Exclusive Design Tail Lights (8VQ)

Restrictions: **ONLY** released for vehicles with virtual pedal (4E6) and / or Comfort Access (4F2)!

Panamera / Panamera 4: ONLY released for vehicles produced as of CW 49 / 2023 and onwards (week / year)!

Not approved for Panamera GTS (YAADG1)

Model Year: **As of 2024**

Cause: **Retrofitting**

Information

Figure 1

Notes: In vehicles with a standard LED tail light (8VG), a dark-tinted LED tail light of Exclusive Design (8VQ ⇒ *Figure 1*) can be retrofitted.

For this purpose, it is necessary to route control lines (LIN bus), to replace the tail lights and then to code the new functions.

The design and shape of the new tail lights correspond to those of the standard lights. The differentiated look contains:

- Arc without red components
- Specific Coming / Leaving Home function

Functions:

- Animation runs for approx. 0.7 seconds.

- Animation only runs when the vehicle detects a certain darkness and the vehicle is stationary.
- When the animation intervenes 4 times in succession, so-called “play prevention” prevents the other animations. The function (reset) is reset by switching the vehicle ignition on again.
- “Coming / Leave Home = Automated Home lights” function corresponds to standard lighting. This function must be activated (see also vehicle operating instructions).

Parts Info: Exclusive Design tail lights with Porsche logo for SAE markets:

976.044.901.C	⇒ Exclusive Design Tail lights – SAE , set (silver)
976.044.901.D	⇒ Exclusive Design tail lights – SAE , set (high-gloss black)
976.044.901.E	⇒ Exclusive Design tail lights – SAE , set (matte black)

Always order at the same time:

WHT.007.942.A	2 x	⇒ Bearing pin for luggage compartment cover

Parts List:

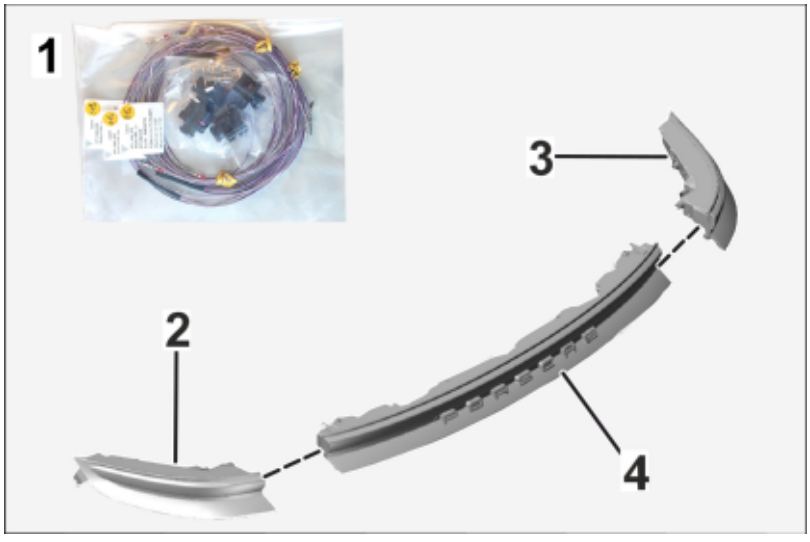

Figure 2

971.044.939	1 x	Electrical system scope ⇒ *Figure 2* **-1-**
		Not applicable for NAR ⇒ *Figure 2* **-2-**
		Not applicable for NAR ⇒ *Figure 2* **-3-**
976.945.091.AL[1]	1 x	Tail light, left SAE (not shown)
976.945.091.AL[1]	1 x	Tail light, right SAE (not shown)
		Not applicable for NAR ⇒ *Figure 2* **-4-**
976.945.207.BS[2]	1 x	Rear lid tail light SAE (silver logo, not shown)
976.945.207.BT[2]	1 x	Rear lid tail light SAE (high-gloss black logo, not shown)
976.945.207.CL[2]	1 x	Rear lid tail light SAE (matte black logo, not shown)

N 911.585.01	6 x	Expansion rivet, B6.5 x 12.3 (not shown)
N .106.478.01	20 x	Tie-wrap (not shown)

[1] **ONLY** included in sets 976.044.901.C / 976.044.901.D and 976.044.901.E.

[2] **ONLY** contained in respective set.

Information

Please pass all this information on to the customer.

Give the customer also a copy of the first pages of this installation and conversion instructions up to this information.

