



## 94 – Lights, bulbs, switches - exterior

### 1 Headlights with halogen bulbs, vehicles to 09/06

#### 1.1 General description



##### Note

- ◆ *Before working on headlights, always switch off the headlights and remove the ignition key.*
- ◆ *When dealing with complaints, it is absolutely essential that the function and operation of the lighting system are first understood.*
- ◆ *Additional information:*

⇒ Current flow diagrams, Electrical fault finding and Fitting locations

⇒ Operating manual

⇒ Self-study programme No. 306 ; The Touran

⇒ Self-study programme No. 307 ; The Touran - Electrical system

##### **Fault detection and fault display:**

The onboard supply control unit has a self-diagnostic function, which makes fault finding on headlights easier.

For fault finding, use vehicle diagnosis, testing and information system in "Guided fault finding" mode.

#### 1.2 Assembly overview - headlights with halogen bulbs



##### Note

*After any measures which could affect the setting of the headlight, check the headlight settings and adjust if necessary ⇒ Maintenance ; Booklet 18.1 .*



### 1 - Cover cap

### 2 - Securing screws

- ☐ For left headlight range control motor - V48- or right headlight range control motor - V49-

### 3 - Cover cap

### 4 - Bulb holder with grip element

- ☐ For left dipped beam bulb - M29- or right dipped beam bulb - M31-

### 5 - Left headlight dipped beam bulb - M29- or right headlight dipped beam bulb - M31-

- ☐ Bulb H7U 12 V, 55 W
- ☐ Replacing ⇒ [page 164](#) .

### 6 - Left headlight range control motor - V48- or right headlight range control motor - V49-

- ☐ Removing and installing ⇒ [page 169](#) .

### 7 - Headlight

- ☐ Removing and installing ⇒ [page 162](#) .
- ☐ Adjusting installation position of headlight ⇒ [page 163](#) .
- ☐ Repairing headlight retaining tabs ⇒ [page 171](#) .
- ☐ Converting headlights to drive on the left or the right ⇒ [page 172](#) .

- ☐ Adjusting ⇒ Maintenance ; Booklet ; Descriptions of work .

### 8 - Adjustment bushes

- ☐ Adjusting installation position of headlight ⇒ [page 163](#) .

### 9 - Securing screws

- ☐ 4 Nm
- ☐ On base of headlight

### 10 - Securing screws

- ☐ 4 Nm
- ☐ On top of headlight

### 11 - Left headlight main beam bulb - M30- or right headlight main beam bulb - M32-

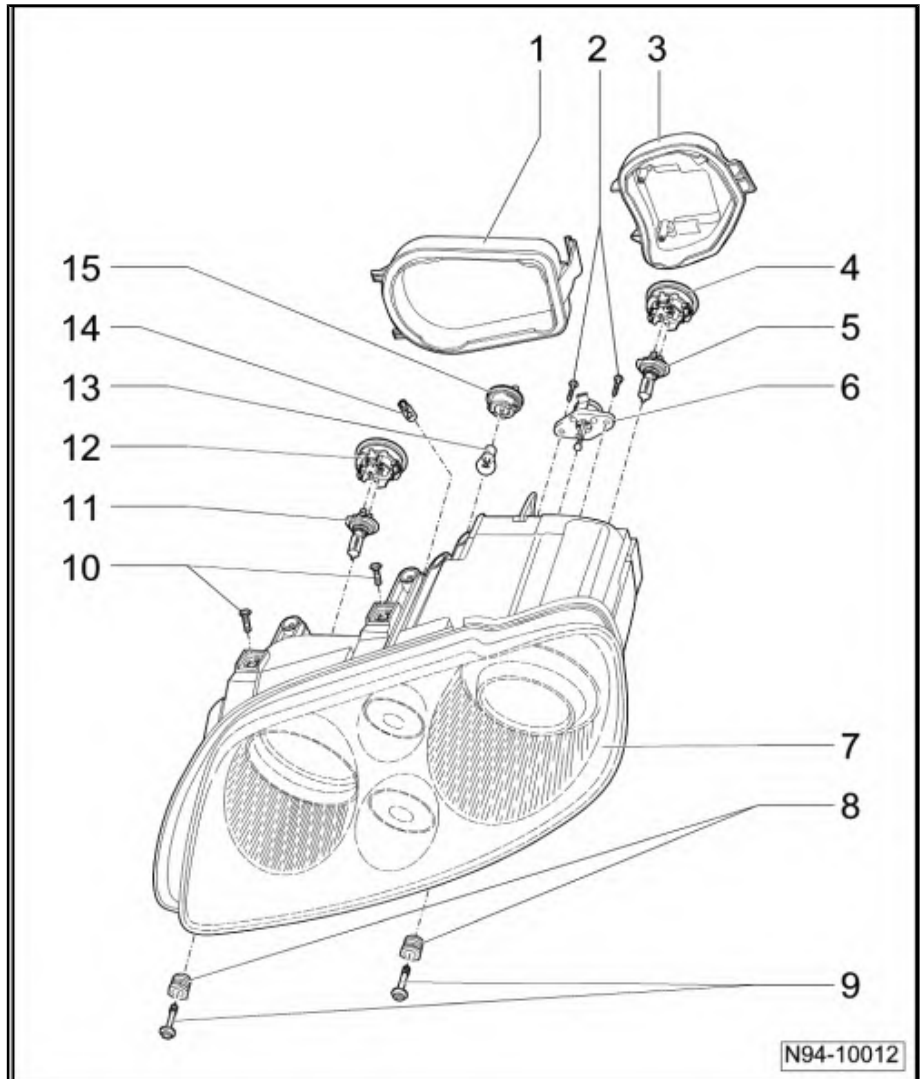
- ☐ Bulb H7U 12 V, 55 W
- ☐ Replacing ⇒ [page 166](#) .

### 12 - Bulb holder with grip element

- ☐ For left main beam bulb - M30- or right main beam bulb - M32-

### 13 - Front left turn signal bulb - M5- or front right turn signal bulb - M7-

- ☐ Bulb 12 V, PY 21 W.
- ☐ Replacing ⇒ [page 168](#) .



Volkswagen Technical Site: <http://vwts.ru> <http://vwts.info>



#### 14 - Left side light bulb - M1- or right side light bulb - M3-

- ☐ Bulb 12 V, W 5 W
- ☐ Replacing ⇒ [page 167](#) .

#### 15 - Bulb holder with grip element

- ☐ For front left turn signal bulb - M5- or front right turn signal bulb - M7- .

### 1.3 Removing and installing headlight

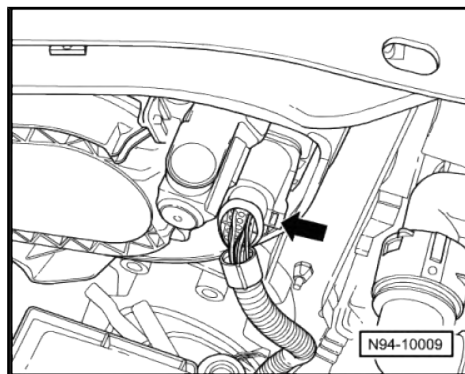
#### Removing:



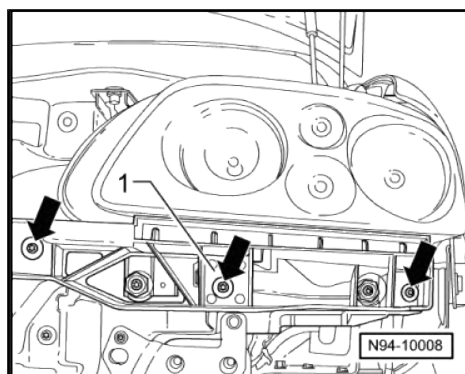
#### Note

- ◆ *There is no requirement to disconnect the battery earth strap.*
- ◆ *If a headlight is removed, it should always be adjusted following installation ⇒ Maintenance ; Booklet 18.1 .*

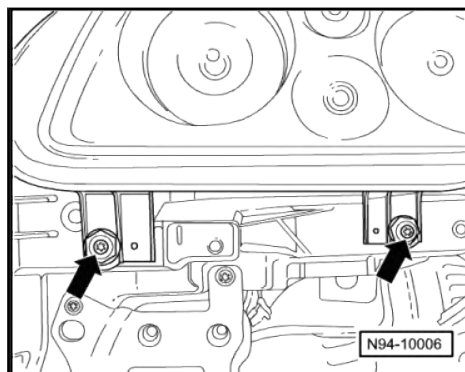
- Switch off ignition and all electrical consumers and remove ignition key.
- Pull off multi-pin connector -arrow-.
- Remove front bumper cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper



- Remove securing screws -arrows- and remove guide profile -1-.



