

2004 Porsche Cayenne Turbo (9PA) V8-4.5L Turbo

Vehicle > Body and Frame > Bumper > Front Bumper > Front Bumper Cover / Fascia > Service and Repair > Removal and Replacement

## 631519 REMOVING AND INSTALLING FRONT APRON

### Removing And Installing Front Apron

#### Technical values

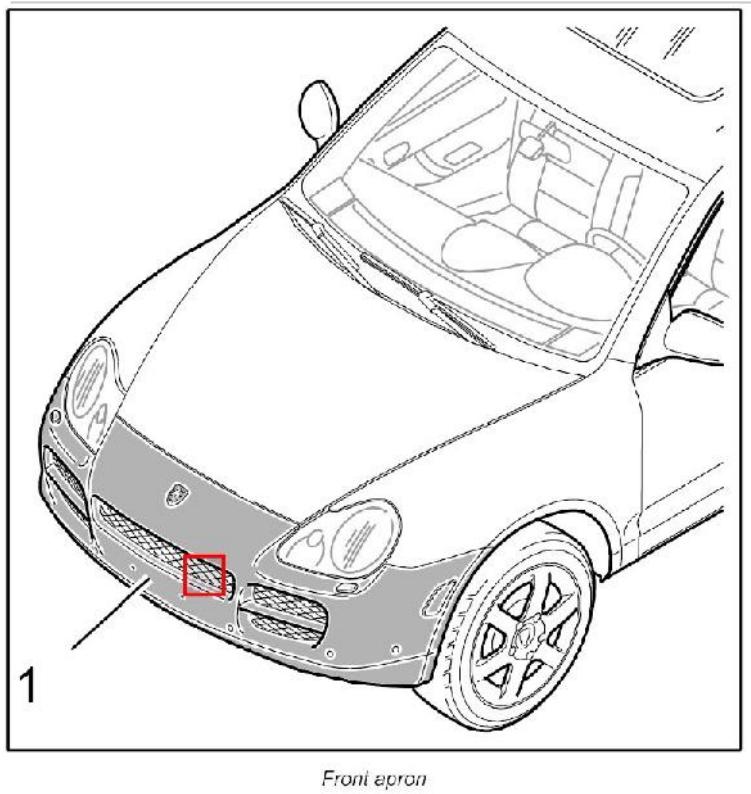
##### Technical values

Location	Description	Type	Basic value	Tolerance 1	Tolerance 2
Fastening screw securing guide rail to wing		Tightening torque	2.5 Nm (2.0 ftlb.)	+/-0.5 Nm (+/- 0.5 ftlb.)	
Fastening screw securing guide rail to lock carrier		Tightening torque	1.5 Nm (1.0 ftlb.)	+/-0.5 Nm (+/- 0.5 ftlb.)	
Fastening screw securing front apron to lock carrier		Tightening torque	3.5 Nm (2.5 ftlb.)	+/-0.5 Nm (+/- 0.5 ftlb.)	
Fastening screw securing front apron to cross member		Tightening torque	3.5 Nm (2.5 ftlb.)	+/-0.5 Nm (+/- 0.5 ftlb.)	
Fastening screw securing front apron to guide rail		Tightening torque	2.5 Nm (2.0 ftlb.)	+/-0.5 Nm (+/- 0.5 ftlb.)	
Fastening screw securing front apron to wing		Tightening torque	2.5 Nm (2.0 ftlb.)	+/-0.5 Nm (+/- 0.5 ftlb.)	
Fastening screw securing front apron to lock carrier		Tightening torque	3.5 Nm (2.5 ftlb.)	+/-0.5 Nm (+/- 0.5 ftlb.)	

#### Preliminary work

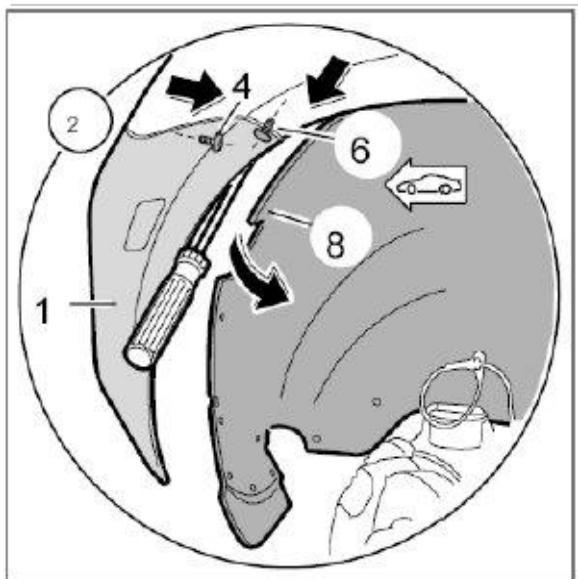
1. Raise the vehicle.
2. Remove front end cover. Refer to Removing and installing engine guard
3. Remove main headlight. Refer to Removing and installing main headlight
4. Remove front wheel housing liner at the left and right close to the front apron. Refer to Removing and installing front wheel housing liner

#### Removing front apron



Front apron

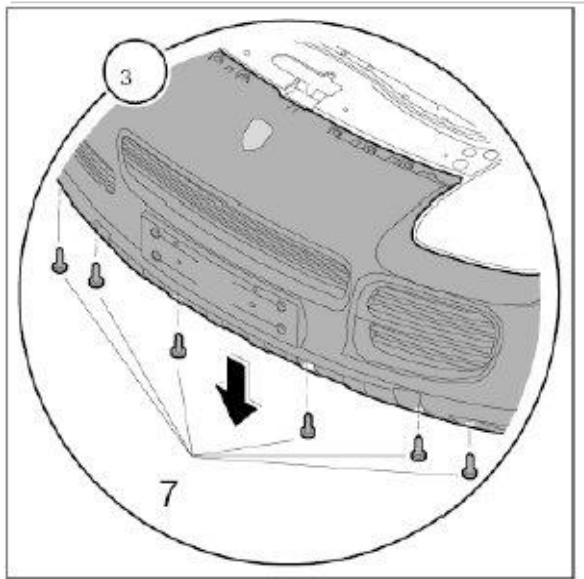
1. Unscrew fastening screws.
  - 1.1.Lift off wheel housing liner -8- in the lower area -arrow-.
  - 1.2.Unscrew fastening screws -4, 6- (-arrows- ).



Unscrewing fastening screws

2. Unscrew fastening screws.

2.1.Unscrew fastening screws -7- (-arrow- ).

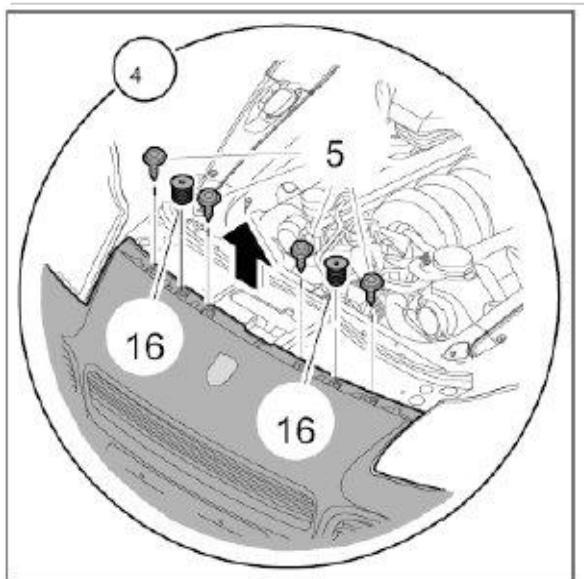


*Unscrewing fastening screws*

3. Unscrew fastening screws.

3.1.Unscrew fastening screws -5-.

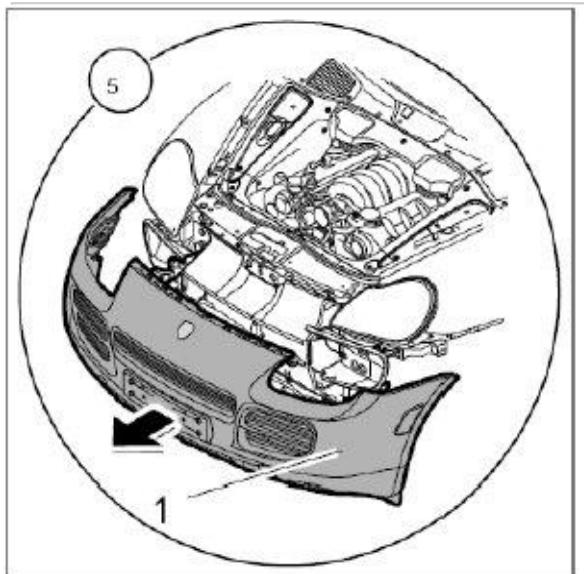
3.2.Use a screwdriver to lever the plug -16- upwards and remove it -arrow-.



