

Eliminating Symptoms - Engine: Reworking Vacuum Line on Sport Exhaust System (I-no. 176) (Warning message "Fault cooling system, visit workshop" in instrument cluster/SY2816)

General information

Symptom

The warning message "Fault cooling system, visit workshop" appears in the instrument cluster.
There is also a possibility that the sport exhaust system cannot be activated.

Cause, introduction date and remedial action

Cause The vacuum line can slip off the control box as a result of component tolerances of the clamp.

Model Year: **2017**

Date of Introduction Optimized clamps have been used in production since October 14, 2015.

Remedial Action In the event of a customer complaint, check that the vacuum line is fitted securely on the control box at the left and right.

If the vacuum line has slipped off the control box, the electric change-over valve can be contaminated by drawing in dirt. Replace electric change-over valve and replace vacuum line with a vacuum line with a new clamp.

Tools and materials

Tools and Materials

Parts Info:	Part No.:	Designation:	Qty.
	7PP.906.283.F	⇒ Electric change-over valve	1 ea.
	991.111.504.00 – NEW –	⇒ Vacuum hose, 190 mm with clamp	1 ea.
	991.111.502.00 – NEW –	⇒ Vacuum hose, 93 mm with clamp	1 ea.

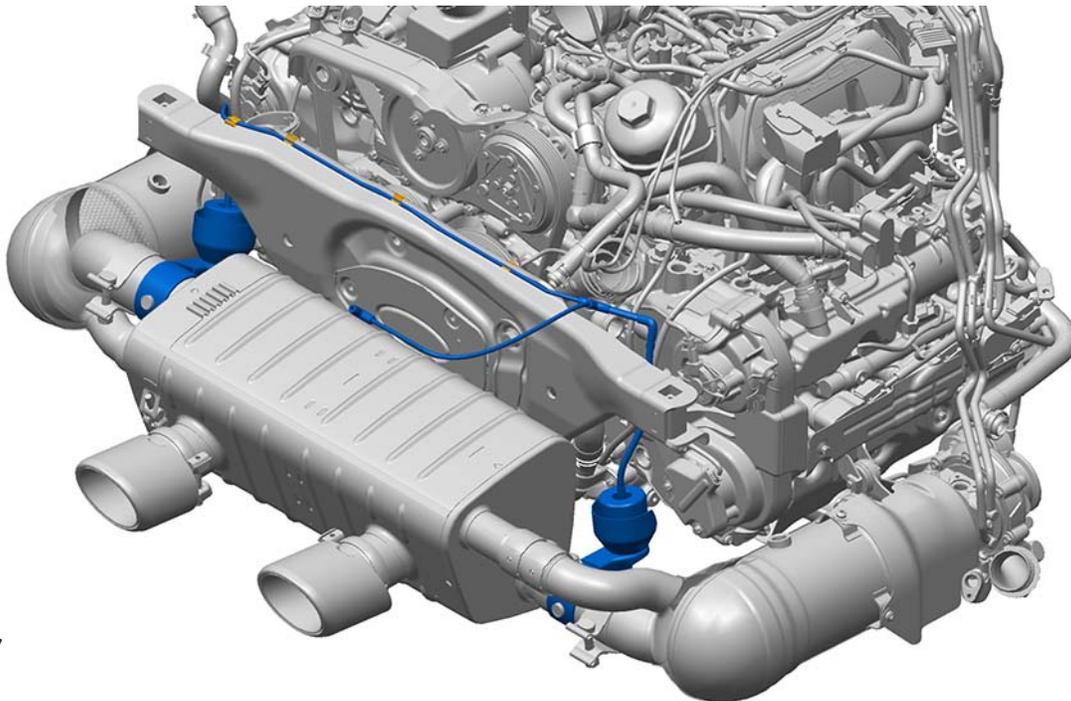
- Tools:
- Torque wrench, 6 – 50 Nm (4.5 – 37 ftlb.), e.g. **V.A.G 1331 - Torque wrench, 6-50 Nm/4.5-37 ftlb.**
 - Suitable hose clip pliers, e.g. **V.A.G 1275A - or Locally Available Tool**