- Remove securing screws -arrows- from base of headlight.





- Unscrew securing screws -arrows- from top of headlight and take headlight out of vehicle.

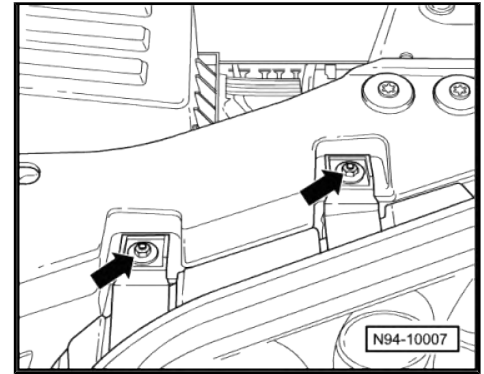
#### Installing:

Installation is carried out in the reverse order. When installing observe the following:

- Tighten all securing nuts and bolts to specified torque setting ⇒ [page 274](#) .
- Check headlight installation position is central, i.e. shut lines/gaps are equal around headlight.

If the shut lines/gaps around the headlight are uneven, the installation position must be adjusted ⇒ [page 163](#) .

- Check headlight functions.



#### Note

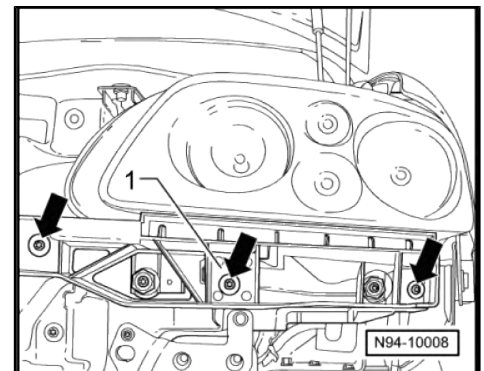
*If a headlight is removed, it should always be adjusted following installation.*

- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

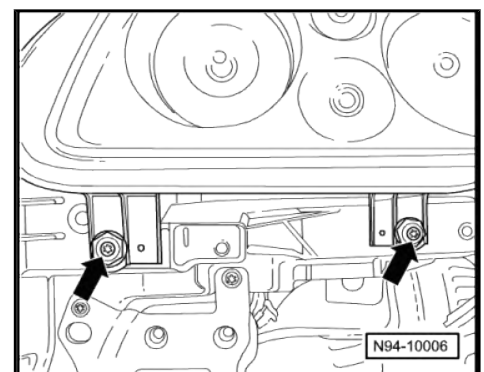
## 1.4 Adjusting headlight installation position

If it transpires during checking of the installation position that the shut lines/gaps between headlight and body are uneven, the installation position must be adjusted.

- Switch off ignition and all electrical consumers and remove ignition key.
- Remove front bumper cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper
- Remove securing screws -arrows- and remove guide profile -1-.

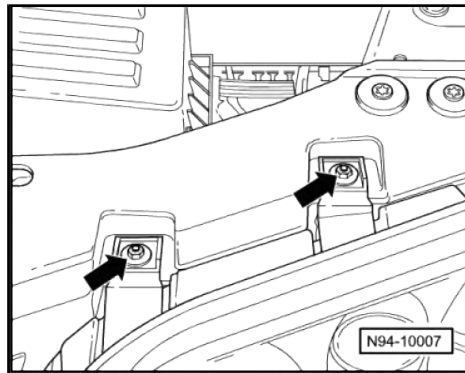


- Loosen securing screws -arrows- at base of headlight.

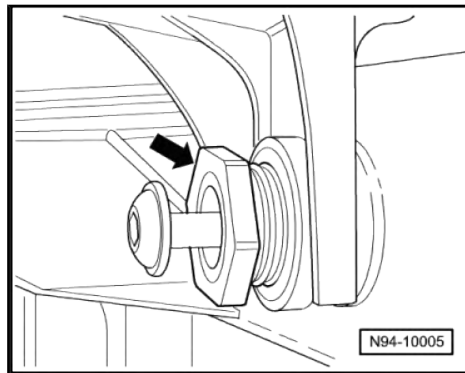




- Loosen securing screws -arrows- at top of headlight.



- Adjust shut lines/flushness to body by pushing in or pulling out alignment bush -arrow-.
- Tighten all securing nuts and bolts to specified torque setting ⇒ [page 274](#) .
- Check and, if necessary, readjust headlight to ensure gaps are even all round.
- Install bumper cover in reverse order of removal.
- Check headlight functions.
- Vehicles with automatic headlight range control, carry out basic setting of headlight ⇒ Maintenance ; Booklet ; Descriptions of work .
- Check headlight setting and adjust headlight if necessary ⇒ Maintenance ; Booklet ; Descriptions of work



## 1.5 Renewing headlight bulbs

### 1.5.1 Renewing headlight dipped beam bulb

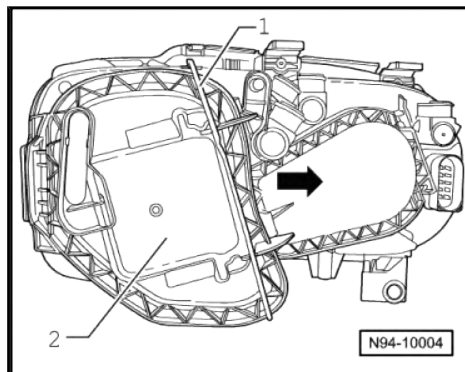


#### Note

*The diagrams show renewal of the headlight dipped beam bulb for the left headlight. Renewal for the right headlight is similar.*

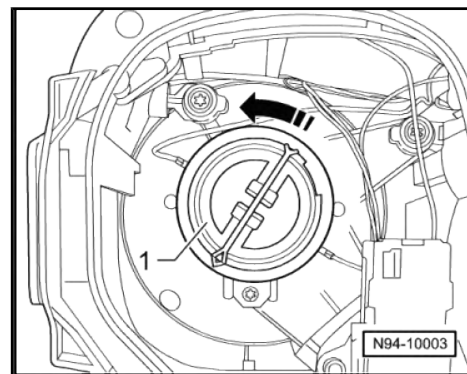
#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Push bulb retaining spring -1- in direction of -arrow-.
- Remove cover cap -2- in -direction of arrow- out of side recesses in headlight.





- Turn bulb holder with dipped beam headlight bulb -1- in -direction of arrow- and remove from headlight.



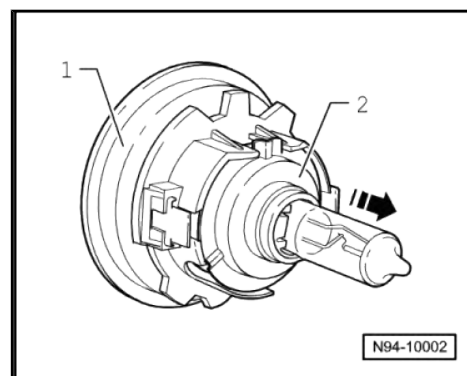
- Pull headlight dipped beam bulb -2- in direction of -arrow- out of bulb holder -1-.