*Unscrewing fastening screws*

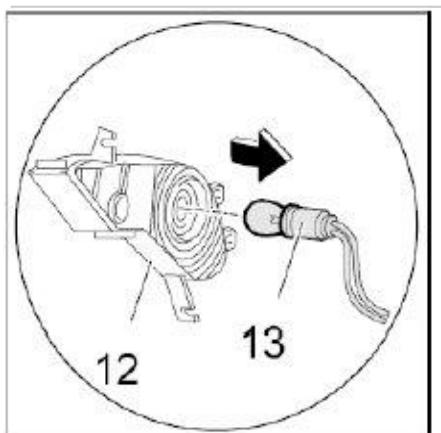
4. Take off front apron with the help of an assistant.

4.1.Pull front apron -1- forward -arrow-.



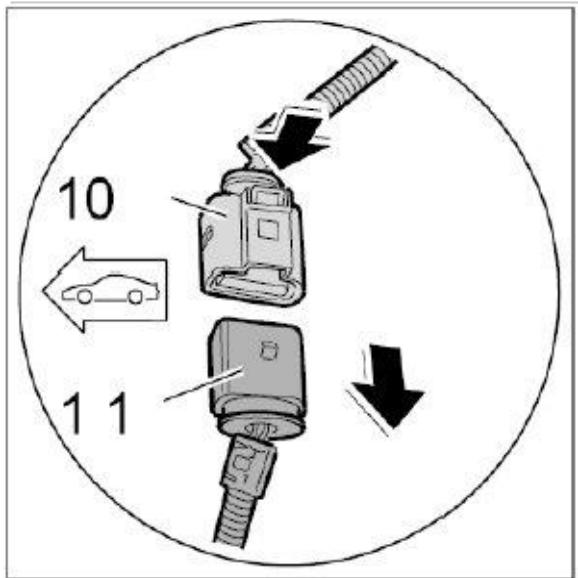
*Pulling front apron forward*

4.2.Pull off bulb socket -13- on side direction indicator -12- at both sides -arrow-.



*Pulling off bulb socket*

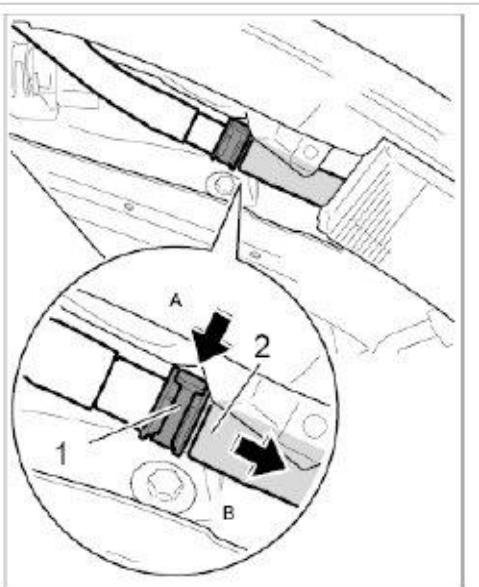
4.3.Disconnect right plug connection -10, 11- (-arrows- ).



*Disconnecting plug connection*

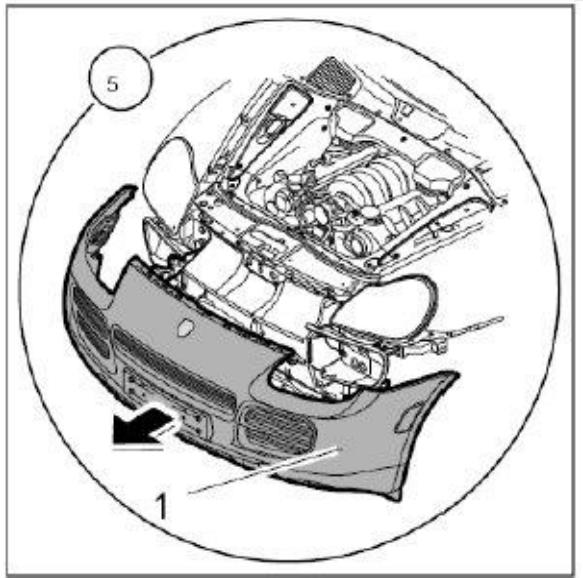
**INFORMATION:** Only for vehicles with headlight washer system.

4.4. Release coupling -1- (-arrow A-) and pull off water hose -2- for headlight washer system -arrow B-.



*Disconnecting water hose for headlight washer system*

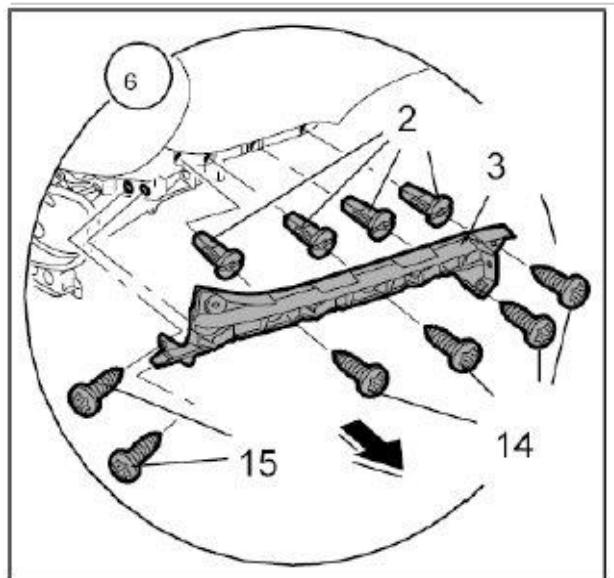
4.5. Take off front apron -1- (-arrow-).



*Removing front apron*

5. Remove side guide rails

Only if subsequent repair work is carried out on the wing

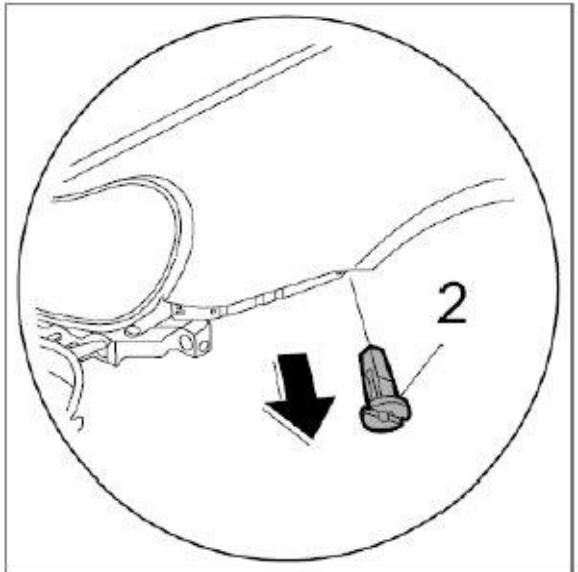


*Removing side guide rails*

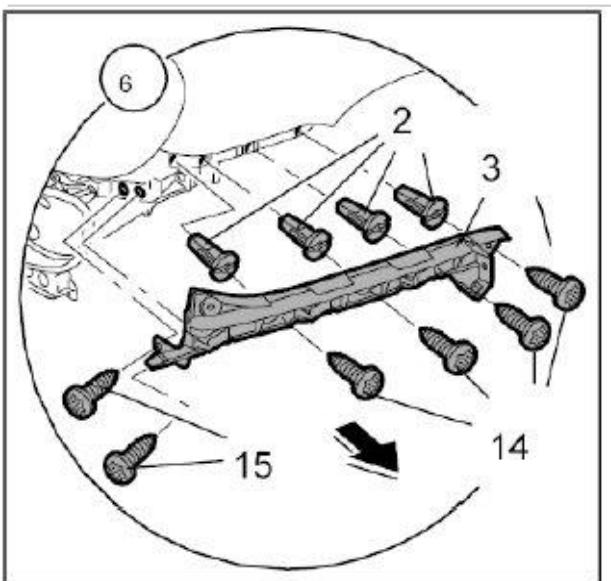
5.1.Unscrew fastening screws -14, 15-.