- Battery Charger/Power Supply - Suitable for AGM Type batteries, recommended current rating of 70A fixed voltage 13.5V to 14.5V
- **9900 - PIWIS Tester III** with PIWIS Tester software version **33.010.030** (or higher) installed

Additional tools required for vehicles with **Lane Change Assist (I-no. 457)** or **ParkAssist with reversing camera (I-no. 638)**:

- **VAS 6350A - Calibration unit**
- **VAS 6350/2 - Spacing laser**
- **VAS 6350/4 - Calibration Unit for Lane Change Assist**

Installation
position:



Installation position of vacuum line for control boxes for the sports exhaust system

Checking that vacuum line is fitted securely on control box

Checking that vacuum line is fitted securely on control box



CAUTION

Hot components

- Risk of burns

- ⇒ Let hot components cool down.
- ⇒ Wear personal protective gear.

⚠ WARNING

Moving components

- **Danger of limbs being trapped or severed**
- ⇒ Do not reach into the danger area.
- ⇒ Secure the system to prevent it from being activated accidentally.
- ⇒ Keep third parties away from the danger area.

- 1 Raise the vehicle. ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*
- 2 Check that the vacuum line ⇒ *Checking that vacuum line is seated securely -1-* is fitted securely on the control box for the sport exhaust system **at the left and right:**

2.1 If the vacuum line is fitted securely on the control box, the fault is not related to the cause described here. Find the cause of the fault and correct it.

Invoicing for Scope 1.

End of action required.

2.2 If the vacuum line has slipped off the control box at the left or right:

- Replace electric change-over valve.

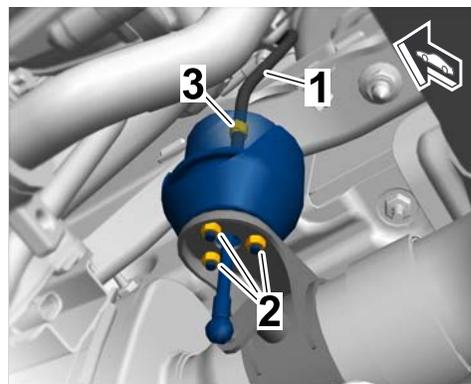
and

- Blow out the vacuum line using compressed air.

and

- Replace vacuum line on control box at the left and right. Also secure the vacuum line to the control box at the left and right with a new clamp.

Continue with ⇒ *Technical Information '265100 Replacing vacuum line and electric change-over valve'*.



Checking that vacuum line is seated securely

Replacing vacuum line and electric change-over valve

Replacing vacuum line and electric change-over valve



Information

To avoid malfunctions as a result of vacuum lines slipping off, the following points must be observed when fitting vacuum lines:

- Route vacuum lines without tension.
- Only use water – if required – as a sliding compound when fitting vacuum lines.
- Vacuum lines must be pushed into the connection pieces as far as the marking (approx. 10 mm).

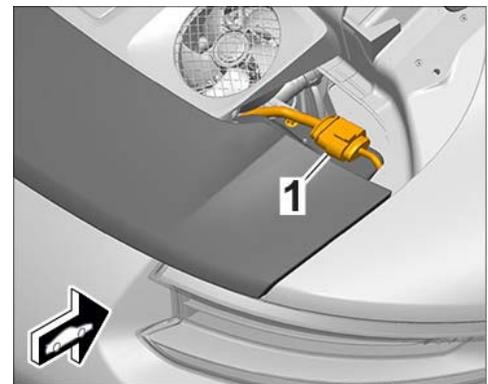
3 Only for Cabriolet/Targa vehicles:

Move convertible top to service position.