Spare Parts:

Figure 3

Electrical system components (971.044.939), consisting of:

— — —	1 x	Connector, 6-pin (4H0.973.713.D – light panel, right) ⇒*Figure 3* **-1-**
— — —	3 x	Connector, 6-pin (4H0.973.713.E) ⇒*Figure 3* **-2-**
N .105.112.03	4 x	Flat contact 1.5 ⇒*Figure 3* **-3-**

— — —	2 x	Sleeve / bush, length 16 mm ⇒ *Figure 3* **-4-**
— — —	2 x	Sleeve / bush, length 14 mm ⇒ *Figure 3* **-5-**
— — —	2 x	Pin, length 16 mm ⇒ *Figure 3* **-6-**
— — —	2 x	Pin, length 22 ⇒ *Figure 3* **-7-**
— — —	5 x	Dummy plug, white ⇒ *Figure 3* **-8-**
958.612.740.00	4 x	Seal on individual wire, red ⇒ *Figure 3* **-9-**
— — —	1 x	Wire harness for module FGR_le ⇒ *Figure 3* **-10-**
— — —	1 x	Wire harness for module HKL_le ⇒ *Figure 3* **-11-**
— — —	1 x	Wire harness for module FGR_ri ⇒ *Figure 3* **-12-**

Information

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Give the customer also a copy of the first pages of this installation and conversion instructions up to this information.

Materials:

000.043.172.00	1 x	Sealing cord (butyl)
— — —	1 x	Wrapping / insulating tape (commercially available)
— — —	1 x	Cleaning cloth (commercially available)
— — —	1 x	Isopropanol (commercially available)
— — —	1 x	Insulating hose for PVC / insulation tube, ∅ approx. 5 mm (0.2 in) / length approx. 10 m/ 32.8 ft (commercially available)

Tool:

P90999 - P90999 - PIWIS Tester 4

Torch

Auxiliary line (Tekalan / Teflon hose) or plastic rail (transport protection for windscreen) approx. 1,000 mm/ 3.29 ft long

Assembly:

1 Preparatory work

1.1 Drive the vehicle onto a lifting platform. ⇒ *Workshop Manual '4X00IN Lifting the vehicle'*

1.2 Connect battery charger. ⇒ *Workshop Manual '2X00IN Battery trickle charging'*

1.3 Uncovering rear lid area

1.3.1 Remove trim panel for rear lid (lower, left and top). ⇒ *Workshop Manual '709219 Removing and installing rear lid trim panel'*

1 – Trim panel for window frame (right)
2 – Grommet at connection point for rear lid (left)
3 – Branch for wire harness and grommet (rear lid tail light)

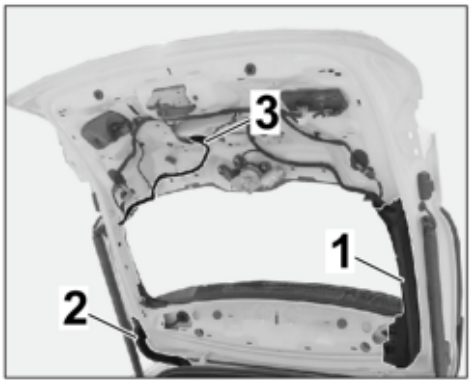


Figure 4 (similar)

1.3.2 Remove tail light in rear lid. ⇒ *Workshop Manual '943119 Removing and installing rear light on rear lid'*

1.4 Exposing rear of vehicle outer area

1.4.1 Remove rear bumper. ⇒ *Workshop Manual '635519 Removing and installing rear bumper'*

1.4.2 Remove tail light at the left / right. ⇒ *Workshop Manual '943119 Removing and installing rear light'*

1.5 Expose –center– luggage compartment area

1.5.1 Remove (center) luggage compartment trim panel luggage compartment cover. ⇒ *Workshop Manual '700619 Removing and installing trim panel for (centre) luggage compartment cover'*

1.5.2 Remove rear lock carrier cover. ⇒ *Workshop Manual '703919 Removing and installing rear lock carrier cover'*

1.5.3 Remove (side) luggage compartment trim panel luggage compartment cover. ⇒ *Workshop Manual '700619 Removing and installing (side) luggage compartment trim panel'*

1.6 Exposing luggage compartment area –left / right–

1.6.1 Remove the rear luggage compartment side trim panel. ⇒ *Workshop Manual '700319 Removing and installing luggage compartment side trim panel'*

1.6.2 Remove C-pillar trim panel (upper part). ⇒ *Workshop Manual '706819 Removing and installing C-pillar trim panel (upper part)'*

1.6.3 Remove D-pillar trim panel. ⇒ *Workshop Manual '706919 Removing and installing D-pillar trim panel'*

Remove (left) D-pillar holder.
⇒ *Figure 5*

1 – D-pillar holder (left)
2 – BOSE® – / Burmester® – amplifier (optional)