**Installing:**



**Caution**

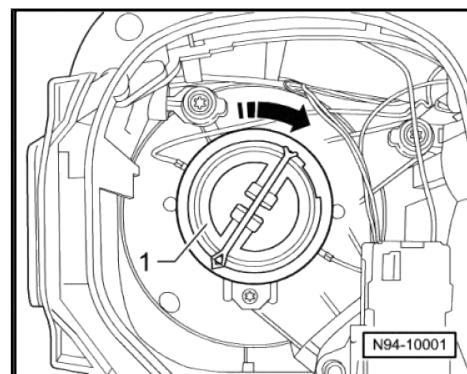
*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*



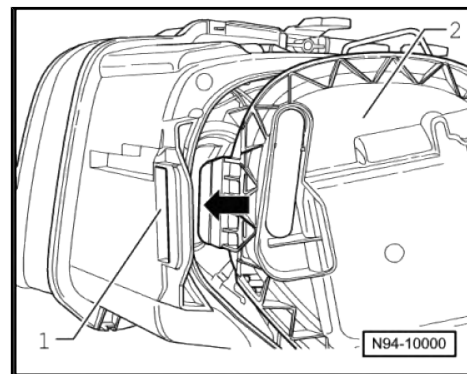
**Note**

*Do not touch bulb glass when fitting bulbs. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*

- Place headlight dipped beam bulb in bulb holder.
- Place bulb holder with headlight dipped beam bulb -1- in headlight and turn bulb holder with headlight dipped beam bulb in direction of -arrow-.

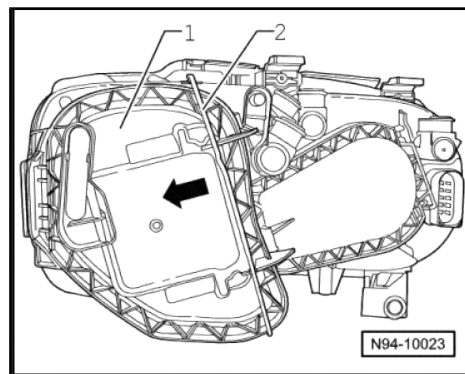


- Place cover cap -2- in recess -1- of headlight and push fully into position.





- Lock cap -1- in place by closing retaining spring -2- in -direction of arrow-.
- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work



## 1.5.2 Renewing headlight main beam bulb

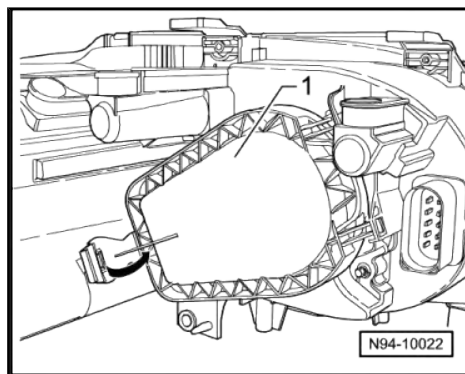


### Note

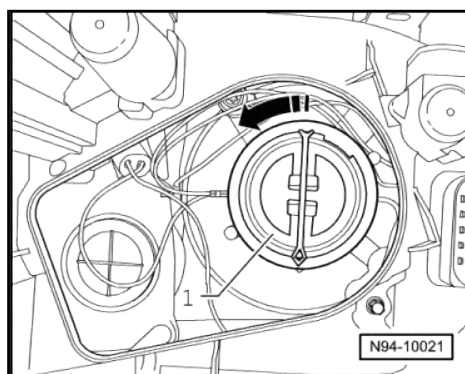
*The diagrams show renewal of the headlight main beam bulb for the left headlight. Renewal for the right headlight is similar.*

#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Release locking element in -direction of arrow- and remove cover cap -1-.



- Turn bulb holder with main beam headlight bulb -1- in -direction of arrow- and remove from headlight.





- Pull main beam headlight bulb -2- in -direction of arrow- out of bulb holder -1-.

#### Installing:



#### Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

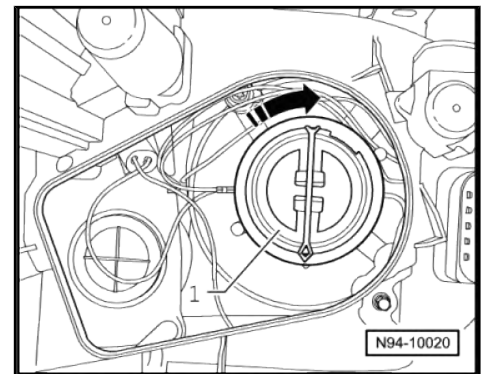
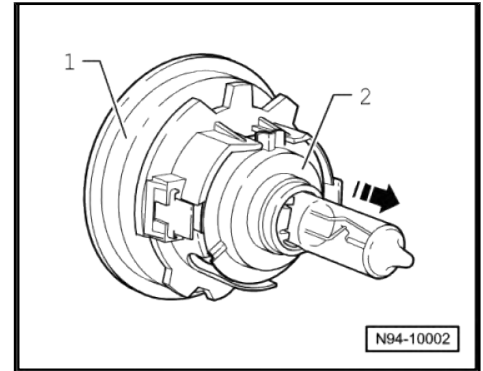


#### Note

*Do not touch bulb glass when fitting bulbs. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*

Installation is carried out in the reverse order. When installing observe the following:

- Place bulb holder with main beam headlight bulb -1- in headlight and turn bulb holder with main beam headlight bulb in -direction of arrow-.
- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work



### 1.5.3 Renewing side light bulb

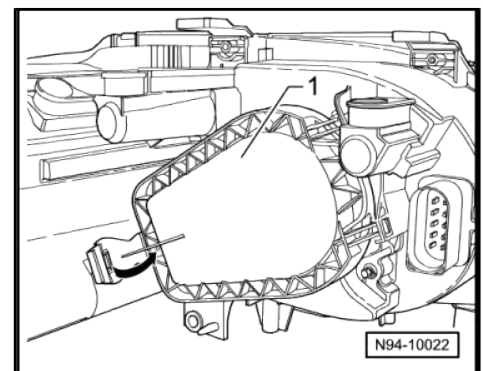


#### Note

*The diagrams show renewal of the side light bulb for the left headlight. Renewal for the right headlight is similar.*

#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Release cover cap locking element -1- in -direction of arrow- and remove cover cap.







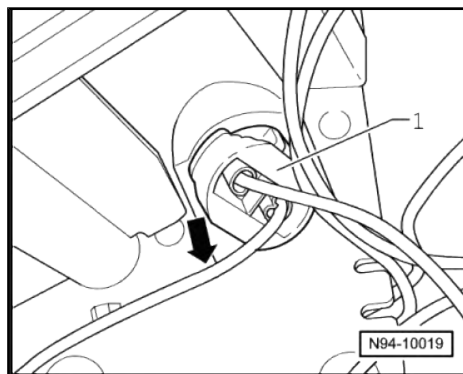
- Pull bulb holder -1- with side light bulb in -direction of arrow- out of reflector.
- Pull side light bulb out of bulb holder.

Installing:



**Caution**

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*



**Note**

*Do not touch bulb glass when fitting bulbs. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*

Installation is carried out in the reverse order. When installing observe the following:

- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

## 1.5.4 Renewing front turn signal bulb

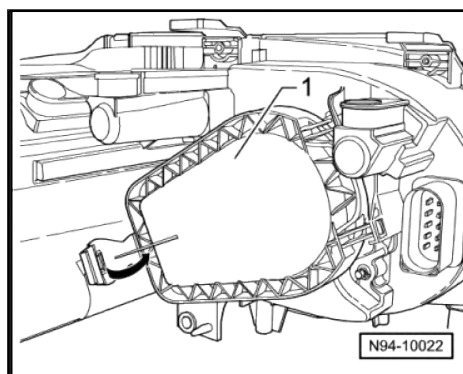


**Note**

*The illustrations show the renewal of the front turn signal bulb for the left headlight. Renewal for the right headlight is similar.*

Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Release cover cap locking element -1- in -direction of arrow- and remove cover cap.





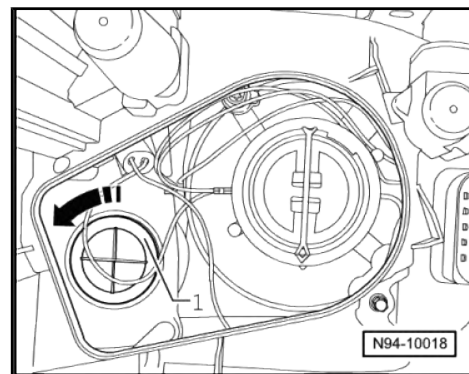
- Turn bulb holder with front turn signal bulb -1- in -direction of arrow- and remove from headlight.
- Push front turn signal bulb into bulb holder, turn front turn signal bulb anti-clockwise and pull front turn signal bulb out of bulb holder.

