abnormal termination of control unit programming.



Electric plug connection for fan blower

- 2 Connect a battery charger or power supply, suitable for AGM type batteries, recommended current rating of 70A fixed voltage 13.5V to 14.5V to the jump-start terminals in the engine compartment.
- 3 Switch on the ignition using the **original driver's key**. On vehicles with "Porsche Entry & Drive", do this by replacing the control panel in the ignition lock with the original driver's key if necessary.
- 4 **9818 - PIWIS Tester II** with software version **12.400** (or higher) installed must be connected to the vehicle communication module (VCI) via the **USB cable**. Then, connect the communication module to the vehicle and switch on the PIWIS Tester.

Carrying out control unit programming



Information

The procedure described here is based on the PIWIS Tester II software version **12.400**.

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.

Work
Procedure:

NOTE: VEHICLE VOLTAGE MUST REMAIN BETWEEN 13.5 AND 14.5 VOLTS DURING THE ENTIRE WORK PROCEDURE.

- 1 On the PIWIS Tester start screen, call up the ⇒ **'Diagnostics'** menu and select vehicle type ⇒ **'Cayenne' ⇒ '92A as of MY 2011'**.

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

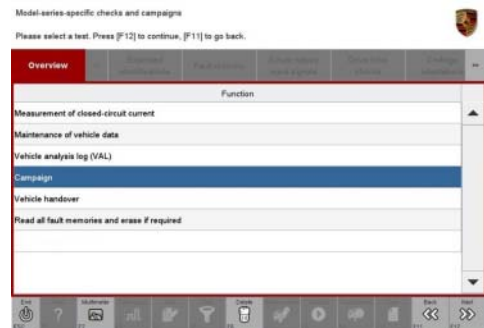
- In the control unit selection screen (⇒ 'Overview' menu), press •F7" to call up the ⇒ 'Additional menu' (⇒ *Control unit selection*).



Control unit selection

- When the question "Create Vehicle Analysis Log (VAL)?" appears, either press •F12" to create a VAL or press •F11" if you do not want to create a VAL.
- Press •>>" to acknowledge the message informing you that campaigns for the vehicle are stored in the PIWIS information system.
- Select the ⇒ 'Campaign' function and press •>>" to confirm your selection ⇒ *Additional menu - Campaign*.

You are then prompted to enter a programming code.



Additional menu - Campaign

- To enter the programming code, click in the relevant text box so that the cursor starts to flash ⇒ *Programming code input field*.



Programming code input field

- Enter the programming code **M4P5H** and press •Enter" to confirm.

The text box turns blue.

Press •>>" to start the guided programming sequence.



Information

Read and follow the **information and instructions on the PIWIS Tester** during the guided programming sequence.

Depending on the data record stored on the rear-differential lock control unit, the control unit will be re-programmed with a new data record with the Porsche part number **OBN927771F** or **OBN927771Y** (programming takes approx. 4 minutes).

Do not interrupt programming.

If programming does not start, the programming code must be entered again and programming must be restarted.

If an error message is displayed (e.g. "Campaign does not exist", "No suitable programming rules found" or "Vehicle data could not be read", etc.), please read and follow the appropriate instructions provided under ⇒ *Technical Information 'WD3100 Troubleshooting'* at the end of this Technical Information.

If programming is interrupted (e.g. due to a voltage drop or if communication is aborted, etc.) or if programming could not be carried out successfully (error message "Programming unsuccessful"), programming must be **repeated** by entering the programming code **M4P5H** again (Additional menu > Campaign >> Enter programming code).

It is **not** possible to program the control units manually.

The fault memories are read out automatically following control unit programming.

Once programming is completed successfully (message "Campaign was carried out successfully"), carry out the **Subsequent work** described below.

Subsequent work

Work Procedure: **NOTE: VEHICLE VOLTAGE MUST REMAIN BETWEEN 13.5 AND 14.5 VOLTS DURING THE ENTIRE WORK PROCEDURE.**

- 1 Plug in electric plug connection for the fan blower.
- 2 **Perform clutch adaptation for rear-differential lock.**
 - 2.1 Switch off ignition and disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
 - 2.2 Lock the vehicle with the driver's key and wait for approx. 1 minute.
 - 2.3 Unlock the vehicle.
 - 2.4 Switch on ignition, start the engine and leave it running at idle speed in selector-lever position P for approx. 30 seconds (adaptation routine).
 - 2.5 Switch off engine and plug the PIWIS Tester diagnostic connector into the diagnostic socket again.
 - 2.6 Switch on the ignition and restore communication between the PIWIS Tester and the vehicle.

- 3 Read out and erase all fault memories.



Information

If the fault memory entry "080E – Rear differential lock – mechanical fault" is stored in the fault memory after carrying out control unit programming, the **clutch must be adapted again** and the fault memory must then be read out again and erased.

If the control units are found to have further faults, which cannot be erased and are not caused by control unit programming, these faults must be located and corrected.

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

- 4 Disconnect the PIWIS Tester from the vehicle.
- 5 Switch off and disconnect the battery charger.
- 6 On vehicles with Porsche Entry & Drive, replace the original driver's key in the ignition lock with the control panel again.
- 7 Enter the workshop campaign in the Warranty and Maintenance booklet.

Attachment "B".

Claim Submission - Workshop Campaign WD31

Warranty claims should be submitted via WWS/PQIS.