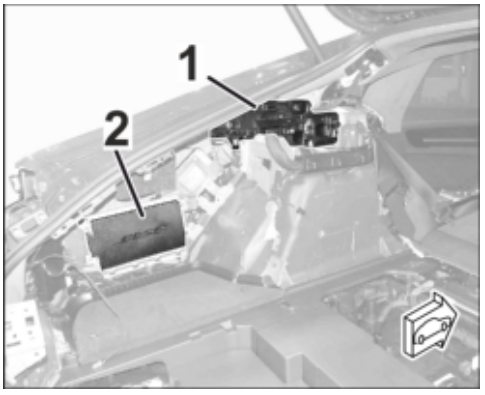


Figure 5

NOTICE

Incorrect line routing

- **Risk of damage to lines and hoses**
- **Malfunction and fault memory entry on control unit**

⇒ **Avoid small bending radii when routing lines.**

⇒ **File down edges and burrs in the routing area or mask them with adhesive tape.**

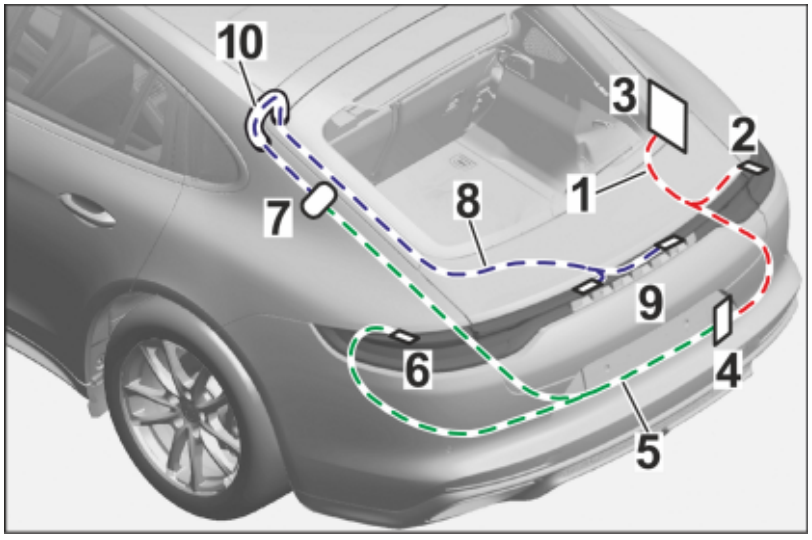
⇒ **Maintain a sufficient distance from components exposed to high temperatures while driving.**

Information

BEFORE routing wire harnesses, wrap insulating tape around them if necessary or protect from damage with PVC insulated tube / sleeving ∅ approx. 5 mm.

2 Routing and connecting electric wire harnesses

Overview of routing of wire harnesses ⇒ *Line routing (similar)*



Line routing (similar)

1 – Wire harness for module FGR_ri
2 – Tail light (right)
3 – Rear-end electronics control unit - BCM2
4 – Rear cross-over connection point
5 – Wire harness for module FGR_le
6 – Tail light (left)
7 – C-pillar connection point (left)
8 – Wire harness for module HKL_le
9 – Rear lid rear light
10 – Grommet on rear lid hinge (left)

Information

BEFORE routing wire harnesses, wrap insulating tape around them if necessary or protect from damage with PVC insulated tube / sleeving ∅ approx. 5 mm.

2.1 Routing and connecting wire harness for module FGR_ri

Overview of routing of wire harness for module FGR_ri: ⇒ *Figure 6 (similar)*

1 – Wire harness for module FGR_ri
2 – Grommet for tail light (right)
3 – BCM2; connector C (black); chamber 5
4 – Rear cross-over connection point / brown connector, chamber 12

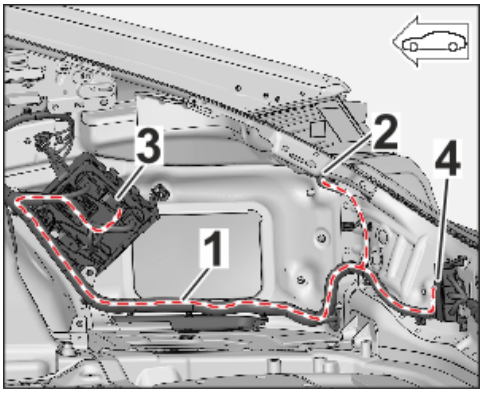


Figure 6 (similar)

2.1.1 Rear tail light area, right (see also wiring diagram 13 – Tail lights) ⇒ *Figure 7*

1 – Grommet
2 – Wire harness for tail light
3 – Line VT / WH; 0.5² (LIN)
4 – Connector housing (6-pin)
5 – New sealing compound

Information
BEFORE routing wire harnesses, wrap insulating tape around them if necessary or protect from damage with PVC insulated tube / sleeving ∅ approx. 5 mm.