Installing:



Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*



Note

*Do not touch bulb glass when fitting bulbs. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*

Installation is carried out in the reverse order. When installing observe the following:

- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

## 1.6 Removing and installing headlight range control motor

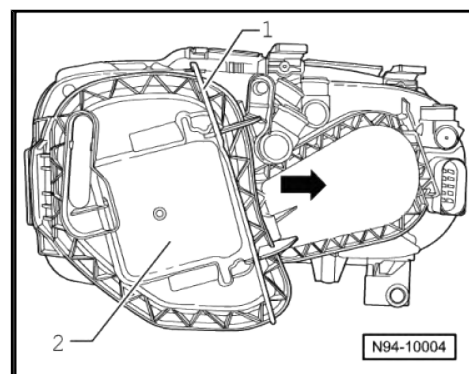
### 1.6.1 Removing headlight range control motor



Note

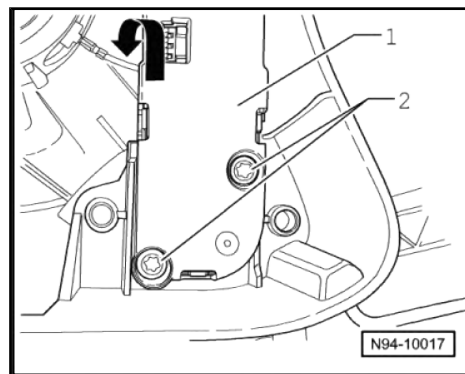
- ◆ *If control motors are removed and reinstalled or renewed, the headlight adjustment must be checked and adjusted as necessary ⇒ Maintenance ; Booklet 18.1 .*
- ◆ *The illustrations show the renewal of the headlight range control motor for the left headlight. Renewal for the right headlight is similar.*

- Remove headlight ⇒ [page 162](#) .
- Push bulb retaining spring -1- in direction of -arrow-.
- Remove cover cap -2- in -direction of arrow- out of side recesses in headlight.

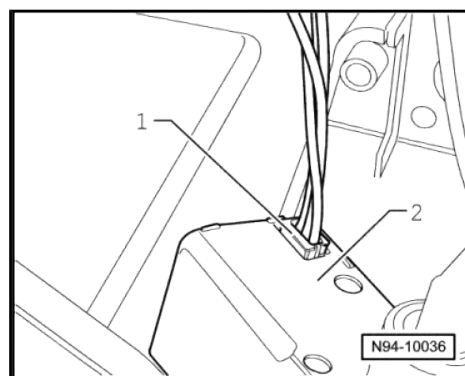




- Unscrew retaining screws -2- from headlight range control motor -1-.
- Push headlight range control motor -1- in -direction of arrow- so that ball head of headlight range control motor can be pulled downwards out of ball head cup on reflector.



- Pull connector -1- off headlight range control motor -2-.
- Take headlight range control motor out of headlight housing.



## 1.6.2 Installing headlight range control motor



### Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

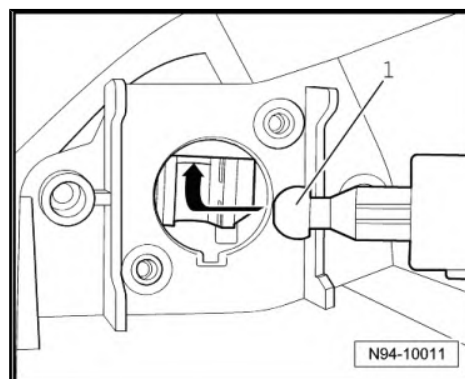


### Note

*The headlight range control motor connector must be fitted prior to installation.*

Installation is carried out in the reverse order. When installing observe the following:

- Fit connector on headlight range control motor .
- Carefully insert ball head of headlight range control motor -1- in ball head cup -arrow-.
- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work





## 1.7 Repairing headlight retaining tabs

If the headlight retaining tabs are damaged or broken off, they can be replaced by installing the repair kit. It is not necessary to replace the entire headlight.



### Note

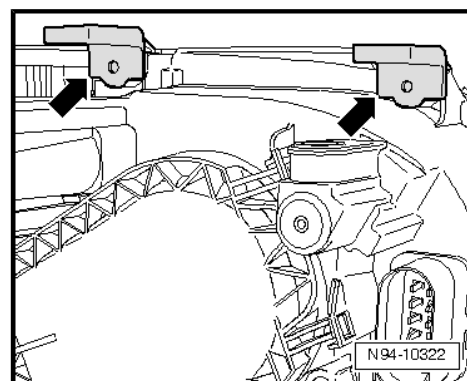
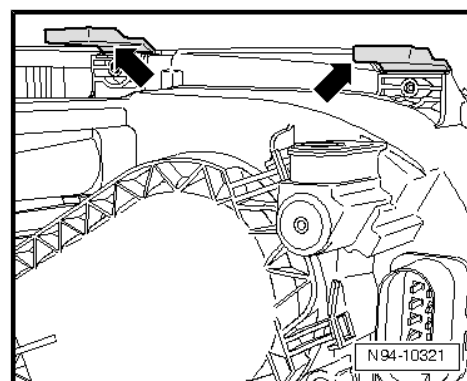
*Before performing repair work, check that there is no further damage to the headlight that would make installation of the repair kit unnecessary.*

### 1.7.1 Installing repair kit for the upper retaining tabs



### Note

- ◆ The repair kit comprises two identical retaining straps, each with one securing bolt.
- ◆ It is not necessary to install both retaining tabs if only one is damaged.
- Remove headlight ⇒ [page 162](#) .
- Completely remove the area of the damaged retaining tab shown in the diagram -arrow -.
- Insert the new retaining tab into the headlight housing until it engages -arrow-.
- Secure each of the retaining tabs with a securing bolt from the repair kit.
- Tighten all securing nuts and bolts to specified torque setting ⇒ [page 274](#) .
- Install headlight ⇒ [page 162](#) .



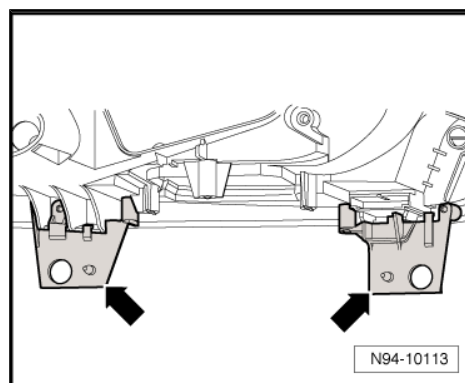
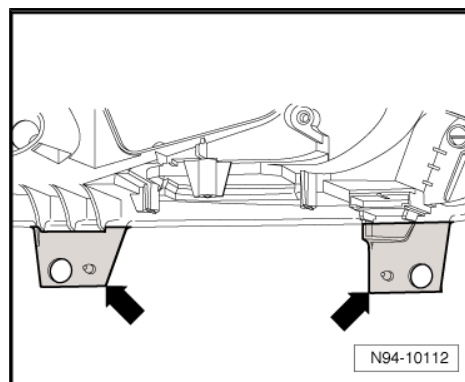


## 1.7.2 Installing repair kit for the lower retaining tabs



### Note

- ◆ *The repair kit comprises two retaining straps, each with two securing bolts.*
- ◆ *It is not necessary to install both retaining tabs if only one is damaged.*
- Remove headlight ⇒ [page 162](#) .
- Completely remove the area of the damaged retaining tab shown in the diagram -arrow -.
- Insert the new retaining tab into the headlight housing until it engages -arrow-.
- Secure the retaining tab with two securing bolts from the repair kit.
- Tighten all securing nuts and bolts to specified torque setting ⇒ [page 274](#) .
- Install headlight ⇒ [page 162](#) .