⇒ *Workshop Manual '61011N Convertible top service position (Cabriolet)'*

⇒ *Workshop Manual '61011N05 Convertible top service position'*

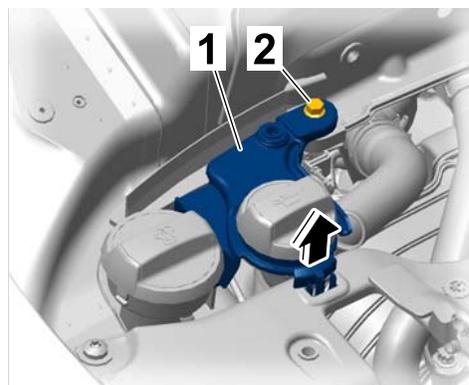
- 4 Remove engine-compartment blower ⇒ *Workshop Manual '198119 Removing and installing engine-compartment blower'*.
- 5 Remove tail light at the left and right ⇒ *Workshop Manual '943119 Removing and installing tail light'*.
- 6 Remove rear apron ⇒ *Workshop Manual '635519 Removing and installing rear apron'*.
- 7 Remove rear spoiler.
 - 7.1 Release and disconnect electric plug connection ⇒ *Electric plug connection for rear spoiler-1-* for rear spoiler at the right-hand side of the engine compartment.



Electric plug connection for rear spoiler

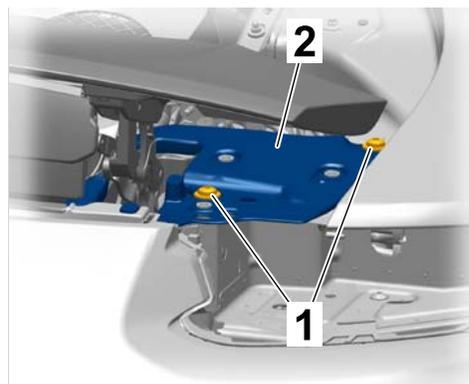
7.2 Unscrew and remove fastening screw ⇒ *Loosening oil filler neck -2-* for oil filler neck ⇒ *Loosening oil filler neck -1-*.

7.3 Unclip oil filler neck ⇒ *Loosening oil filler neck -1-* at the carrier plate for the rear spoiler ⇒ *Loosening oil filler neck -arrow-* and carefully bend it aside.



Loosening oil filler neck

7.4 Unscrew and remove fastening screws ⇒ *Unscrewing fastening screws for rear spoiler -1-* for the rear spoiler at the left and right-hand side of the carrier plate ⇒ *Unscrewing fastening screws for rear spoiler -2-*.



Unscrewing fastening screws for rear spoiler

7.5 Carefully lift the rear spoiler up out of the engine compartment ⇒ *Removing rear spoiler -arrow-* and set it down on a suitable surface.