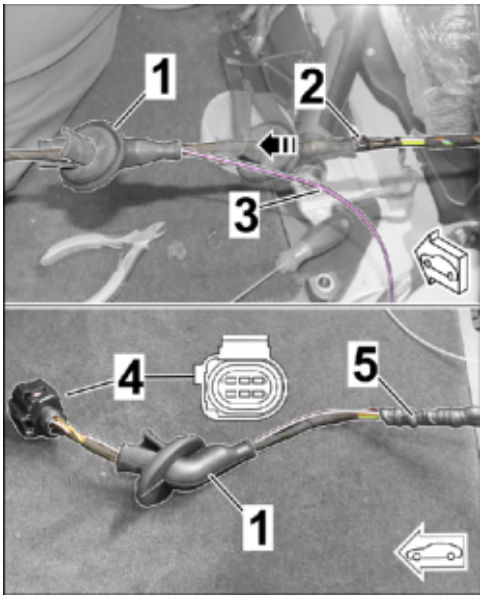


Figure 7

Information
Standard plug housing (6-pin) for left / right tail light and rear lid tail light must be replaced with the new plug housing included in the kit ONLY on vehicles in the SAE market (AV2)!

- Remove branch (wire harness) for tail light with grommet (⇒ *Figure 7* **-2-**).
- Guide branch with connector (6-pin) into the luggage compartment.
- Carefully loosen the installed grommet on the branch (wire harness) and slide it towards the connector (6-pin). ⇒ *Figure 7* **-Top, arrow-**
- Carefully feed line VT / WH 0.5² with single-wire seal (connection for wire harness for module FGR_re) through the grommet and guide it to the connector (6-pin).

- **SAE ONLY - vehicles (AV2):** Open the connector (6-pin) and change the lead in the **NEW** connector housing (6-pin, 4H0.973.713.E) at the same position. Insert socket contact (VT / WH 0.5² line with single-wire seal) into chamber 3.
- Close off chambers WITHOUT using dummy plug (white) configuration.

Connector (6-pin)	**Function**
	SAE (AV2) ⇒ 4H0.973.713.x
Chamber 1 – BN; 0.5²	Weight
Chamber 2 – 0.35²	Brake and & flashing light (RD / BK)
Chamber 3 – VT / WH; 0.5²	LIN = Control animation
Chamber 4 – GY / BN; 0.35²	Power supply, terminal 30G
Chamber 5 – 0.35²	Dummy plug (white)
Chamber 6	Dummy plug (white)

- Carefully install grommet with some sealing compound at the old position (⇒ *Figure 7* **-5-**).
- Guide connector (6-pin) with connection (wire harness for tail light) from luggage compartment to the outside.
- Install grommet in the body. Check that the grommet is seated correctly in the body.

2.1.2 Rear-end control unit area BCM2 (see also wiring diagram 02 – vehicle electrical system control unit 2) ⇒ *Figure 8*

1 – Connector (32-pin, black)
2 – Rear-end electronics control unit BCM2
3 – Connector housing, chamber 5

Information
Observe markings on the housing!

- Route branch for BCM2 to BCM2. ⇒ *Figure 8* **-3-**
- Remove connector C (black) from BCM2 and open it. ⇒ *Figure 8* **-2-**

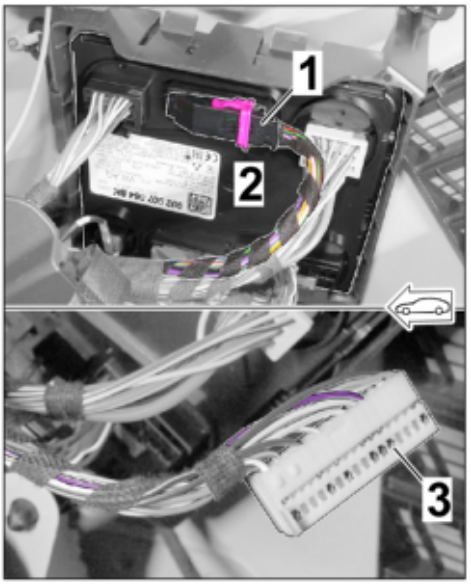


Figure 8

- Check that chamber 5 already has a VT / WH line; 0.5² (line 53003 virtual pedal).
- **YES**: Double connector on existing line.
- **NO**: Insert VT / WH 0.5² line with pin contact into chamber 5.
- Close connector C (black) and install in BCM2.