## 1.8 Converting headlights for use when driving on the left or right



### Caution

- ◆ *Danger of damaging/destroying plastic lens.*
- ◆ *The plastic lens of the headlight could be destroyed during cleaning if an incorrect cleaning solution is used.*
- ◆ *Only use cleansers based on alcohol or an alcohol/water mixture (for example a cloth soaked with isopropyl alcohol) to clean the plastic lens.*



**i Note**

- ◆ *To avoid dazzling oncoming traffic with asymmetrical lights, both headlights should be converted to the direction of traffic (driving on the left or right) relevant to the country in which the vehicle is being driven.*
- ◆ *The corresponding headlight conversion set consists of two sections of film.*
- ◆ *Conversion of the headlights is not designed as a permanent conversion for other countries. It is only suitable as a "tourist solution" for a short stay abroad.*
- ◆ *Both headlights of a vehicle must always be converted.*
- ◆ *The details "right" and "left" on the masking film always refer to the direction of travel when looking forwards from inside the vehicle.*

### 1.8.1 Converting headlights designed for driving on the right to driving on the left

**i Note**

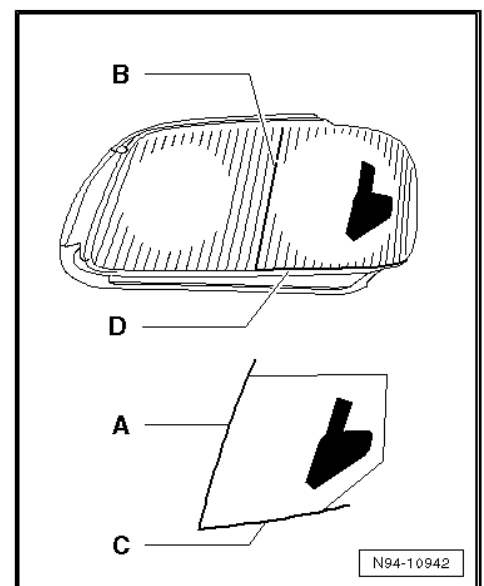
- ◆ *Please note the different part numbers for the headlight conversion sets from right to left-hand traffic and from left to right-hand traffic.*
- ◆ *Before conversion, clean the headlight lens. Remove residual adhesive from lens after pulling off application film*  
*⇒ page 172.*

- Turn light switch to position "0".
- Remove protective paper from application film.

**Left headlight:**

- Position application film as follows:
  - ◆ Position contact edge -A- of the application film at the first continuous line -B- on the headlight lens.
  - ◆ Position the lower edge -C- of the application film at the lower edge -D- of the headlight lens.
- Attach the self-adhesive application film with the masking film.
- Remove the application film. The masking film remains on the headlight.

**Right headlight:**



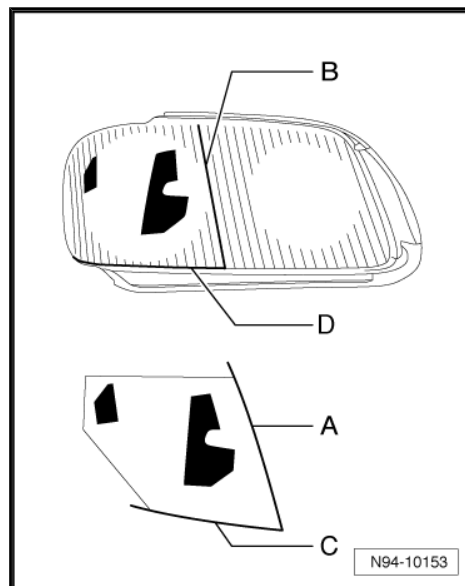


- Position application film as follows:
- ◆ Position contact edge -A- of the application film at the first continuous line -B- on the headlight lens.
- ◆ Position the lower edge -C- of the application film at the lower edge -D- of the headlight lens.
- Attach the self-adhesive application film with the masking film.
- Remove the application film. The masking film remains on the headlight.



#### Note

- ◆ Remove any remaining adhesive using only alcohol-based or alcohol and water-based cleaning fluid. For example a cloth soaked with isopropyl alcohol ⇒ [page 172](#).
- ◆ Customers should be informed of how to remove residual adhesive after pulling off the masking film.



## 1.8.2 Converting headlights designed for driving on the left to driving on the right



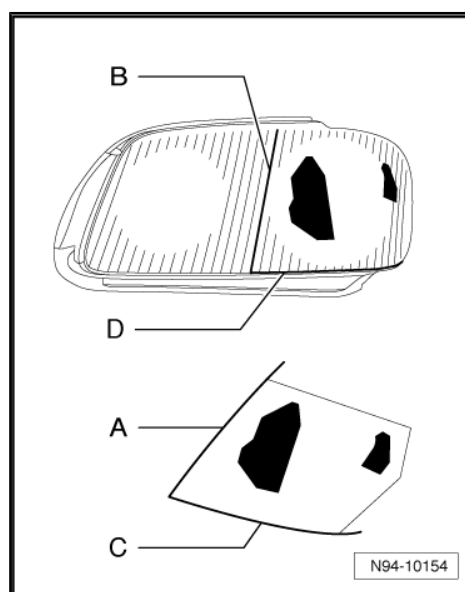
#### Note

- ◆ Please note the different part numbers for the headlight conversion sets from right to left-hand traffic and from left to right-hand traffic.
- ◆ Before conversion, clean the headlight lens. Remove residual adhesive from lens after pulling off application film ⇒ [page 172](#).
- Turn light switch to position “0”.
- Remove protective paper from application film.

#### Left headlight:

- Position application film as follows:
- ◆ Position contact edge -A- of the application film at the first continuous line -B- on the headlight lens.
- ◆ Position the lower edge -C- of the application film at the lower edge -D- of the headlight lens.
- Attach the self-adhesive application film with the masking film.
- Remove the application film. The masking film remains on the headlight.

#### Right headlight:



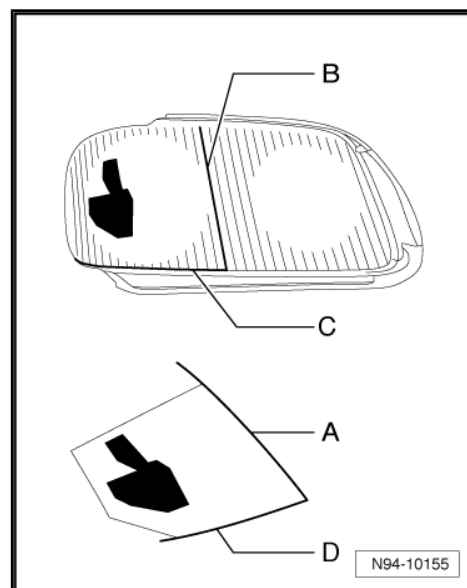


- Position application film as follows:
  - ◆ Position contact edge -A- of the application film at the first continuous line -B- on the headlight lens.
  - ◆ Position the lower edge -D- of the application film at the lower edge -C- of the headlight lens.
- Attach the self-adhesive application film with the masking film.
- Remove the application film. The masking film remains on the headlight.



#### Note

- ◆ *Remove any remaining adhesive using only alcohol-based or alcohol and water-based cleaning fluid. For example a cloth soaked with isopropyl alcohol ⇒ [page 172](#).*
- ◆ *Customers should be informed of how to remove residual adhesive after pulling off the masking film.*



## 1.9 Adjusting headlights

Adjusting headlights ⇒ Maintenance ; Booklet ; Descriptions of work





## 2 Headlights with halogen bulbs, vehicles from 10/06

### 2.1 General description



#### Note

- ◆ *Before working on headlights, always switch off the headlights and remove the ignition key.*
- ◆ *When dealing with complaints, it is absolutely essential that the function and operation of the lighting system are first understood.*
- ◆ *Additional information:*

⇒ Current flow diagrams, Electrical fault finding and Fitting locations

⇒ Operating manual

⇒ Self-study programme No. 306 ; The Touran

⇒ Self-study programme No. 307 ; The Touran - Electrical system

#### **Fault detection and fault display:**

The onboard supply control unit has a self-diagnostic function, which makes fault finding on headlights easier.

For fault finding, use vehicle diagnosis, testing and information system in "Guided fault finding" mode.