Open campaigns may be checked by using either the PIWIS Vehicle Information system or through PQIS Job Creation.

Labor, parts, and sublet will be automatically inserted when Technician is selected in WWS/PQIS. If necessary, the required part numbers will need to be manually entered into warranty system by the dealer administrator

Scope:

Working time:

Re-programming control unit for rear-differential lock

Labor time: **30 TU**

Includes: Disconnecting and connecting electric plug connection for fan blower
 Connecting and disconnecting battery charger
 Connecting and disconnecting PIWIS Tester
 Reading out and erasing fault memory
 Performing clutch adaptation for rear-differential lock

⇒ **Damage Code WD31 066 000 1**

Fault finding

Procedure:

| Error message after entering the programming code | Possible causes | Remedial action |
|--|---|---|
| Specified campaign does not exist | <ul style="list-style-type: none"> PIWIS Tester software is not up-to-date. | <ul style="list-style-type: none"> Update PIWIS Tester software to the software version specified in the Technical Information (or a higher software version). Then enter the programming code again and start programming. |
| | <ul style="list-style-type: none"> Wrong vehicle type selected. | <ul style="list-style-type: none"> Close the diagnostic application. Select the correct vehicle type and restart the diagnostic application. Then enter the programming code again and start programming. |
| | <ul style="list-style-type: none"> Incorrect programming code entered or programming code not entered correctly. | <ul style="list-style-type: none"> Enter the programming code specified in the Technical Information correctly. |
| No suitable programming rules found. Cause: Part number of the control unit is not in the programming rules. | <ul style="list-style-type: none"> Campaign must not be carried out on the vehicle or campaign was already carried out. | <ul style="list-style-type: none"> Check vehicle assignment to the campaign in PIWIS > Vehicle Information. |
| | <ul style="list-style-type: none"> Replacement control unit with up-to-date software version was installed. | <ul style="list-style-type: none"> Check Porsche part number of the rear-differential lock control unit in the ⇒ "Extended identification" menu. <p>Current Porsche part numbers for rear-differential lock control unit: OBN927771F or OBN927771Y.</p> |
| | <ul style="list-style-type: none"> Software version of the installed control unit is already up-to-date. | |
| | <ul style="list-style-type: none"> Software version of the control unit is a version that is not intended for carrying out the campaign. | |

| | | |
|---|--|--|
| No suitable programming rules found. Cause: Current vehicle equipment is not shown in the programming rules. Please check vehicle order and change it if necessary. | <ul style="list-style-type: none"> Campaign must not be carried out on the vehicle. | <ul style="list-style-type: none"> Check vehicle assignment to the campaign in PIWIS > Vehicle Information. |
| | <ul style="list-style-type: none"> Vehicle order is wrong. | <ul style="list-style-type: none"> Check vehicle order and correct it if necessary (PIWIS Tester > Additional menu >> Maintenance of vehicle data). Then enter the programming code again and start programming. |
| Vehicle data could not be read | <ul style="list-style-type: none"> Ignition not switched on. | <ul style="list-style-type: none"> Switch on ignition and close and restart the diagnostic application. Then enter the programming code again and start programming. |

Important Notice: Technical Bulletins issued by Porsche Cars North America, Inc. are intended only for use by professional automotive technicians who have attended Porsche service training courses. They are written to inform those technicians of conditions that may occur on some Porsche vehicles, or to provide information that could assist in the proper servicing of a vehicle. Porsche special tools may be necessary in order to perform certain operations identified in these bulletins. Use of tools and procedures other than those Porsche recommends in these bulletins may be detrimental to the safe operation of your vehicle, and may endanger the people working on it. Properly trained Porsche technicians have the equipment, tools, safety instructions, and know-how to do the job properly and safely. If a particular condition is described, do not assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your authorized Porsche Dealer for the latest information about whether a particular technical bulletin applies to your vehicle. Part numbers listed in these bulletins are for reference only. Always check with your authorized Porsche dealer to verify the current and correct part numbers. The work procedures updated electronically in the Porsche PIWIS diagnostic and testing device take precedence and, in the event of a discrepancy, the work procedures in the PIWIS Tester are the ones that must be followed.

© Porsche Cars North America, Inc.

| | | | |
|--------------|-----------------|-----------------|--------------------|
| Dealership | Service Manager | Shop Foreman | Service Technician |
| Distribution | Asst. Manager | Warranty Admin. | Service Technician |
| Routing | | | |

Dr. Ing. h.c. F. Porsche AG is the owner of numerous trademarks, both registered and unregistered, including without limitation the Porsche Crest®, Porsche®, Boxster®, Carrera®, Cayenne®, Cayman®, Panamera®, Speedster®, Spyder®, 918 Spyder®, Tiptronic®, VarioCam®, PCM®, PDK®, 911®, 4S®, FOUR, UNCOMPROMISED.® and the model numbers and the distinctive shapes of the Porsche automobiles such as, the federally registered 911 and Boxster automobiles. The third party trademarks contained herein are the properties of their respective owners. Porsche Cars North America, Inc. believes the specifications to be correct at the time of printing. Specifications, performance standards, standard equipment, options, and other elements shown are subject to change without notice. Some options may be unavailable when a car is built. Some vehicles may be shown with non-U.S. equipment. The information contained herein is for internal use only by authorized Porsche dealers and authorized users and cannot be copied or distributed. Porsche recommends seat belt usage and observance of traffic laws at all times.

Printed in the USA