5.2.Remove side guide rails -3- (-arrow- ).

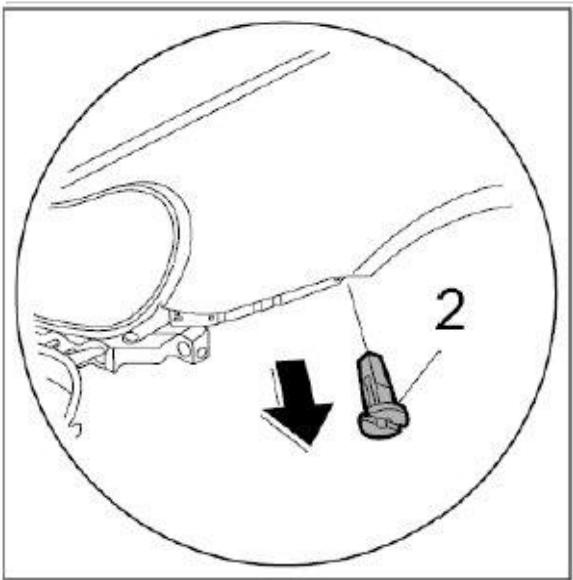
5.3.Check expander nuts -2- and unclip -arrow- and replace them if necessary.



*Removing expander nuts*

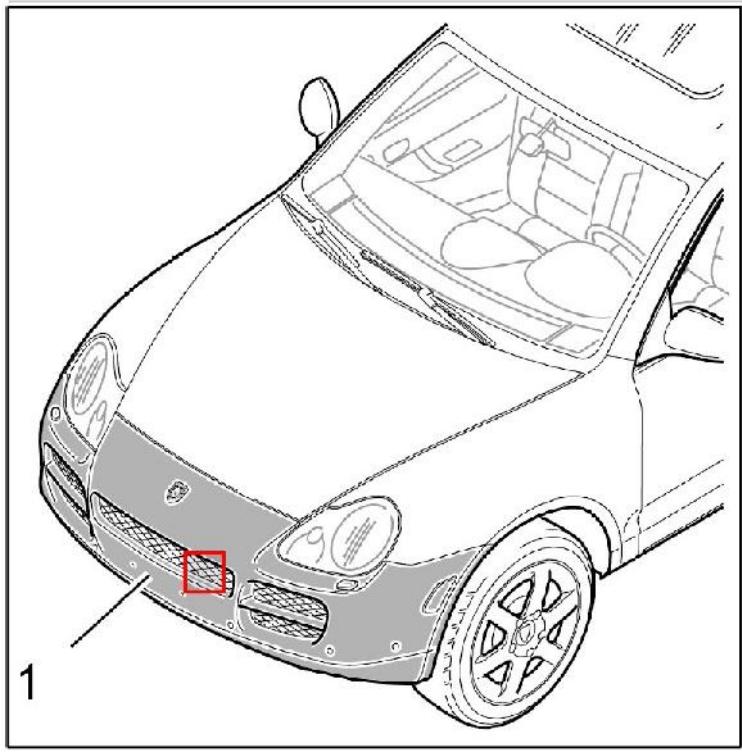


*Removing side guide rails*



*Removing expander nuts*

### **Installing front apron**

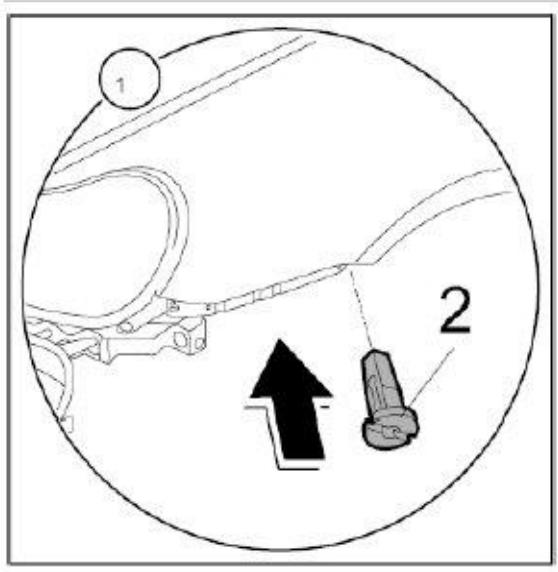


*Installation position of front apron*

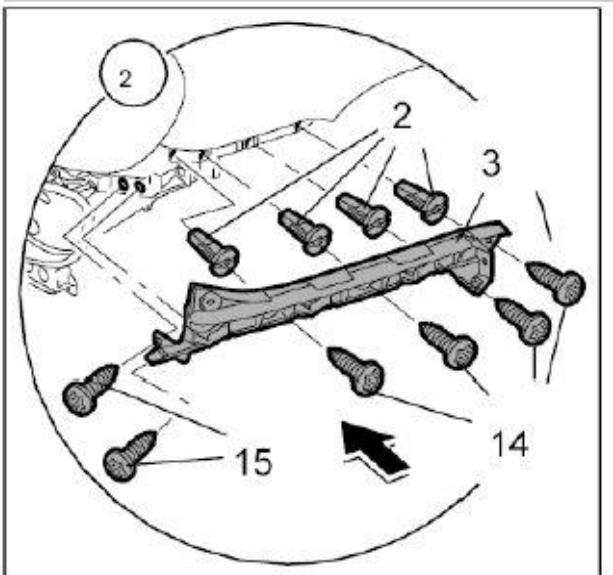
#### **1. Install side guide rails**

- 1.1.Engage expander nuts -2- (-arrow- ).
- 1.2.Position side guide rails -3- (-arrow- ) and fit them with the top side flush with the contour of the wing.

1.3. Screw in fastening screws -14, 15- and tighten to the specified torque. Tightening torque: 2.5 Nm (2.0 ftlb.)  $\pm$  0.5 Nm ( $\pm$ 0.5 ftlb.), Tightening torque: 1.5 Nm (1.0 ftlb.)  $\pm$  0.5 Nm ( $\pm$ 0.5 ftlb.).



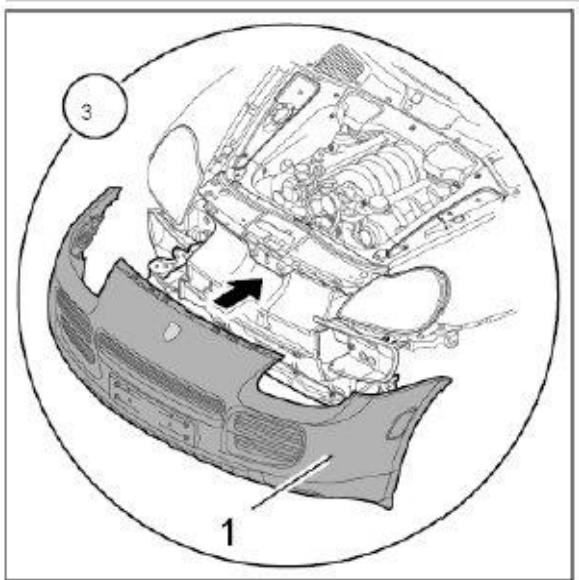
*Fitting expander nuts*



*Installing side guide rails*

2. Fit front apron with the help of an assistant

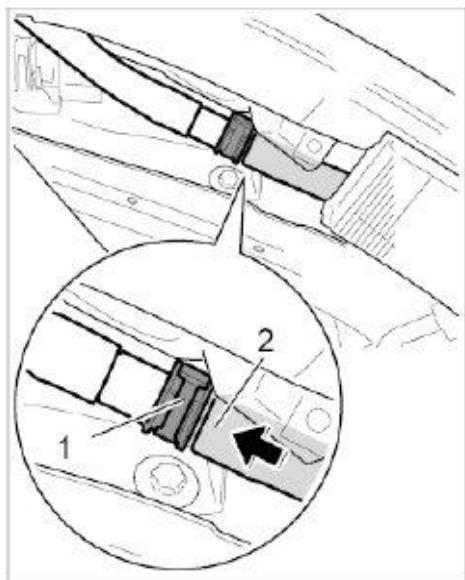
2.1. Fit front apron -1- (-arrow-).