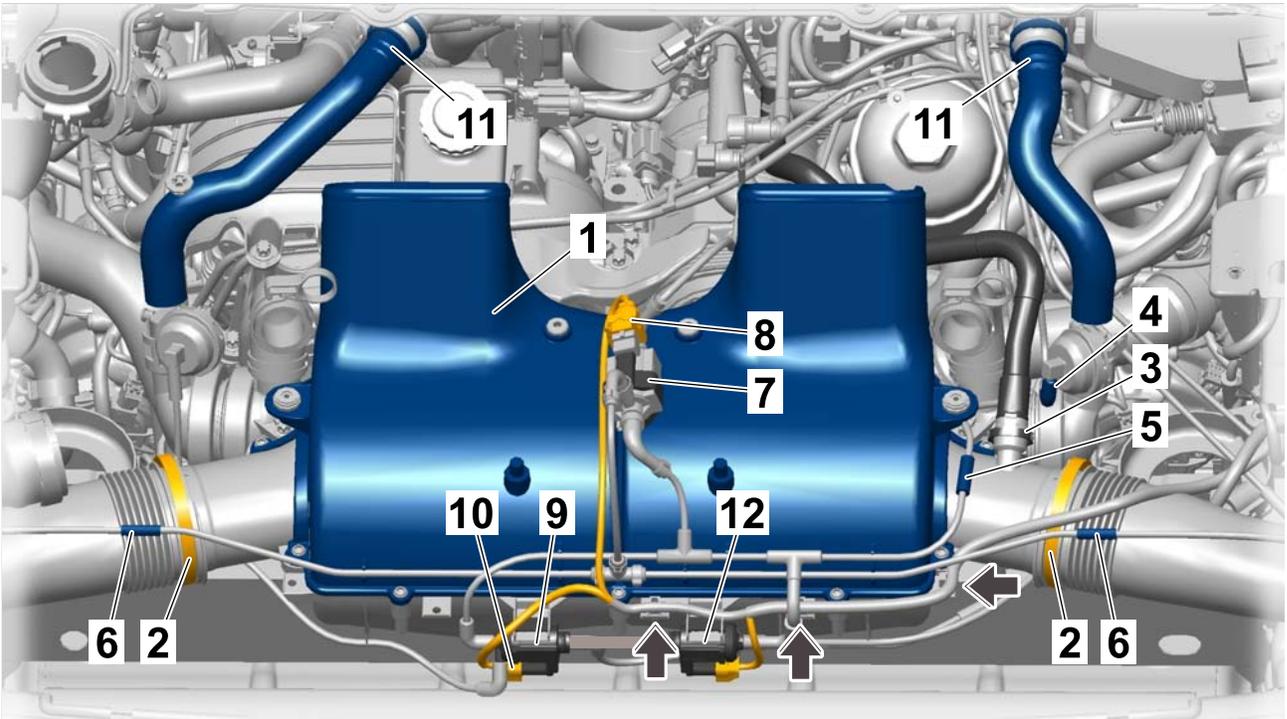
Removing rear spoiler

8 Remove air guide for charge-air cooling ⇒ *Workshop Manual '211019 Removing and installing air guide for charge-air cooling'*.

9 Remove pressure pipe ⇒ *Workshop Manual '214119 Removing and installing pressure pipe'*.

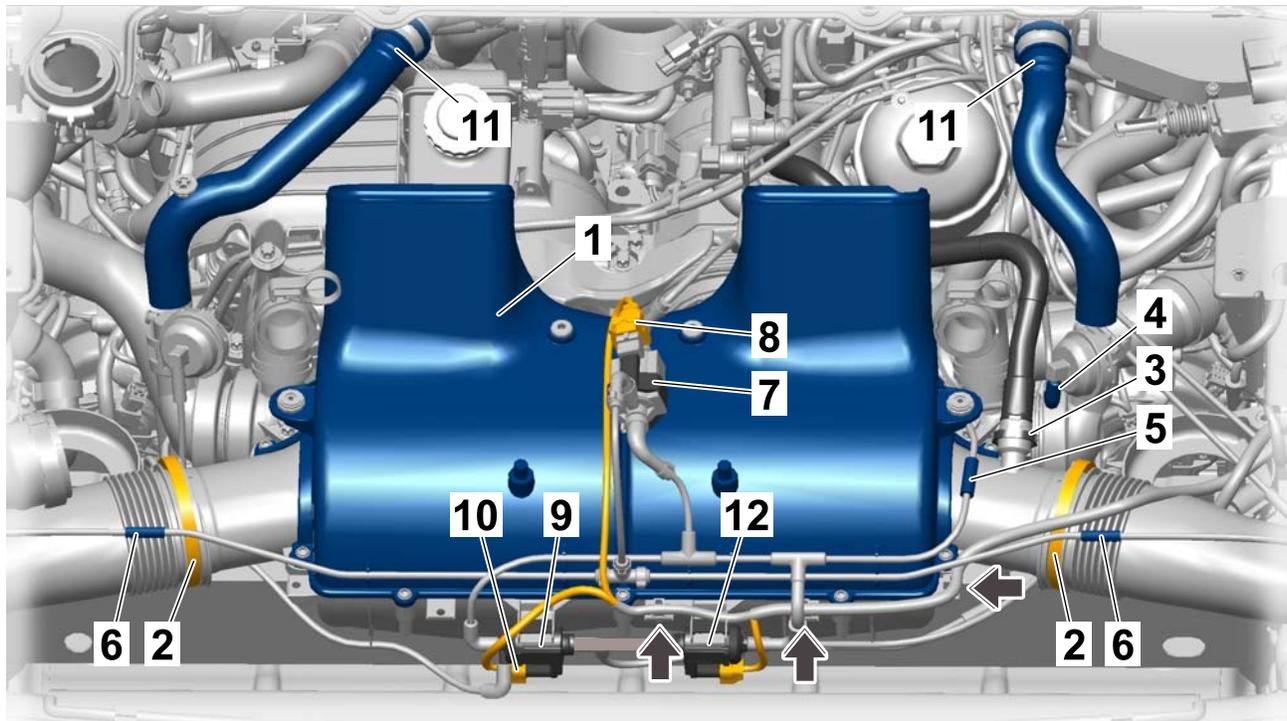
10 Remove air cleaner housing ⇒ *Workshop Manual '242519 Removing and installing air cleaner housing'*.