2.1.3 Rear cross-over connection point area (see also wiring diagram 11 – Rear cross-over) ⇒ *Figure 9 (similar)*

1 – Wire harness for module FGR_ri
2 – Rear cross-over connection point
3 – Wire harness for module FGR_le

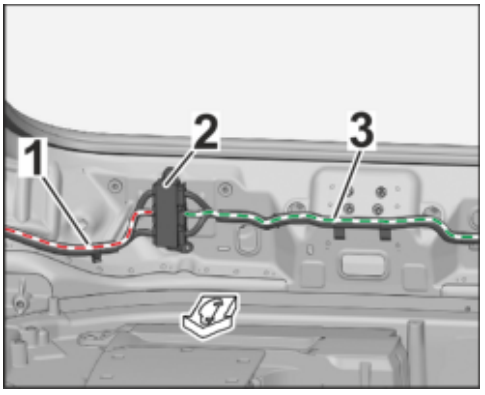


Figure 9 (similar)

Information
Observe markings on the housing!

- Route branch for left rear light / tail light in rear lid to the rear cross-over connection point. ⇒ *Figure 9 (similar)*
- Remove connector, 17-pin (brown) from holder and release it.
- Insert VT / WH 0.5² line with socket contact into chamber 12. ⇒ *Figure 9 (similar)* **-1-**
- Lock connector, 17-pin (brown) and install it in the holder.

2.2 Route and connect wire harness for FGR_le module

2.2.1 Tail light area, left (see also wiring diagram 13 – Tail lights) ⇒ *Figure 10 (similar)*

1 – Wire harness for module FGR_le
2 – Grommet for tail light (left)
3 – Branch at connection point for rear lid, left (C-pillar)

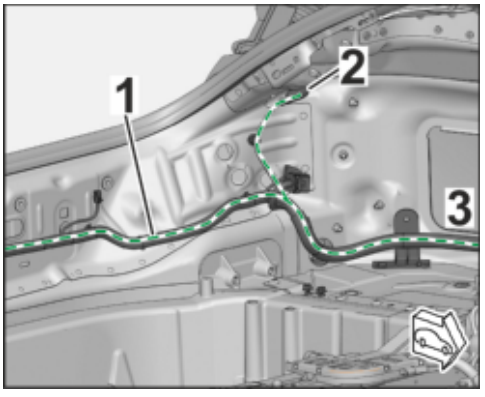


Figure 10 (similar)

- Repeat Step 2.1.1 for the left tail light. ⇒ *Figure 10 (similar)* **-2-**

2.2.2 Rear cross-over connection point area (see also wiring diagram 11 – Rear cross-over)⇒*Figure 11*

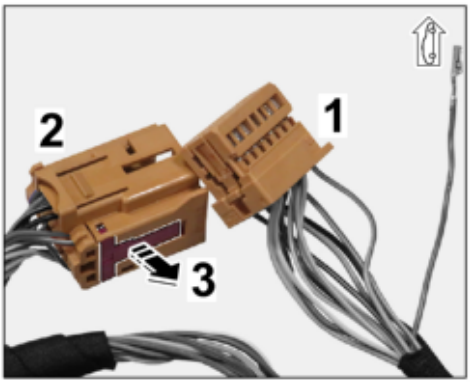


Figure 11

1 – Plug socket, 17-pin (brown), chamber 12
2 – Pin connector socket, 17-pin (brown), chamber 12
3 – Unlocking / Locking

- Route branch with pin contact along the wire harness to the rear cross-over connection point.
- Repeat Step 2.1.3 for connector, 6-pin (brown) – left side (in direction of travel) for VT / WH; 0.5² line with pin contact. ⇒*Figure 11* **-2-**

2.2.3 Rear lid connection point area, left C-pillar (see also wiring diagram 45A – left rear cap) ⇒*Figure 12 (similar)*

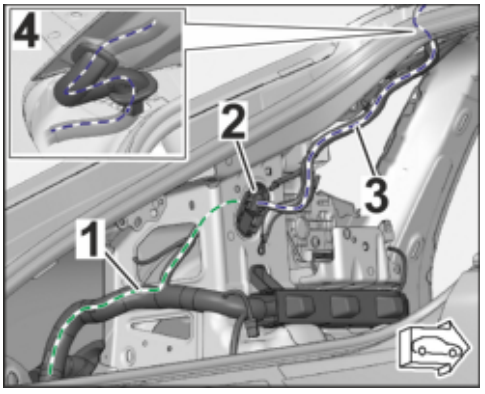


Figure 12 (similar)

1 – Wire harness for module FGR_le
2 – Rear lid connection point (left C-pillar)
3 – Wire harness for module HKL_le
4 – Grommet on rear lid, left

- Route branch with pin contact along the wire harness to the connection point on the rear lid (left C-pillar).