*Fitting front apron*

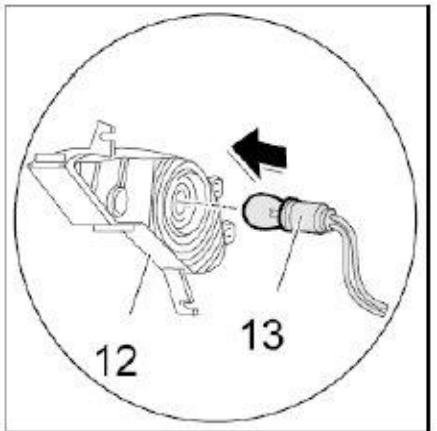
**INFORMATION:** Only for vehicles with headlight washer system.

2.2.Insert water hose for headlight washer system -2- into the coupling -1- (-arrow-) until the coupling clicks into place.



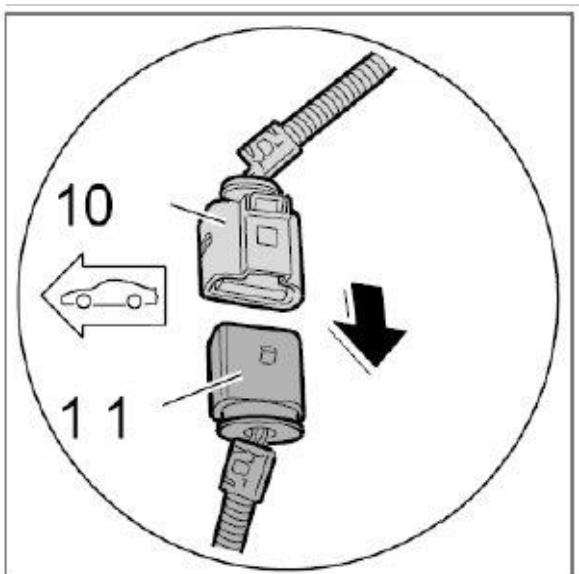
*Connecting water hose for headlight washer system*

2.3.Connect bulb socket -13- for the side direction indicator -12- on both sides -arrow-.



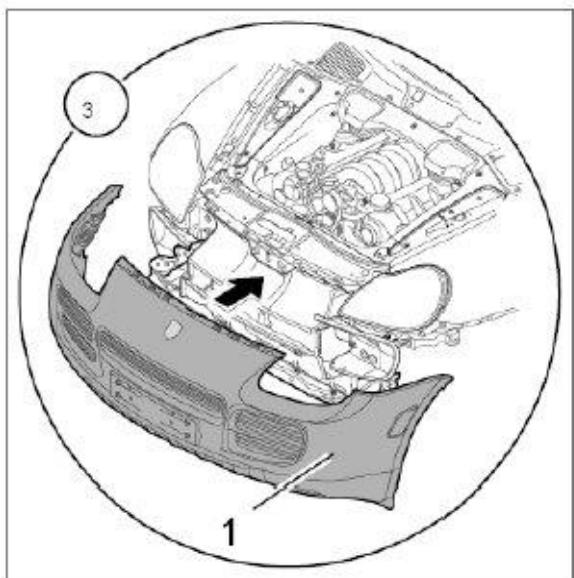
*Connecting bulb socket*

2.4. Connect right plug connection -10, 11- (-arrow- ).



*Connecting plug connection*

2.5. Press front apron -1- backwards and insert it into the side guide rail -arrow-.

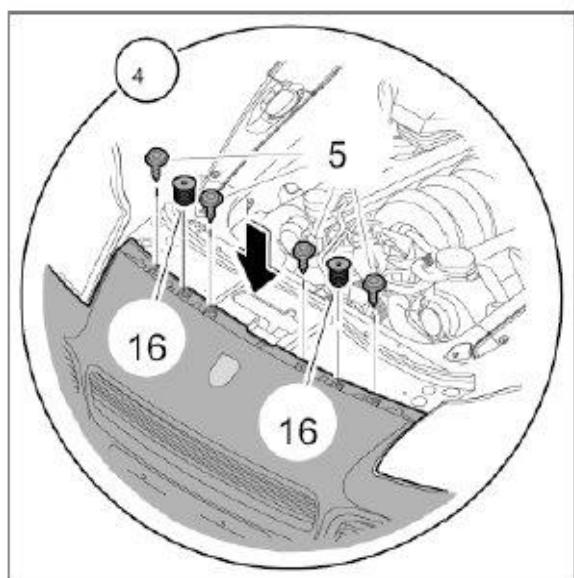


*Inserting front apron into the side guide rail*

3. Screw in fastening screws and fit plugs.

3.1. Screw in fastening screws -5- and tighten to the specified torque. Tightening torque: 3.5 Nm (2.5 ftlb.)  $\pm$  0.5 Nm ( $\pm$ 0.5 ftlb.).

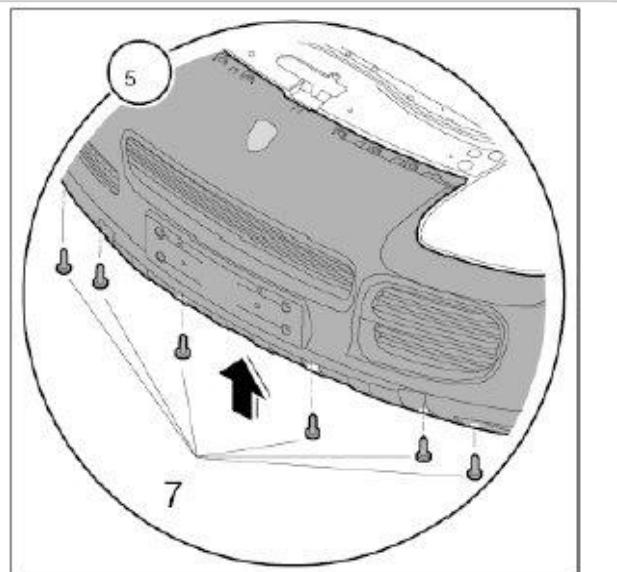
3.2. Insert plugs -16- (-arrow-) and push in completely.



*Screwing in fastening screws and fitting plugs*

4. Screw in fastening screws

4.1.Screw in fastening screws -7- (-arrow-) and tighten to the specified torque. Tightening torque: 3.5 Nm (2.5 ftlb.) ± 0.5 Nm (±0.5 ftlb.).

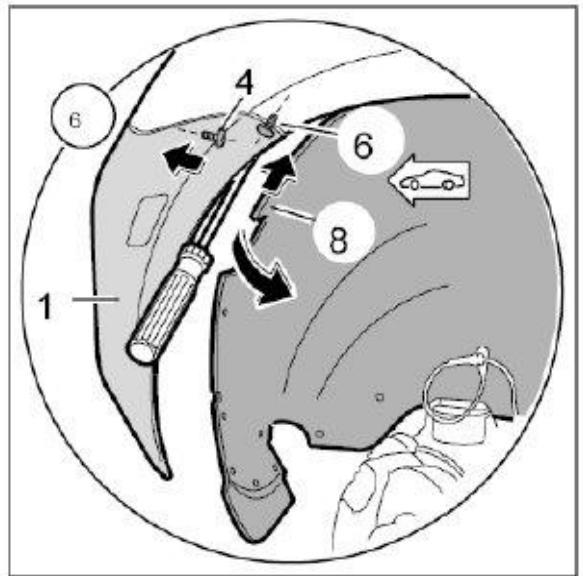


*Screwing in lower fastening screws*

##### 5. Screw in fastening screws

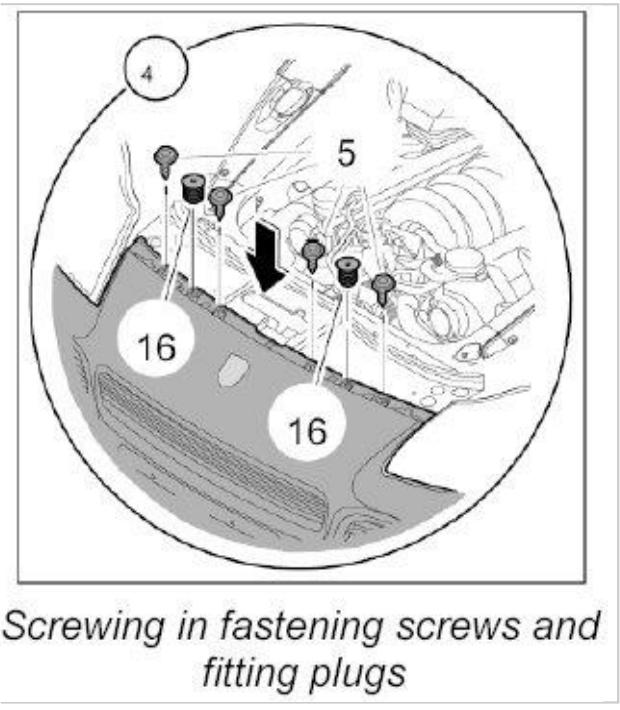
5.1.Lift off wheel housing liner -8- in the lower area -arrow-.