11 Remove electric change-over valve ⇒ *Replacing electric change-over valve -12-*.



Replacing electric change-over valve

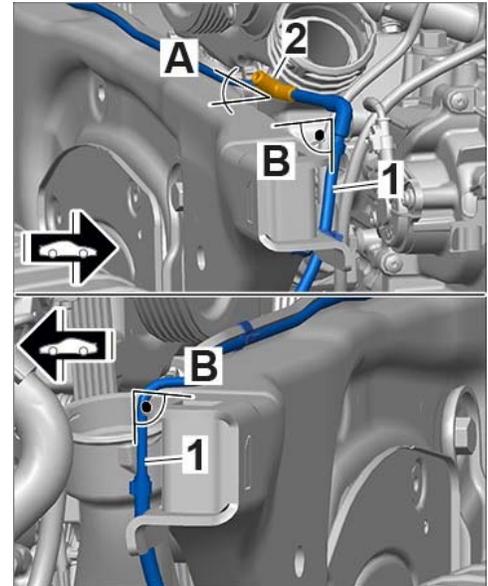
- 12 Pull off vacuum line at the T-piece.
- 13 Blow compressed air through the vacuum line from the side of the electric change-over valve.
- 14 Install new electric change-over valve ⇒ *Replacing electric change-over valve -12-*, Part No. 7PP.906.283.F, and insert vacuum line into the change-over valve.



Replacing electric change-over valve

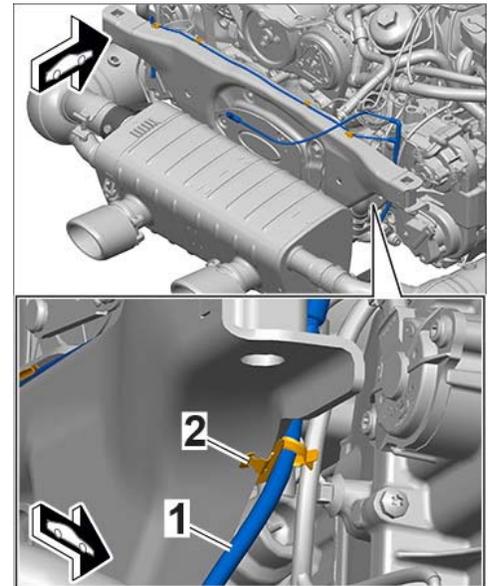
- 15 Install new vacuum lines, Part No. 991.111.502.00 and 991.111.504.00 on the control box at the left and right.
 - 15.1 Disconnect vacuum line ⇒ *Replacing vacuum line -1-* for the left control box from the connecting piece.
 - 15.2 Insert new vacuum line for the left control box ⇒ *Replacing vacuum line -1-*, Part No. 991.111.502.00, into the connecting piece ⇒ *Replacing vacuum line -bottom picture-*.
 - 15.3 Disconnect vacuum line ⇒ *Replacing vacuum line -1-* for the right control box from the connecting piece.

- 15.4 Insert new vacuum line for the right control box ⇒ *Replacing vacuum line -1-*, Part No. 991.111.504.00, into the connecting piece ⇒ *Replacing vacuum line -top picture-*.