### 2.2 Assembly overview - headlights with halogen bulbs, vehicles from 10/06



#### Note

*After any measures which could affect the setting of the headlight, check the headlight settings and adjust if necessary ⇒ Maintenance ; Booklet 18.1 .*



**1 - Cover cap for dipped beam bulb**



**Caution**

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

**2 - Cover cap for main beam bulb/side light bulb**



**Caution**

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

**3 - Securing bolt**

- ☐ On top of headlight
- ☐ 4 Nm

**4 - Left headlight main beam bulb - M30- or right headlight main beam bulb - M32-**

- ☐ Bulb H7 12 V, 55 W.
- ☐ Replacing ⇒ [page 181](#) .

**5 - Front left turn signal bulb - M5- or front right turn signal bulb - M7-**

- ☐ With bulb holder / grip
- ☐ Bulb 12 V, 21 W
- ☐ Replacing ⇒ [page 185](#) .

**6 - Left side light bulb - M1- or right side light bulb - M3-**

- ☐ Bulb 12 V, 5 W
- ☐ Replacing ⇒ [page 183](#) .

**7 - Securing screws**

- ☐ On inner or outer part of headlight
- ☐ 4 Nm

**8 - Adjustment bushes**

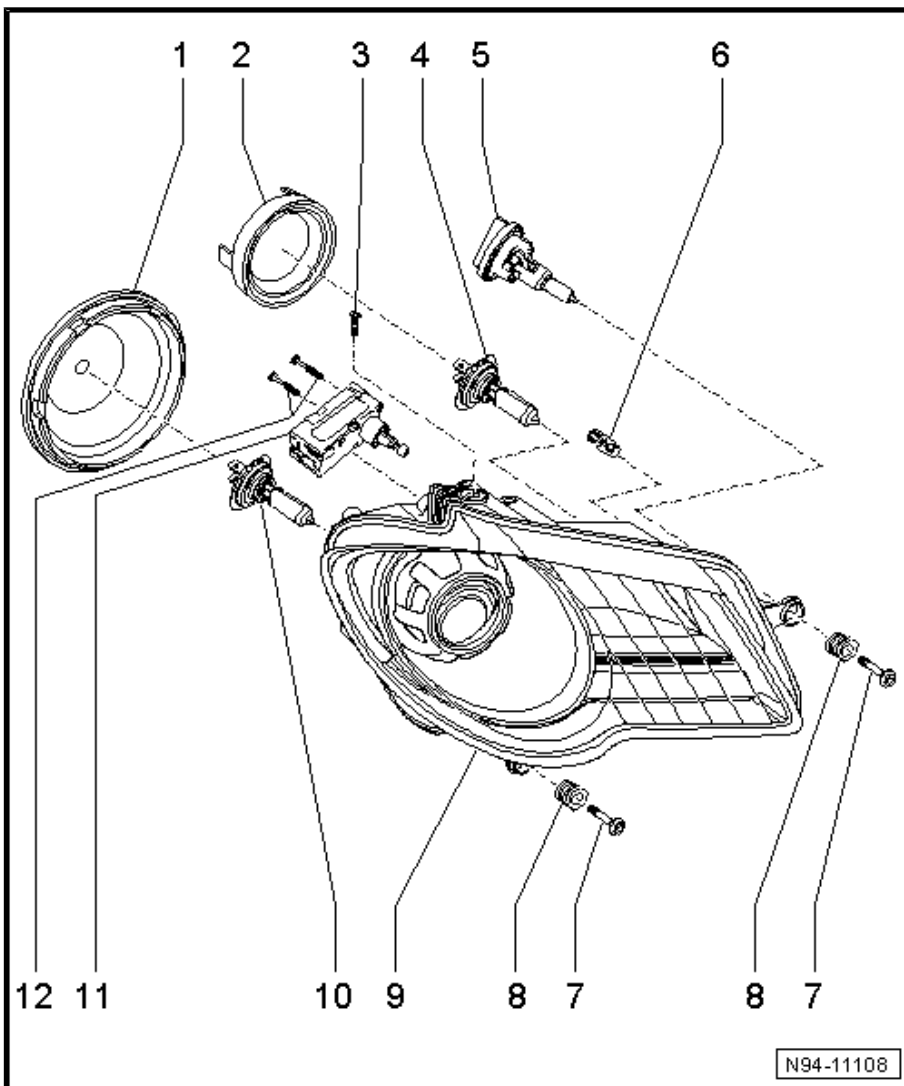
- ☐ Adjusting installation position of headlight ⇒ [page 179](#) .

**9 - Headlight**

- ☐ Removing and installing ⇒ [page 178](#) .
- ☐ Adjusting installation position of headlight ⇒ [page 179](#) .
- ☐ Repairing headlight retaining tabs ⇒ [page 188](#)
- ☐ Converting headlights to drive on the left or the right ⇒ [page 190](#) .
- ☐ Adjusting ⇒ Maintenance ; Booklet ; Descriptions of work .

**10 - Left headlight dipped beam bulb - M29- or right headlight dipped beam bulb - M31-**

- ☐ Bulb H7 12 V, 55 W.



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- ❑ Replacing ⇒ [page 180](#) .

#### 11 - Left headlight range control motor - V48- or right headlight range control motor - V49-

- ❑ Removing and installing ⇒ [page 186](#) .
- ❑ Checking right headlight range control motor ⇒ [page 187](#) .
- ❑ Checking left headlight range control motor ⇒ [page 188](#) .

#### 12 - Securing screws

- ❑ For left headlight range control motor - V48- or right headlight range control motor - V49-

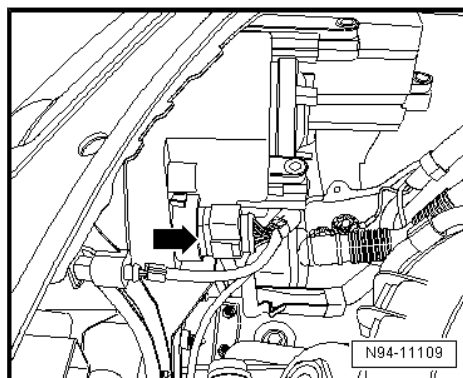
## 2.3 Removing and installing headlight

### Removing:



#### Note

- ◆ *There is no requirement to disconnect the battery earth strap.*
- ◆ *If a headlight is removed, it should always be adjusted following installation ⇒ Maintenance ; Booklet 18.1 .*
- Switch off ignition and all electrical consumers and remove ignition key.
- Remove front bumper cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper .
- Release and disconnect connector -arrow-.





- Remove the three securing bolts -arrows-.
- Remove headlight -1- forwards from aperture.

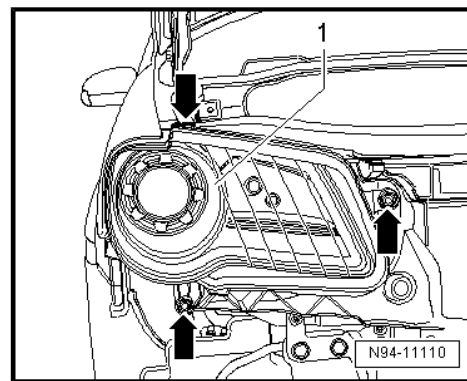
#### Installing:

Installation is carried out in the reverse order. When installing observe the following:

- Tighten all securing bolts to specified torque ⇒ [page 176](#) .
- Check headlight installation position is central, i.e. shut lines/gaps are equal around headlight.

If the shut lines/gaps around the headlight are uneven, the installation position must be adjusted ⇒ [page 179](#) .

- Check headlight functions.