5.2.Screw in fastening screws -4, 6- (-arrows-) and tighten to the specified torque. Tightening torque: 2.5 Nm (2.0 ftlb.) ± 0.5 Nm (±0.5 ftlb.), Tightening torque: 2.5 Nm (2.0 ftlb.) ± 0.5 Nm (±0.5 ftlb.).



*Screwing in fastening screws at the side*

6. Install main headlight.
7. Adjust gap dimensions
  - 7.1.Close the lid
  - 7.2.Check gap dimensions at cover and headlights.
  - 7.3.Loose the fastening screws -5- and adjust gap dimensions by moving the front apron if necessary. Tightening torque: 3.5 Nm (2.5 ftlb.)  $\pm$  0.5 Nm ( $\pm$ 0.5 ftlb.).



*Screwing in fastening screws and fitting plugs*

### **Subsequent work**

1. Secure front wheel housing liner at the left and right close to the front apron. Refer to Removing and installing front wheel housing liner
2. Fit engine guard. Refer to Removing and installing engine guard

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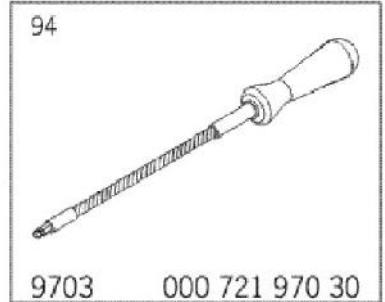
Vehicle &gt; Lighting and Horns &gt; Headlamps &gt; Service and Repair &gt; Removal and Replacement

## REMOVING AND INSTALLING MAIN HEADLIGHT

### Removing And Installing Main Headlight

#### Tools

##### Tools

Designation	Type	Number	Description	
flexible screwdriver	Special tool	9703		 94 9703 000 721 970 30

### Removing main headlight

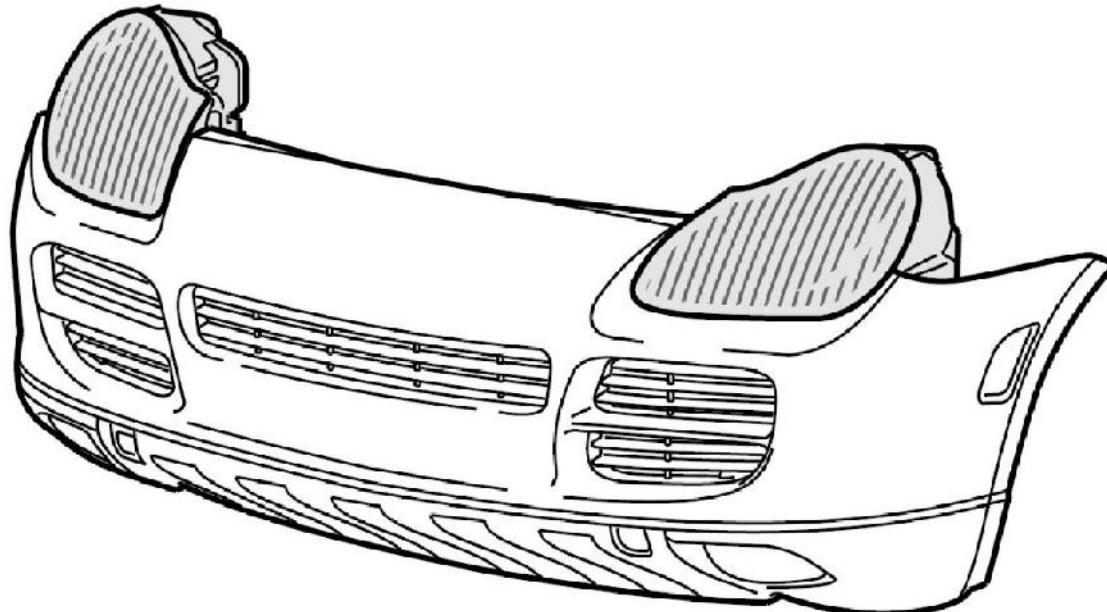
#### CAUTION:

**Risk of irreparable damage to electrical and electronic components. Risk of damage to headlights.**

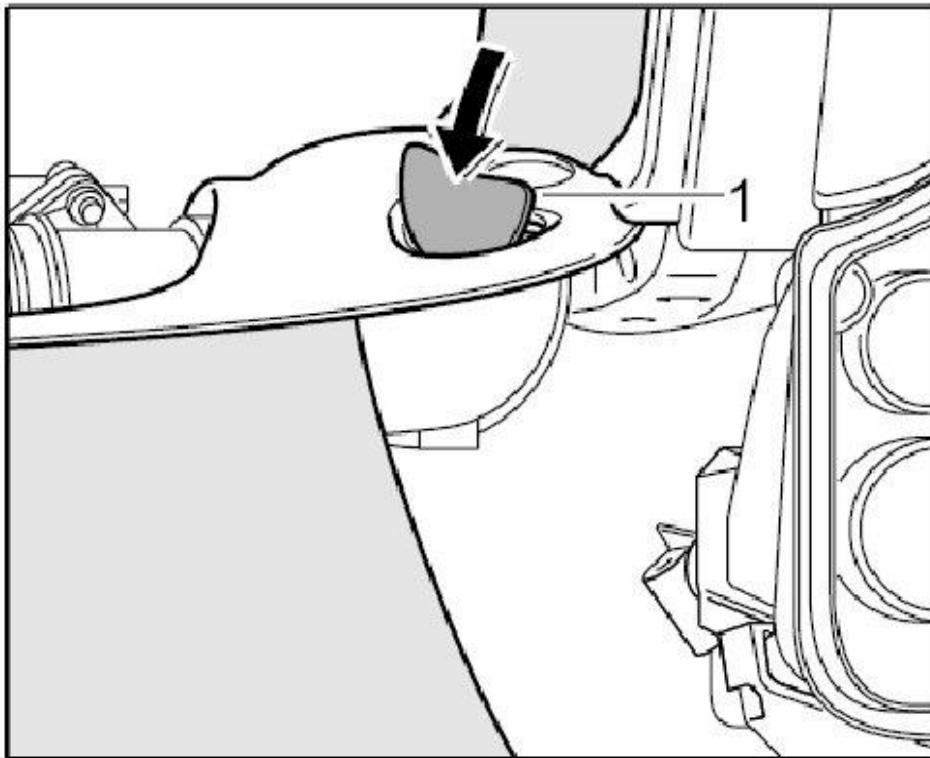
- Before removing headlight, remove ignition key and switch off the light.
- Headlights must not be covered, e.g. by wing protector or film, when they are switched on. **Risk of damage to headlights due to chaffing and excessive temperatures.**

#### INFORMATION:

- This description refers to the left headlight, and for a better representation, the illustrations of removal are in sectional view.
- When working, carrying out tests or adjusting headlights on the Cayenne or when it is in the workshop, a battery charging unit with a rated current of at least **40 A** must be connected.
- As soon as the vehicle is unlocked, e.g. the vehicle is in the workshop or salesroom, it must be trickle-charged with a battery charging device.