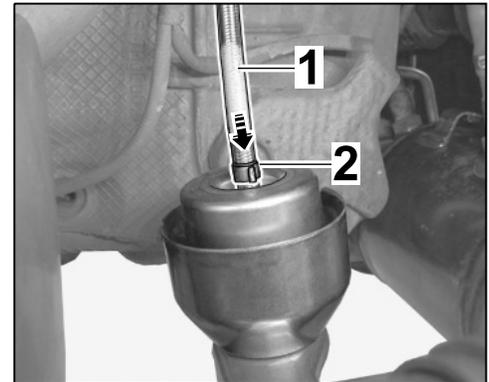
Replacing vacuum line

- 15.5 Clip vacuum line ⇒ *Securing vacuum line for right control box -1-* for the right control box, Part No. 991.111.504.00, into the bracket ⇒ *Securing vacuum line for right control box -2-* on the engine carrier.

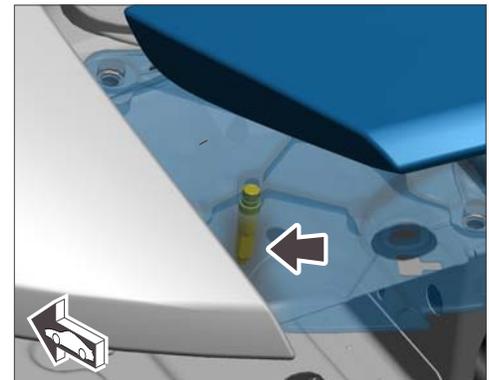


Securing vacuum line for right control box

- 16 Secure vacuum lines ⇒ *Securing vacuum line to control box at the left and right -1-* with a **new** clamp ⇒ *Securing vacuum line to control box at the left and right -2-* to the control box at the left and right.
- 17 Install air cleaner housing ⇒ *Workshop Manual '242519 Removing and installing air cleaner housing'*.
Make sure that the new connecting line for exhaust flaps that was installed previously is routed without tension.
- 18 Install pressure pipe ⇒ *Workshop Manual '214119 Removing and installing pressure pipe'*.
- 19 Install air guide for charge-air cooling ⇒ *Workshop Manual '211019 Removing and installing air guide for charge-air cooling'*.
- 20 Install rear spoiler.
 - 20.1 Carefully lift the rear spoiler into installation position in the engine compartment.
When doing this, make sure that the guide pin ⇒ *Inserting guide pin -arrow-* at the left and right is positioned correctly in the respective guide groove.

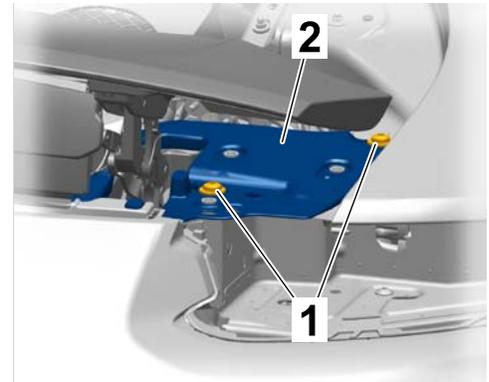


Securing vacuum line to control box at the left and right



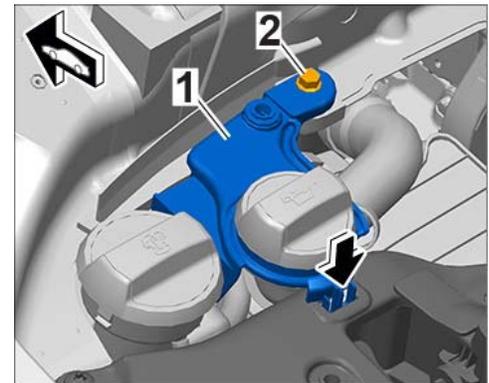
Inserting guide pin

- 20.2 Screw in and tighten fastening screws ⇒ *Fastening screws for rear spoiler (right side shown as an example)* -1- for the rear spoiler at the left and right side of the carrier plate ⇒ *Fastening screws for rear spoiler (right side shown as an example)* -2-.
Tightening torque 23 Nm (17 ftlb.)