Disconnect plug connections, 17-pin (black and brown) and remove plug connections holder from the C-pillar if necessary. ⇒*Figure 13*

1 – Connector, 17-pin (black)
2 – Connector, 17-pin (brown)
3 – Plug connection holders
4 – Pin connector socket, 17-pin (black)

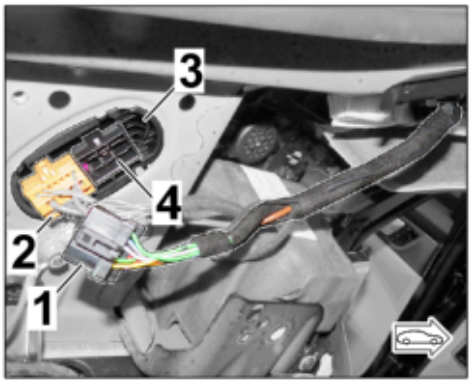


Figure 13

- Remove pin connector socket, 17-pin (black) on the back from the holder and release it.
- Insert VT / WH 0.5² line with pin contact into chamber 8.
- Lock pin connector socket, 17-pin (black) and install on the back of the holder.

2.3 Route and connect wire harness for module HKL_le

Overview of routing of wire harness for module HKL_le: ⇒*Figure 12 (similar)* and ⇒*Figure 14 (similar)*

1 – Wire harness for module HKL_le
2 – Grommet on rear lid hinge (left)
3 – Grommet rear light rear lid
4 – Left plug-connector (6-pin)
5 – Right plug-connector, right (6-pin)

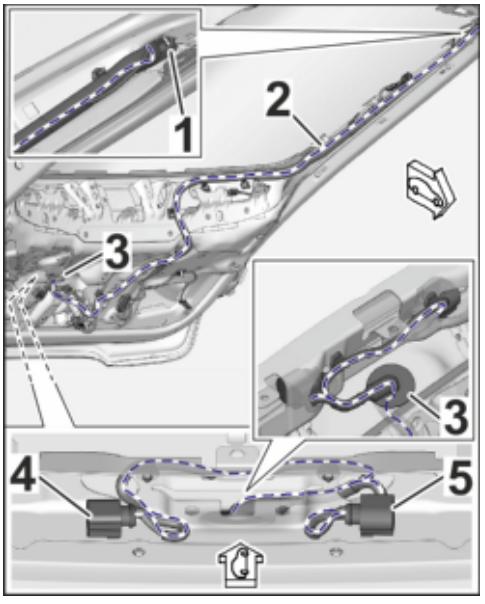


Figure 14 (similar)

2.3.1 Tail light in rear lid area (see also wiring diagram 45A – rear lid, left) ⇒*Figure 15 (similar)*

1 – **SAE vehicle:** New connector, right (6-pin, 4H0.973.713.D)

2 – **SAE vehicle:** New connector, left (6-pin, 4H0.973.713.E

3 – Grommet rear light rear lid

Arrows – Coding connectors, left / right

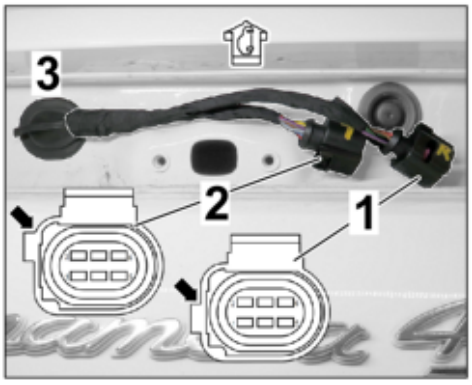


Figure 15 (similar)

Information

Observe markings on the housing!

- Open connectors (6-pin) on the left and right side.
- Reconnect / connect plug lines according to the following table in plug housing (6-pin, for SAE vehicle = new plug housing ⇒**left:** 4H0.973.713.E / **right:** 4H0.973.713.D).

Connector (6-pin)	**Function**
	SAE (AV2) ⇒ 4H0.973.713.x
Chamber 1 – BN; 0.35²	Weight
Chamber 2 – RD / GN; 0.35²	Brake light and & direction indicator light
Chamber 3 – VT / WH; 0.5²	LIN = Control animation
Chamber 4 – GY; 0.35²	Power supply, terminal 30G
Chamber 5 – YE, 0.35²	Dummy plug (white)
Chamber 6	Dummy plug (white)

- Make a watertight seal and tie back lines from chamber 3 that are **NOT** required anymore = rear fog light (GY / WH; 0.35²) and chamber 6 = reversing light (GY / YE; 0.35²).
- Close off chambers WITHOUT using dummy plug (white) configuration.
- Lock connectors (6-pin) on the left and right side. ⇒*Figure 15 (similar)*
- Function test: Connect plug connection (6-pin, left and right) for the new tail light in the rear lid and loosen it again.