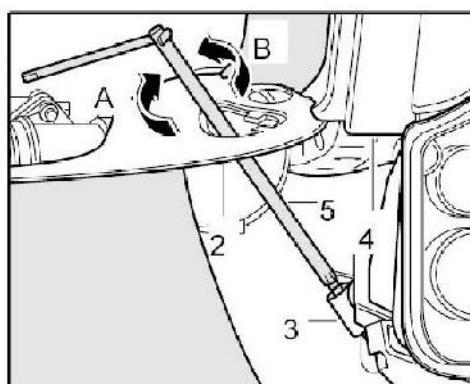
*Overview of main headlight*



## *Removing cover*

1. Press down on cover -1- in engine compartment and remove it.

- A - Direction of rotation for left headlight  
B - Direction of rotation for right headlight  
2 - Cover  
3 - Headlight release  
4 - Wing

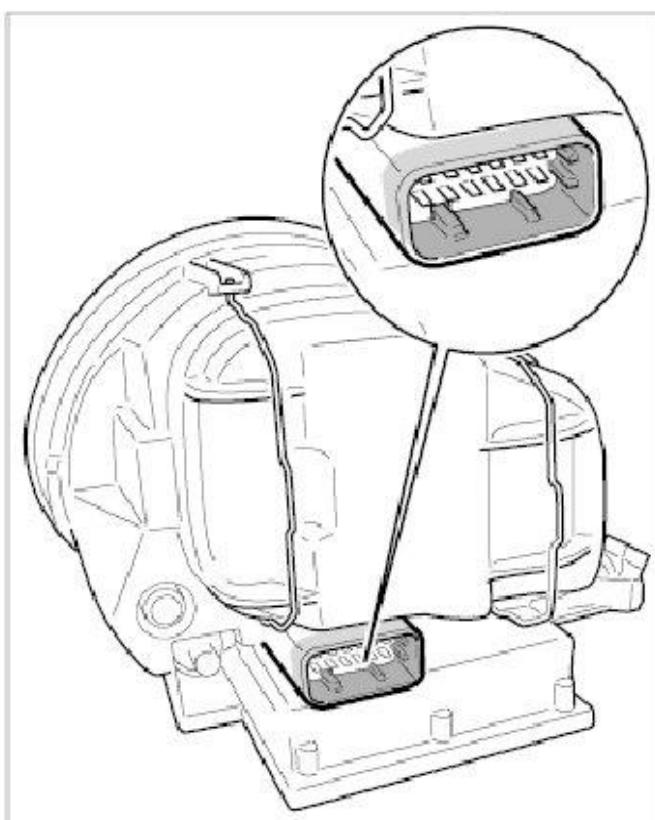


*Releasing the headlight*

2. Push a socket wrench -5- onto the release and unlock in direction of arrow -arrow A- or -arrow B-.
3. The headlight is now unlocked and can be pulled forwards out of the wing.

**INFORMATION:** If the Bi-Xenon main headlight is replaced, the gas discharge control unit from the old main headlight must be installed in the new one.

### Installing main headlight



### *Greasing the headlight plug mount*

**INFORMATION:** Before the headlights can be installed, the headlight plug mount for the central headlight plug must be greased with lubricant.

Greasing the plug mount makes it easier for the plug to slide into the mount and thus guarantees an optimal connection.

Use lubricant part no. 000.043.206.16. Since the part number or index is subject to change, the part number must additionally be checked in the PET.

1. Insert headlight into guide rails and push fully home into wing.

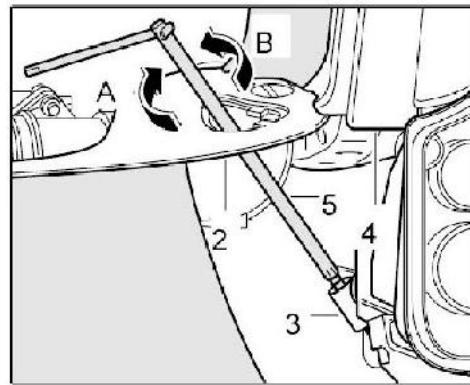
A - Direction of rotation for left headlight

B - Direction of rotation for right headlight

2 - Cover

3 - Headlight release

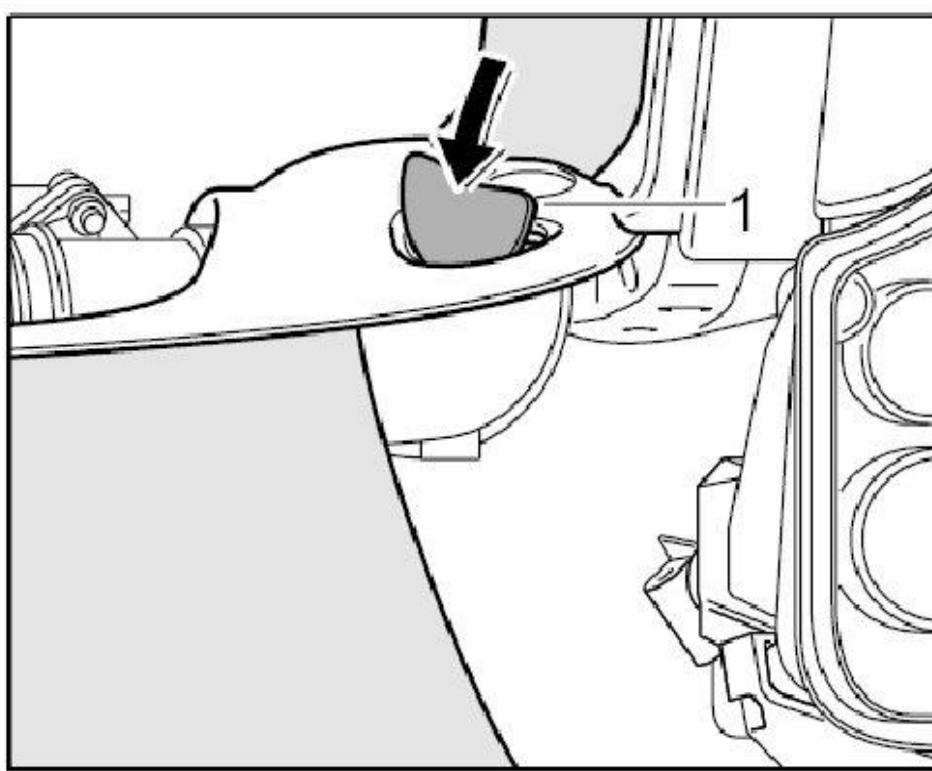
4 - Wing



*Locking the headlight*

2. Press the headlight to the rear, while at the same time turning the socket wrench -5- in the direction of the arrow -arrow A- or -arrow B-. In the process, the headlight lock must engage with an audible and perceptible click.

3. Check that headlight is securely seated, e.g. by pulling gently near the auxiliary high beam headlight.



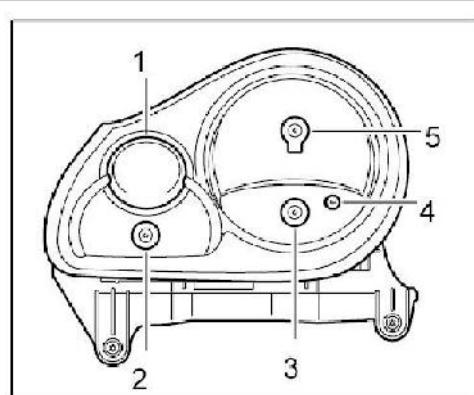
*Installing cover*

4. Insert cover -1- and fold over.

## Installation positions for bulbs

### Halogen headlight

- 1 - Bulb for direction indicator light. PY 21 W, 12 V (yellow bulb)
- 2 - Bulb for auxiliary high beam headlight. H7 (12 V, 55 W)
- 3 - Bulb for high beam headlight. H7 (12 V, 55 W)
- 4 - Bulb for parking light. W5W (12 V, 5 W)
- 5 - Bulb for dipped beam headlight. H7 (12 V, 55 W)

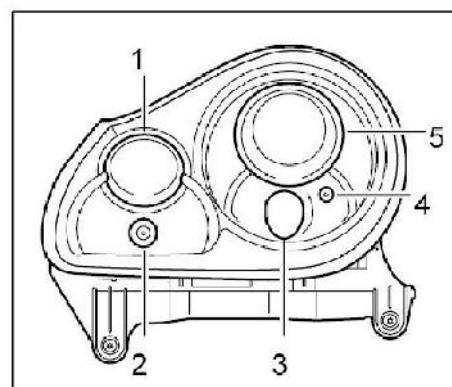


*Overview of halogen headlight*

### Installation position

### Bi-Xenon headlight

- 1 - Bulb for direction indicator light. PY 21 W, 12 V (yellow bulb)
- 2 - Bulb for auxiliary high beam headlight. H7 (12 V, 55 W)
- 3 - Bulb for cornering light. H3 (12 V, 55 W)
- 4 - Bulb for parking light. W5W (12 V, 5 W)
- 5 - Bi-Xenon gas discharge lamp for dipped beam and high beam headlight. D1S (12 V, 35 W)