#### Note

*If a headlight is removed, it should always be adjusted following installation.*

- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

## 2.4 Adjusting headlight installation position

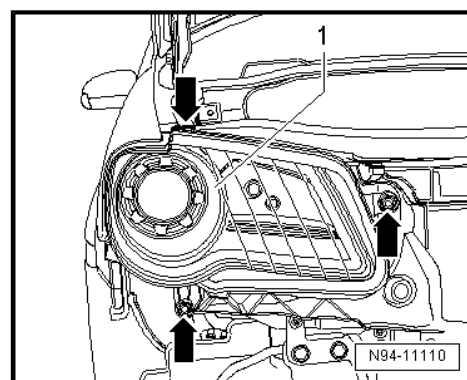


#### Note

*The illustrations show the adjustment of the installation position for the right headlight. The adjustment of the left headlight follows the same principle.*

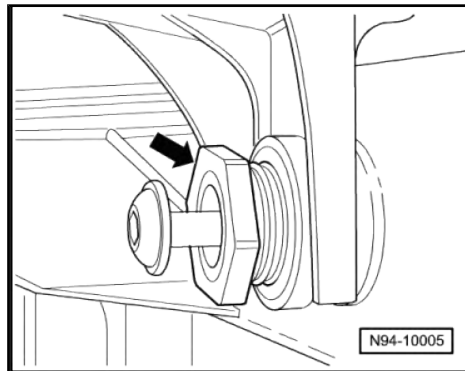
If it transpires during checking of the installation position that the shut lines/gaps between headlight and body are uneven, the installation position must be adjusted.

- Switch off ignition and all electrical consumers and remove ignition key.
- Remove front bumper cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper .
- Loosen the three securing bolts -arrows-.





- Adjust shut lines/gaps to body by pushing in or pulling out alignment bush -arrow-.
- Tighten all securing bolts to specified torque ⇒ [page 176](#) .
- Check that the shut line and gap around the installed headlight is even and adjust again if necessary.
- Install bumper cover in reverse order of removal.
- Check headlight functions.
- Vehicles with automatic headlight range control, carry out basic setting of headlight ⇒ Maintenance ; Booklet ; Descriptions of work .
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work



## 2.5 Renewing headlight bulbs

### 2.5.1 Renewing headlight dipped beam bulb

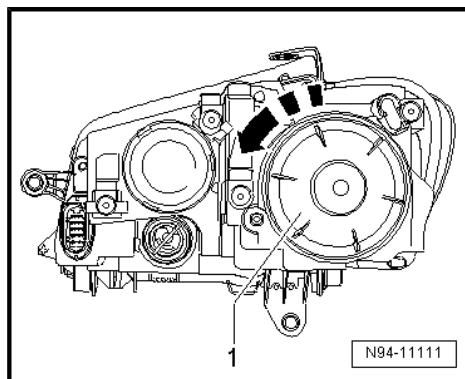


#### Note

- ◆ The diagrams show renewal of the headlight dipped beam bulb for the right headlight. Renewal for the left light is carried out in the same way.
- ◆ For reasons of clarity, the headlight is shown removed in the following illustrations.
- ◆ There is no requirement to remove the headlight to renew the headlight dipped beam bulb .

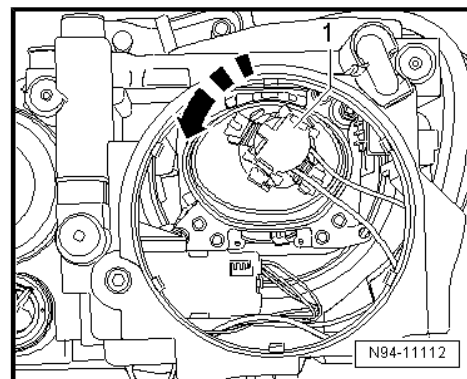
#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Turn cover cap -1- in direction of -arrow- and remove.





- Turn bulb holder with headlight dipped beam bulb -1- in direction of -arrow- and carefully remove from headlight taking connected wiring length into account.



- Pull headlight dipped beam bulb -1- in direction of -arrow- out of bulb holder -2-.

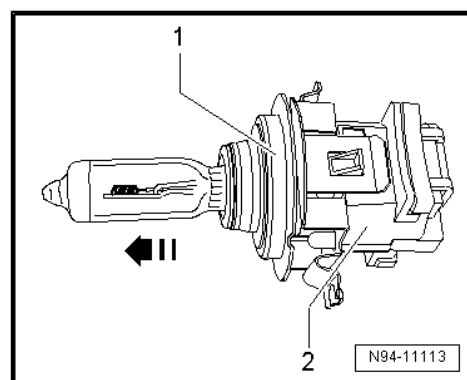
Headlight dipped beam bulb : H7 12 V, 55 W

Installing:



**Caution**

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*



**Note**

*Do not touch bulb glass when fitting bulbs. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*

Installation is carried out in the reverse order. When installing observe the following:

- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

## 2.5.2 Renewing headlight main beam bulb



**Note**

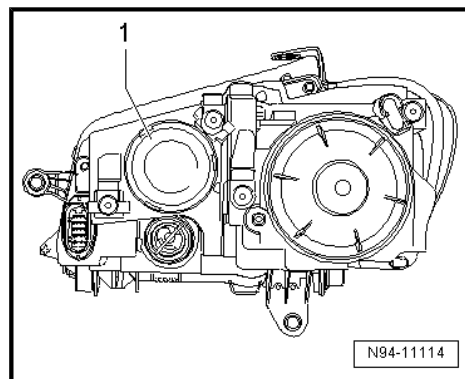
- ◆ *The diagrams show renewal of the headlight main beam bulb for the right headlight. Renewal for the left light is carried out in the same way.*
- ◆ *For reasons of clarity, the headlight is shown removed in the following illustrations.*
- ◆ *There is no requirement to remove the headlight to renew the headlight main beam bulb .*

Removing:

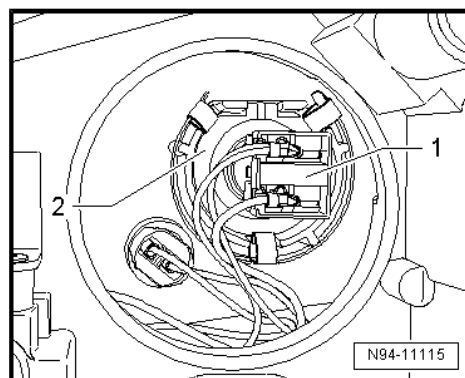
- Switch off ignition and all electrical consumers and remove ignition key.



- Pull off rubber cover cap -1- from rear of headlight.



- Grasp connector -1- and pull it carefully rearwards out of reflector together with headlight main beam bulb -2- while canting connector slightly.





- Pull main beam headlight bulb -2- out of connector -1-.

Headlight main beam bulb : H7 12 V, 55 W

#### Installing:



#### Note

*Do not touch bulb glass when fitting bulbs. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*

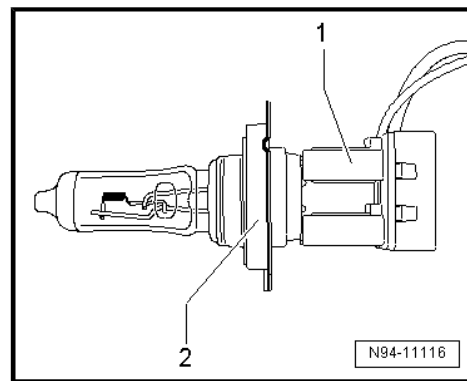
Installation is carried out in the reverse order. When installing observe the following:

- Connect connector to headlight main beam bulb .
- Insert headlight main beam bulb with “lug” facing upwards into reflector and lock in position.



#### Note

*While inserting headlight main beam bulb , ensure that it is securely locked by all three retaining clips.*



#### Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

- Install rubber cover cap again.
- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

## 2.5.3 Renewing side light bulb



#### Note

- ◆ *The illustrations show renewal of the side light bulb for the right light. Renewal for the left light is carried out in the same way.*
- ◆ *For reasons of clarity, the headlight is shown removed in the following illustrations.*
- ◆ *There is no requirement to remove the light to renew the side light bulb .*

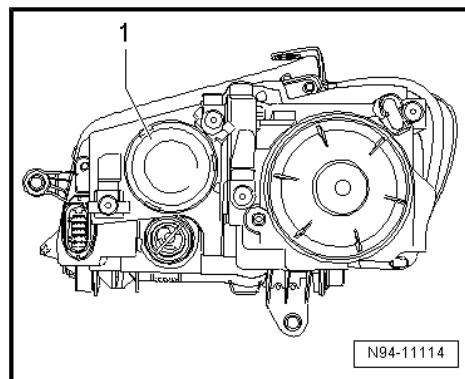
#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.