2.3.2 Tail light grommet area in rear lid ⇒*Figure 14 (similar)* **-3-** and ⇒*Figure 15 (similar)* **-3-**

- Disconnect wire harness for rear lid tail light on the rear lid and remove grommet on the rear lid.
- Remove grommet on wire harness in the same way as for grommets on tail lights (move them).
- Carefully guide branch for wire harness for module HKL_le, with socket contact for connection point for left C-pillar, through the grommet in the rear lid.
- Carefully install grommet with some sealing compound at the old position.
- Install grommet on the rear lid. Check that the grommet is seated correctly.

2.3.3 Inner rear lid area

1 – Grommet rear light rear lid
2 – Line VT / WH; 0.5²
3 – Grommet on rear lid hinge (left)
4 – Rear window wiper
A – Rear lid frame (left)
B – Rear lid frame (bottom)

- Route VT / WH 0.5² line (socket contact) along the existing line to the left side of the rear window frame. ⇒*Figure 16 (similar)* **-A-**
- Route VT / WH 0.5² line further along the left rear window frame to the grommet on the (left) rear lid hinge. ⇒*Figure 16 (similar)* **-B-**

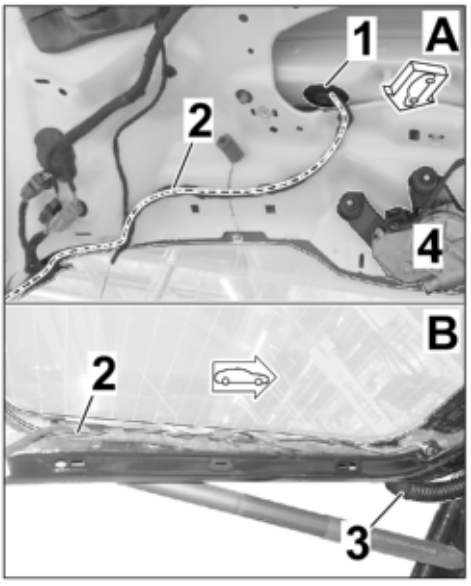


Figure 16 (similar)

2.3.4 Grommet in area of left rear lid hinge ⇒*Figure 17*

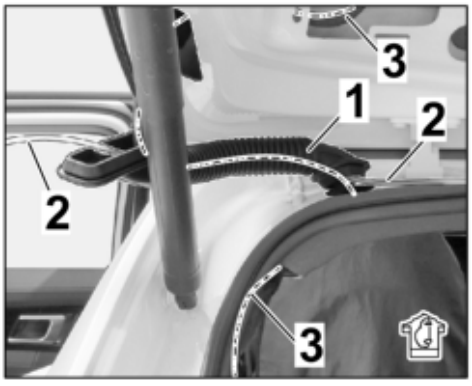


Figure 17

1 – Grommet on rear lid hinge (left)
2 – Piping (e.g. plastic rail)
3 – Line VT / WH; 0.5² with socket contact

- Loosen sleeve on (left) rear lid hinge from the body / rear lid.
- Carefully guide socket contact and line VT / WH 0.5² through the grommet using a piping (e.g. plastic rail from transport protection for windscreen).
- Install grommet on (left) rear lid hinge in the body / rear lid. Check that the grommet is seated correctly.

2.3.5 Rear lid connection point area, left C-pillar (see also wiring diagram 45A – left rear cap) ⇒*Figure 12 (similar)*and ⇒*Figure 13*

- Remove plug socket, 17-pin (black) on the front of the holder and release it.
- Insert VT / WH 0.5² line with pin contact into chamber 8.
- Lock plug socket, 17-pin (black) and install it on the front of the holder.
- Connect plug connections, 17-pin (black and brown) and install plug connections holder in C-pillar.

2.4 Secure routed wire harness to existing lines / components in the vehicle with tie-wraps without tensile stress and so that no chafing occurs.

3 Follow-up actions

3.1 Complete luggage compartment area –left / right–

3.1.1 Perform installation in reverse order to removal.

3.1.2 After installing the D-pillar trim panel, install new locking pins for the luggage compartment cover. ⇒*Workshop Manual '706919 Removing and installing D-pillar trim panel'*

tightening torque 12.5 Nm (9.2 ftlb.)

3.2 Complete the –center– luggage compartment area

Perform installation in reverse order to removal.