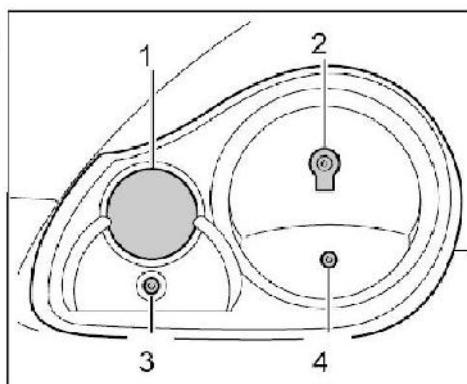


*Overview of Bi-Xenon headlight*

### Installation position

### Halogen headlights USA

- 1 - Bulb for direction indicator light. PY 21 W, 12 V (yellow bulb)
- 2 - Bulb for dipped beam headlight. H7 (12 V, 55 W)
- 3 - Bulb for high beam headlight. H7 (12 V, 55 W)
- 4 - Bulb for parking light. W5W (12 V, 5 W)



*Overview of halogen headlight, USA*

## Installation position

### Adjusting main headlight

The vehicle must be on a horizontal surface.

Make the adjustment with the regulator switch set to 0 (headlight beam adjustment).

Make the adjustment with the vehicle ready for driving (fuel tank full, driver's seat occupied by a person or **75 kg**; the tyre pressure must correspond to the specified values) using a headlight adjustment unit.

### Bi-Xenon main headlight

#### INFORMATION:

- Read out and erase the HBA fault memory before each adjustment of the headlights. To do this in the Porsche System Tester, select the Special functions menu, then select the HBA left menu or the HBA right menu, read out the fault memory, and erase it.
- If a new Bi-Xenon main headlight has been installed, the control unit must also be calibrated for level control before any adjustments are made.

Under menu item "Calibration", the headlight beam adjustment (HBA) control unit is adapted to the current conditions relating to vehicle position. During calibration the existing vehicle position is stored as zero position.

Following calibration, the headlight setting must be checked and corrected if necessary.

Calibration must be performed if changes were made that can change the position of the angle sensors:

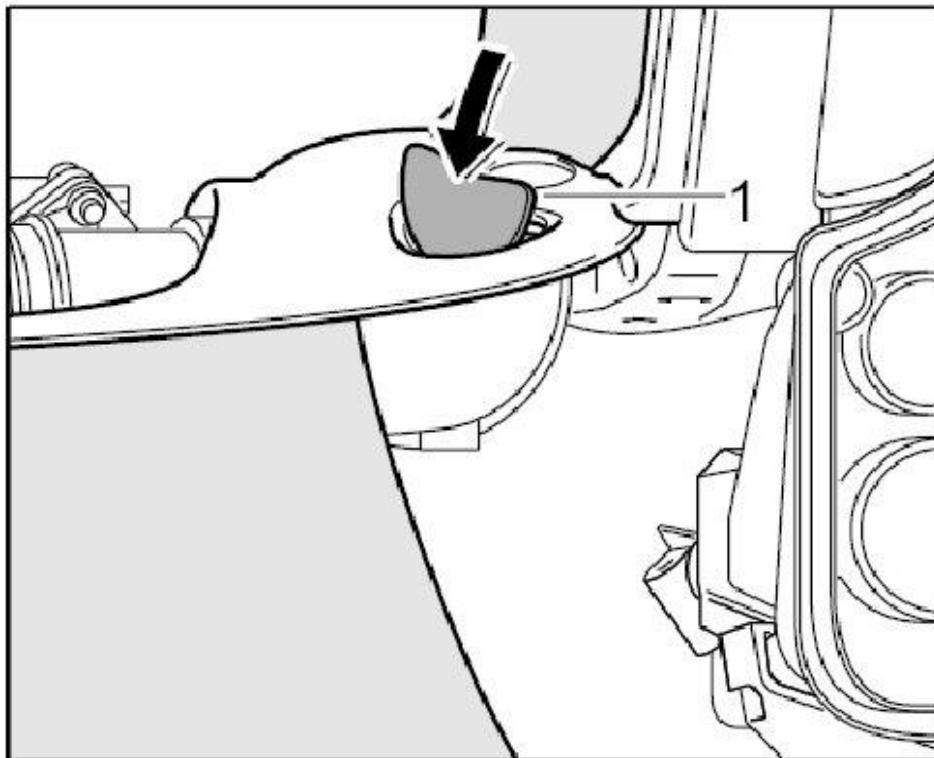
- Headlights, complete
- HBA (Bi-Xenon) control unit
- HBA angle sensor (front and rear compression)
- Running gear components
- Damage caused by accidents

#### INFORMATION:

- Whenever the coding is changed in the menu item "Change coding", the ignition must always be switched off afterwards and the key removed.
- After the ignition is switched on again, the new coding of the control unit is updated and the stored faults can be

erased.

- If the coding does not match the vehicle equipment, faults may be displayed that are not really present.



## *Removing cover*

1. Press down on cover -1- in engine compartment and remove it.
2. Turn on the ignition, turn on dipped beam and high beam headlights.
3. Check setting and adjust if necessary.

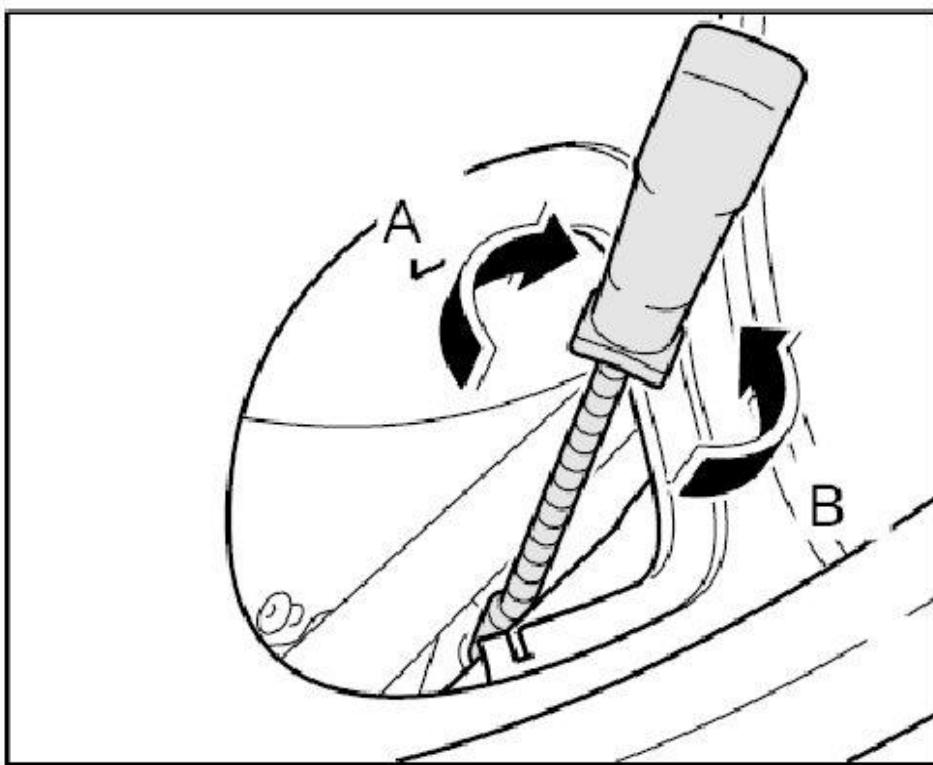
### **Adjusting:**

Set headlight adjustment unit to **10 cm/10 m (1%)**.

### **INFORMATION:**

- The distance between the headlights and the adjustment unit should be as small as possible.
- It should not exceed **30 cm**, because at greater distances it is no longer possible to define the formation of the light/dark limit in the adjustment unit clearly
- The description refers to the left headlight.

