

Reworking Connector on Engine Coolant Level Sensor for Low-temperature Cooling System (Red "engine coolant level" warning message in the instrument cluster/SY2215)



Information

These symptom-based repair instructions replace the repair instructions dated November 25, 2015. **Changes/additions** compared to the previous instructions:

- **Note about coolant regulator added** under "Remedial action".



Information

These symptom-based repair instructions replace the repair instructions dated July 15, 2015. **Changes/additions** compared to the previous instructions:

- **Part number and designation for connector housing** corrected under "Tools and materials".

General information

Symptom: **Although the engine coolant level in the reservoir is OK, the following appears in the instrument cluster:**

- Red warning message "Check coolant level",
- Coolant temperature display flashes and
- Coolant temperature gauge is at maximum value.



Information

The coolant temperature gauge always goes to the maximum temperature value in the event of an engine cooling fault in order to alert the driver more effectively to the fault.

⇒ **This function is intentionally designed like this and does not indicate a faulty coolant regulator.**

Model Year: **As of 2013 up to 2015**

- Cause**
- Contact problems with the installed plug contacts in the connector for the engine coolant level sensor on the coolant reservoir (low-temperature cooling system).
 - Fluctuations in resistance in the signal chain between the rear-end electronics control unit and the line at the engine coolant level sensor connector (low-temperature cooling system).
 - No corresponding fault code is entered in the rear-end electronics control unit fault memory.

Affected Vehicles Cayenne S Hybrid and Cayenne S E-Hybrid, model year 2013 to 2015 (up to production week 30/2014)

**Remedial
action**

Retrofit the plug contacts in the engine coolant level sensor connector at the coolant reservoir (low-temperature cooling system) using the spare parts listed below. Also code the rear-end electronics control unit using PIWIS Tester release 15.700 (or higher).

**Information**

The **coolant regulator** does **not need to be replaced** in this case and replacing it **will not resolve the problem**.

Tools and materials

9900 - PIWIS Tester III

Battery Charger/Power Supply - Suitable for AGM Type batteries, recommended current rating of 70A fixed voltage 13.5V to 14.5V.

VAS 1978/35-33 - 1736 - Release tool set

Recommended press-out tool ⇒

VAS 1978/17 + VAS 1978/18

VAS 1978/1A - Crimping pliers

VAS 1978/3 - Stripping pliers

VAS 1978/14A - Hot-air blower

**Information**

Spare parts for repairing electric plug connections can be ordered in the TKR Automotive GmbH online shop.

⇒ www.tkr-connector.com

See also: ⇒ *Technical Information '9X0000 Spare parts requirements for "connectors" - new repair concept: Information, required details and connector search (25/14)'*

Part No.	Designation
TKR Automotive: WEB-REP-000031	Repair line (0.5 mm ² , 5 ea./pack)
TKR Automotive: WEB-EQU-000449	Seal, blue (0.35 - 1.0 mm ² , 10 ea./pack)
TKR Automotive: WEB-EQU-000460	Crimp connector, white (0.5 mm ² , 5 ea./pack)
TKR Automotive: WEB-EQU-000478	Fabric adhesive tape, black (1 ea./pack)

Only order if faulty:	
Correction: TKR Automotive: WEB-CON-000037	Plug socket, black (2-pin, 7 sockets/pack)

Reworking connector for engine coolant level sensor (low-temperature cooling system)

Preliminary work

- 1 Remove engine cover ⇒ *Workshop Manual '700219 Removing and installing front trim panel (engine compartment) - section on "Removing"*.
- 2 Release and disconnect electric plug connection on the engine coolant level sensor (low-temperature cooling system).
- 3 Cut open grommet (fabric adhesive tape).

Reworking connector for engine coolant level sensor (low-temperature cooling system)

Replace existing contacts in the connector housing for the engine coolant level sensor (low-temperature cooling system), see Workshop Manual ⇒ *Workshop Manual '9X00IN Ordering and repairing electric plug connections'*.

- 1 Insulate the repair line using commercially available fabric adhesive tape.
- 2 Route repair line.
- 3 Plug in and lock electric plug connection for the engine coolant level sensor (low-temperature cooling system).
- 4 Install engine cover ⇒ *Workshop Manual '108319 Removing and installing engine cover - section on "Installing"*.

Coding rear-end electronics control unit

Preliminary work

NOTICE

Coding will be aborted in the event of low voltage.

- Increased current draw during diagnosis can cause a drop in voltage, which can result in one or more fault entries and the abnormal termination of the coding process.

- ⇒ Before commencing work, connect a suitable battery charge 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.

NOTICE

Coding 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, coding may be aborted.
- ⇒ During control unit coding, always connect PIWIS Tester II to the vehicle communication module (VCI) via the USB cable.

- 5 Connect a battery charger with a current rating of **at least 70 A**.
- 6 Switch on the ignition using the **original driver's key**. For vehicles with "Porsche Entry & Drive", do this by replacing the control panel in the ignition lock with the original driver's key if necessary.
- 7 **9900 - PIWIS Tester III** 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.
- 8 On the PIWIS Tester start screen, call up the ⇒ **'Diagnostics'** menu and select vehicle type ⇒ **'Cayenne'**.

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

Re-coding rear-end electronics control unit

**Information**

The rear-end electronics control unit only needs to be coded for model year 2014 vehicles.

**Information**

The procedure described here is based on the PIWIS Tester III.

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.

- 9 In the control unit selection screen (⇒ **'Overview'** menu), select the ⇒ **'Rear-end electronics'** control unit and press •>>" to confirm your selection.
- 10 Once the rear-end electronics control unit has been found and is displayed in the overview, select the ⇒ **'Codings/adaptations'** menu.

- 11 Select the ⇒ **'Automatic coding'** function and press •>>“ to start coding.
- 12 When coding is complete, the message "Coding has been completed successfully" is displayed and a tick appears in the 'Status' box.

If coding is not completed successfully (error message "Coding was not completed successfully"), coding must be **repeated**.
- 13 Once coding has been completed successfully, press •>>“ and return to the start page of the ⇒ **'Codings/adaptations'** menu.
- 14 Select the ⇒ **'Overview'** menu and press •<<“ to return to the control unit selection screen.

Subsequent work



Information

If there are still fault memory entries in individual control units, start the engine briefly and then switch it off again. Wait for approx. 10 seconds before switching the ignition on again and re-establish the connection between the PIWIS Tester and the vehicle. Then read out and erase the fault memories of the affected control units again separately.

- 15 Read out and erase all fault memories.
- 16 Switch off ignition.
- 17 Disconnect the PIWIS Tester from the vehicle.
- 18 On vehicles with Porsche "Entry & Drive", replace the original driver's key in the ignition lock with the control unit again.
- 19 Switch off and disconnect the battery charger.

Invoicing

Invoicing

The work involved is invoiced under the labour operation:

APOS	Labour operation	I No.
97094900	Reworking main wire harness	

APOS	Labour operation	I No.
97094905	Reworking main wire harness (incl. coding)	

For invoicing and documentation using PQIS, enter the following coding:

Location (FES5)	19400	Reservoir
Damage type (SA4)	4041	incorrect display

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