3.3 Completing outer vehicle check

3.3.1 Install new tail light on the left / right. ⇒*Workshop Manual '943119 Removing and installing rear light'*

3.3.2 Install the rear bumper. ⇒ *Workshop Manual '635519 Removing and installing rear bumper'*

3.4 Completing rear lid area

3.4.1 Install tail light in rear lid. ⇒ *Workshop Manual '943119 Removing and installing rear light on rear lid'*

3.4.2 Install trim panel for rear lid (upper, left and lower). ⇒ *Workshop Manual '709219 Removing and installing rear lid trim panel'*

Coding: 4 Enter LED tail lights (8VQ) in the vehicle data

NOTICE

Voltage drop

- **Risk of irreparable damage to control unit**
- **Risk of damage to control unit**
- **Fault entries in the control unit**
- **Coding in the control unit is aborted**
- **Malfunctions in control unit, even during programming**

⇒ **Prior to disconnecting the control unit, switch off ignition and remove ignition key.**

⇒ **Ensure that the power supply is not interrupted during programming.**

⇒ **Connect a battery charger with a current rating of at least 90 A to the vehicle battery.**

4.1 Preparatory work – Coding

NOTICE

Control unit programming will be aborted if the WLAN 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.**

4.1.1 Connect **P90999 - P90999 - PIWIS Tester 4** to the vehicle and switch it on.

4.1.2 Switch on ignition **AND** hazard warning lights on the vehicle.

Information

The **PIWIS Tester** instructions take precedence since the description may be different with later Tester releases.

The procedure described here has been structured in general terms. Different text or additional information may appear on the **PIWIS Tester**.

4.1.3 Select the “Diagnostics” menu item on the PIWIS Tester.

4.1.4 If **P90999 - P90999 - PIWIS Tester 4** is connected correctly, a connection to the vehicle will be established: “Series YA” is detected.

4.1.5 Create a vehicle analysis log (VAL) in the “Overview” menu item.

Information

The function is **ONLY** available when the Tester is online!

4.2 Enter the new vehicle equipment in the vehicle data using “PIWIS Online”

4.2.1 Select the function “Maintenance of vehicle data with PIWIS ONLINE” in the “Model line-specific tests and campaigns” menu item.

A message appears informing you that the “Actual“ (vehicle) data and “Required“ (PIWIS Online) data will be compared.

Press F12 to continue.

4.2.2 Confirm the message “The vehicle data was compared with PIWIS Online. Significant differences were found” with F12 .

4.2.3 Look for the “SBBR lights” option in the “Family” column.

Select the relevant option “8VQ - SBBR LIGHTS ANIMATED EXC VAR1” from the drop-down menu in the “Value” column. Press F12 to continue

4.2.4 A table containing the coding value and the columns “new value” and “old value” is displayed in the overview. Press F8 to continue.

4.2.5 Data is then written / saved. The following messages appear one after the other:

- Transfer vehicle data to PIWIS Online.
- Write and transfer vehicle data to the vehicle.
- Vehicle order was written successfully.
- A check was performed in order to check whether control units have to be coded or programmed as a result of the changes that were made.

4.2.6 Press F10 to open the log. Check that the selected vehicle equipment has been entered and close the log.

5 Code / program the new vehicle equipment.

5.1 Code / program the new vehicle equipment.

5.1.1 Confirm the table containing a list of control units that must be coded / programmed, by pressing F12 .

5.1.2 Individual data records will be loaded, depending on the number of control units to be coded / programmed.

Wait for “Creating backup documentation. Please wait ... and “Coding was completed successfully”. Press F12 to continue.

Repeat the process for other control units if necessary.

5.1.3 Wait for the “Adaptation of the control units is complete.” information and check the coding status of the control units in the displayed table.

Continue by pressing F12 to return to the control unit overview.

5.2 Read out the fault memory of all systems, work through any existing faults and erase the fault memory. ⇒ *Workshop Manual '033500 Fault memory for on-board diagnosis '*

Assembly: 6 Follow-up actions

6.1 Function test

6.1.1 Check the functioning of the vehicle's lights. ⇒ *Workshop Manual '0X03IN Checking the functioning of the vehicle's lights'*

6.1.2 Lock and unlock the vehicle and observe animation in the tail lights.

Animation runs for approx. 0.7 seconds.

6.2 Switch off ignition and disconnect **P90999 - P90999 - PIWIS Tester 4**.

6.3 Disconnect the battery charger. ⇒ *Workshop Manual '2X00IN Battery trickle charge'*

6.4 Drive the vehicle off the lifting platform.

94 31 24 40: –LED tail light with dark-tinted light panel (8VQ) retrofitted– Labor time: **531 TU**

Includes: Expose (inner) rear lid and luggage compartment;
Install tail lights;
Route and connect control lines (LIN bus);
Code / program the new vehicle equipment.
Function test

ONLY for vehicles with Lane Change Assist / Lane Keep Assist (7Y8):

91 70 25 50: –Program Lane Change Assist control unit– Labor time: **56 TU**