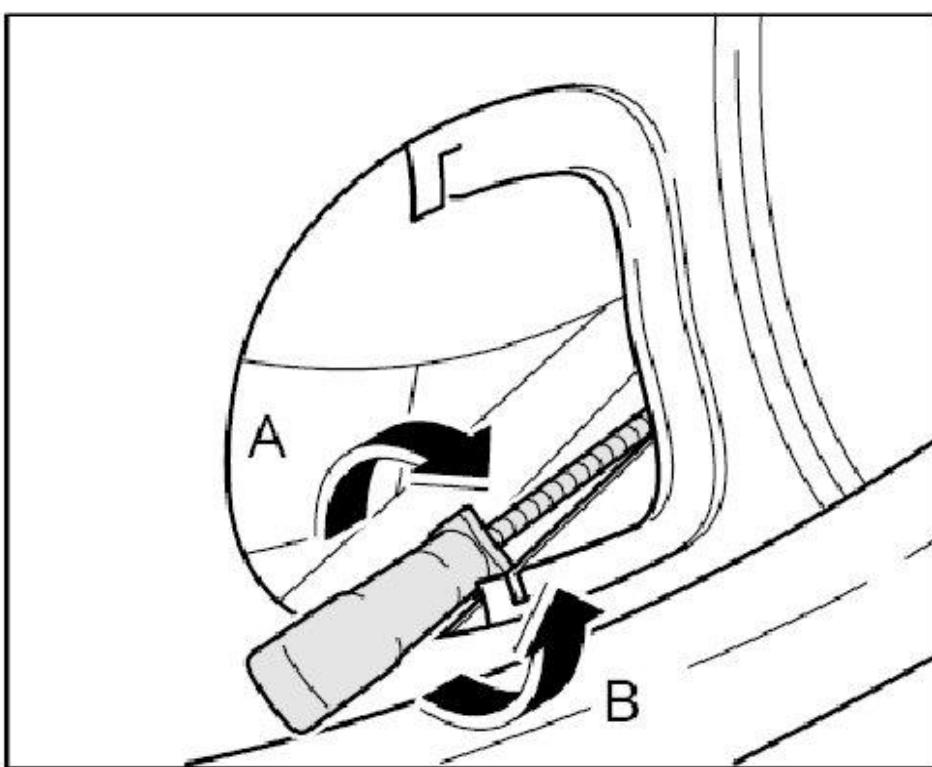
With this alignment, preference must be given to the central zone around the salient point of the light/dark limit.



## *Vertical/side adjustment of the dipped beam/high beam headlight*

The vertical/side adjustment of the dipped beam/high beam highlight is carried out first using the flexible screwdriver 9703: adjustment -arrow A- and -arrow B-.

4. To do this, line up the light/dark borderline running upwards at an angle on the right-hand side with the dotted **15 degrees** line of the adjustment unit.

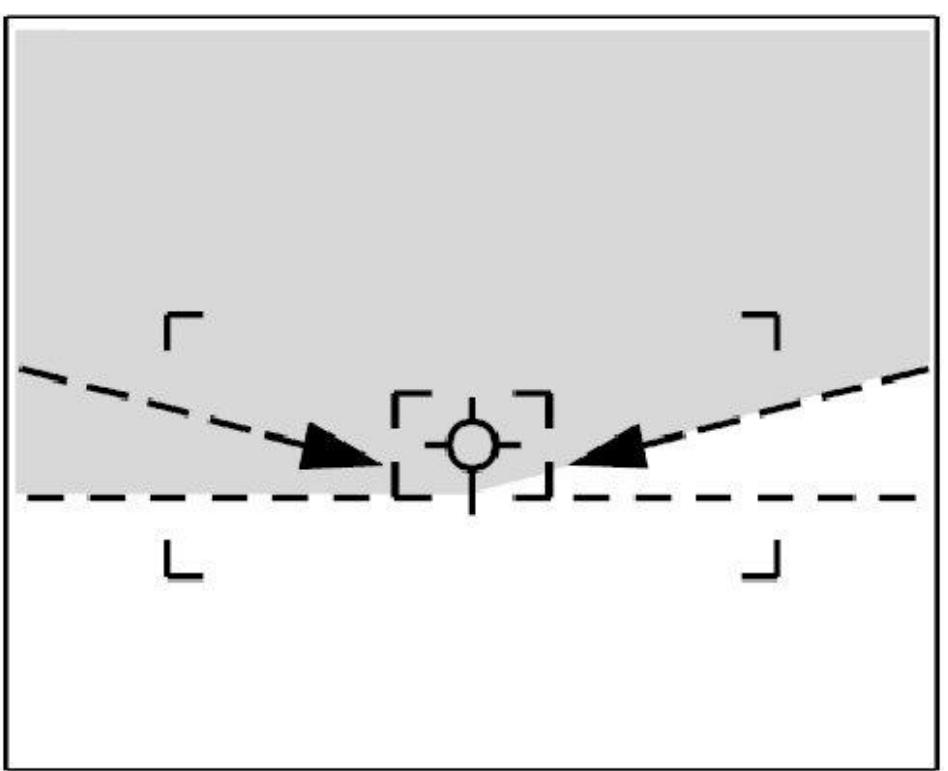


## *Horizontal adjustment of the dipped beam headlight*

5. The dipped beam headlight is then adjusted horizontally using the flexible screwdriver 9703: adjustment -arrow A- and -arrow B-.

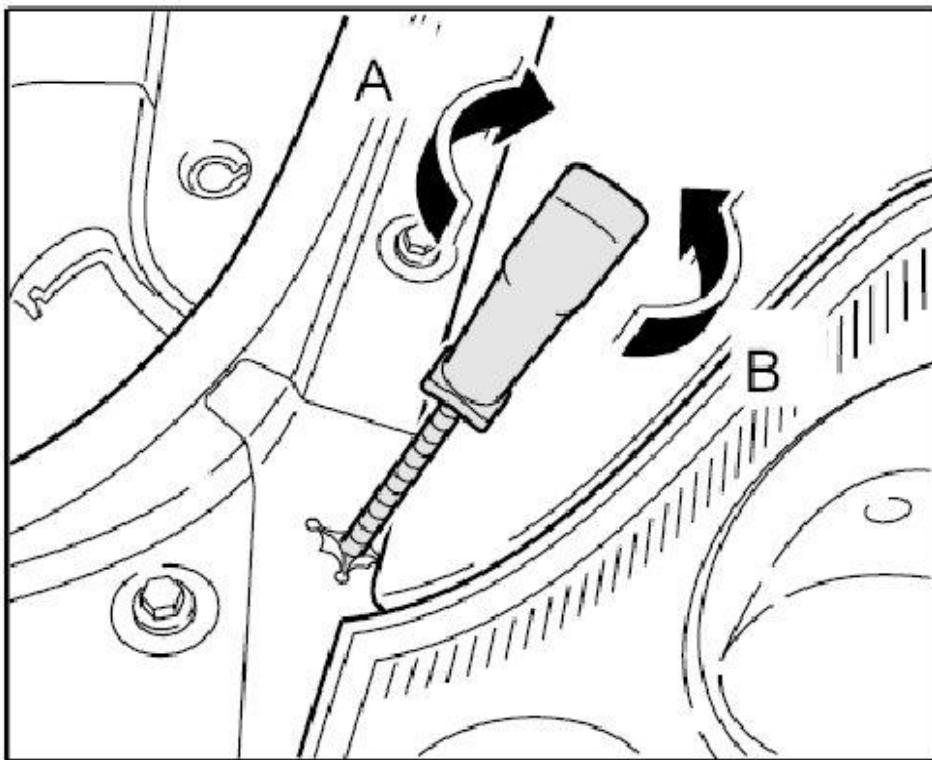
### **INFORMATION:**

- Guide a flexible screwdriver nearly horizontally through the opening in the wing.
- The illustration refers to the halogen headlight.



***Left, horizontal section of the  
light/dark limit***

To do this, line up the left, horizontal section of the light/dark limit (when driving on the right) with the dotted horizontal line of the adjustment unit.



## ***Side setting for auxiliary high beam headlight***

6. Check the auxiliary high beam headlight and, if necessary, adjust the side setting with -arrow A- and -arrow B-. Use the flexible screwdriver 9703 to do this.
7. In the case of Bi-Xenon headlights, the ignition must be switched off and on after the adjustment has been made with the lights switched on.
8. After this, the adjustment must be checked again.
9. Fit cap again.

### **Adjusting the main headlights, USA version**

**INFORMATION:** A new adjustment must only be made in the case of accident repairs or replacement of the main headlights.

- Vertical and horizontal adjustment must be carried out with a headlight adjustment unit.