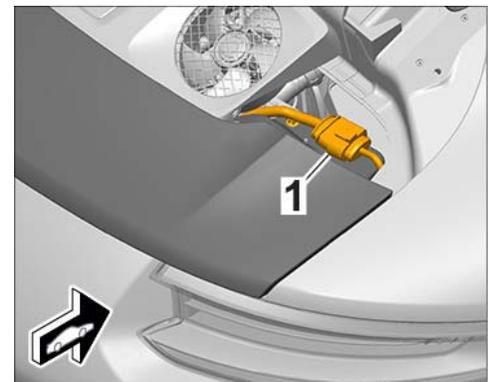
Fastening screws for rear spoiler (right side shown as an example)

- 20.3 Position oil filler neck ⇒ *Securing oil filler neck* -1- on the coolant filler neck and clip it into the carrier plate for the rear spoiler ⇒ *Securing oil filler neck* -arrow-.
- 20.4 Screw in and tighten fastening screw ⇒ *Securing oil filler neck* -2- for oil filler neck.
Tightening torque 10 Nm (7.5 ftlb.)



Securing oil filler neck

- 20.5 Connect electric plug connection ⇒ *Electric plug connection for rear spoiler* -1- for rear spoiler at the right-hand side of the engine compartment until the connector engages securely and locks with an audible click.
- 21 Install rear apron. ⇒ *Workshop Manual '635519 Removing and installing rear apron'*
Contrary to the instructions in the Workshop Manual, do not perform the **calibration work** required for vehicles with **Lane Change Assist** or ParkAssist incl. **reversing camera** until you have fully completed the vehicle.
- 22 Install tail light at the left and right ⇒ *Workshop Manual '943119 Removing and installing tail light'*.
- 23 Install engine-compartment blower ⇒ *Workshop Manual '198119 Removing and installing engine-compartment blower'*.



Electric plug connection for rear spoiler

24 Only for Cabriolet/Targa vehicles:

Move convertible top out of service position.

⇒ *Workshop Manual '6101IN Convertible top service position (Cabriolet)'*

⇒ *Workshop Manual '6101IN05 Convertible top service position'*

25 Lower the vehicle and remove it from the lifting platform.

26 Only for vehicles with reversing camera:

Calibrate reversing camera control unit. ⇒ *Workshop Manual '914325 Calibrating reversing camera'*

27 Only for vehicles with Lane Change Assist:

Calibrate control unit for Lane Change Assist. ⇒ *Workshop Manual '917025 Calibrating control unit for Lane Change Assist'*

Invoicing

Invoicing

Scope 1: Checking that vacuum line is fitted securely on control box

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

Location (FES5)	26410	Vacuum line
Damage type (SA4)	1817	Loose

Scope 2: Checking that vacuum line is fitted securely on control boxes, replacing electric change-over valve and replacing vacuum lines for control boxes

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

Location (FES5)	26410	Vacuum line
Damage type (SA4)	1817	Loose

References:

- ⇒ *Workshop Manual '635519 Removing and installing rear apron '*
- ⇒ *Workshop Manual '4X00IN Lifting the vehicle '*
- ⇒ *Workshop Manual '198119 Removing and installing engine-compartment blower'*
- ⇒ *Workshop Manual '211019 Removing and installing air guide for charge-air cooling'*
- ⇒ *Workshop Manual '214119 Removing and installing pressure pipe'*
- ⇒ *Workshop Manual '242519 Removing and installing air cleaner housing '*
- ⇒ *Workshop Manual '265120 Removing and installing control boxes for exhaust flaps'*
- ⇒ *Workshop Manual '6101IN Convertible-top service position (Cabriolet)'*

- ⇒ *Workshop Manual '6101IN05 Convertible-top service position'*
- ⇒ *Workshop Manual '914325 Calibrating reversing camera'*
- ⇒ *Workshop Manual '917025 Calibrating control unit for Lane Change Assist'*
- ⇒ *Workshop Manual '943119 Removing and installing tail light'*

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