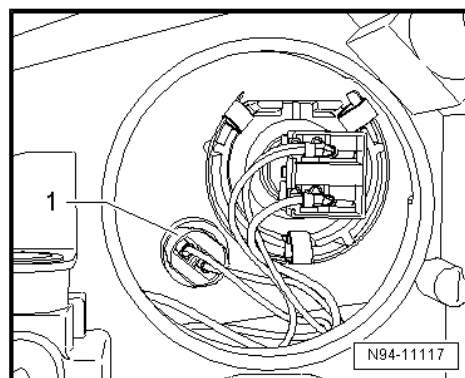




- Pull off rubber cover cap -1- from rear of headlight.



- Pull bulb holder together with side light bulb -1- out of reflector.



- Pull side light bulb -1- in direction of -arrow- out of bulb holder -2-.

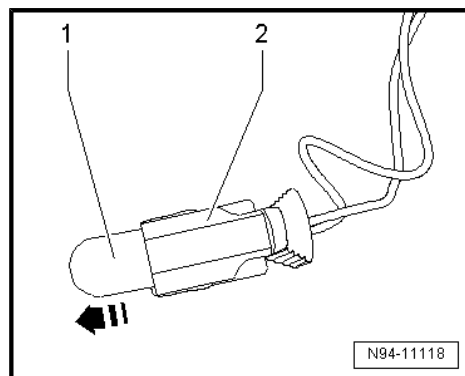
Side light bulb : 12 V, 5 W

Installing:



**Caution**

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*



**Note**

*Do not touch bulb glass when fitting bulbs. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*

Installation is carried out in the reverse order. When installing observe the following:

- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work



## 2.5.4 Renewing front turn signal bulb

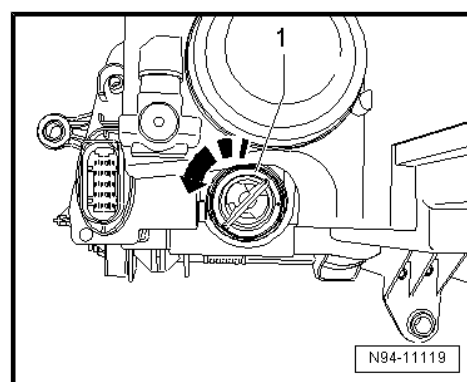


### Note

- ◆ *The illustrations show the renewal of the front turn signal bulb for the right light. Renewal for the left light is carried out in the same way.*
- ◆ *For reasons of clarity, the headlight is shown removed in the following illustrations.*
- ◆ *There is no requirement to remove the light to replace the front turn signal bulb.*

### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Turn bulb holder together with front turn signal bulb -1- in direction of -arrow- and remove to rear out of headlight.



- First push front turn signal bulb into bulb holder -1- -arrow A-, then turn front turn signal bulb anti-clockwise -arrow B- and pull front turn signal bulb out of bulb holder -arrow C-.

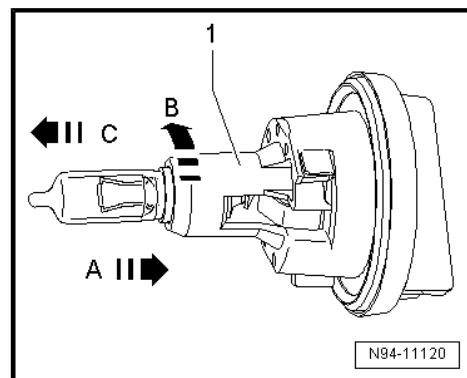
Front turn signal bulb : 12 V, 21 W

### Installing:



### Note

*Do not touch bulb glass when fitting bulbs. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*



Installation is carried out in the reverse order. When installing observe the following:



### Note

*For easier fitting in headlight housing, hold grip of bulb holder vertically and then lock by turning to right.*

- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work



## 2.6 Headlight range control motor

### 2.6.1 Removing and installing headlight range control motor



#### Note

- ◆ If control motors are removed and reinstalled or renewed, the headlight adjustment must be checked and adjusted as necessary ⇒ Maintenance ; Booklet 18.1 .
- ◆ The illustrations show the renewal of the headlight range control motor on the right headlight. Renewal for the left light is carried out in the same way.

#### Removing:

- Remove headlight ⇒ [page 162](#) .
- Turn cover cap in -direction of arrow- and remove.



#### Note

To gain access to the second securing bolt of the headlight range control motor, break open the assembly opening at the predetermined breaking point on the back of the headlight housing. This assembly opening must be sealed again on completion of repairs with separately available plug ⇒ Electronic parts catalogue (ETKA) .

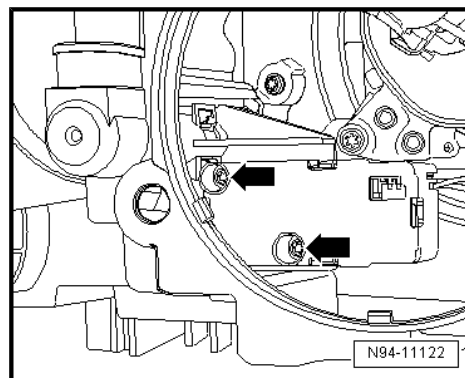
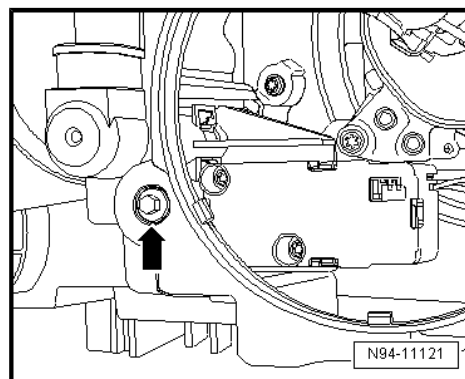
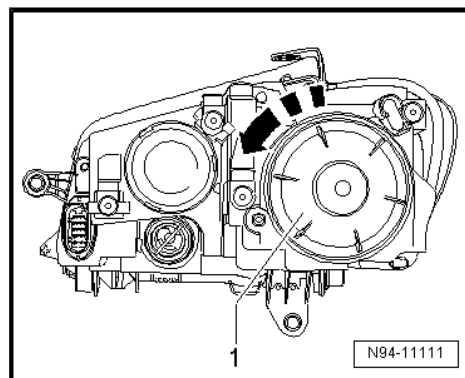
- Insert 5 mm socket on plastic hexagon -arrow- on back of headlight housing.
- Press and turn plastic hexagon to break open assembly opening.



#### Note

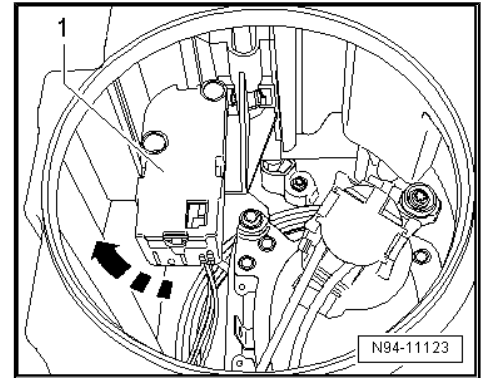
The broken open sealing piece must not remain in the headlight. Remove it from the headlight housing if necessary.

- Remove both securing bolts arrows for -headlight range control motor-.





- Slightly swing headlight range control motor -1- in direction of -arrow- to disengage ball head from its mounting on reflector.
- Lift headlight range control motor out of installation position as far as connected wiring allows.



- Disconnect connector -1- and take headlight range control motor -2- out of headlight housing.

#### Installing:

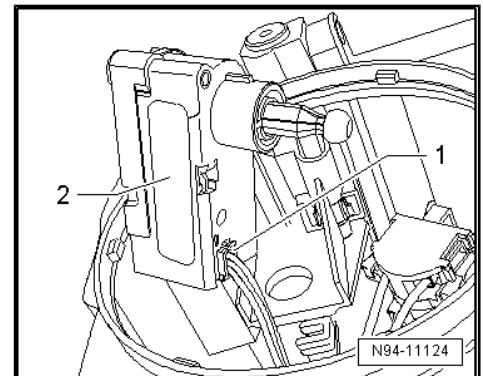


#### Note

*The headlight range control motor connector must be fitted prior to installation.*

Installation is carried out in the reverse order. When installing observe the following:

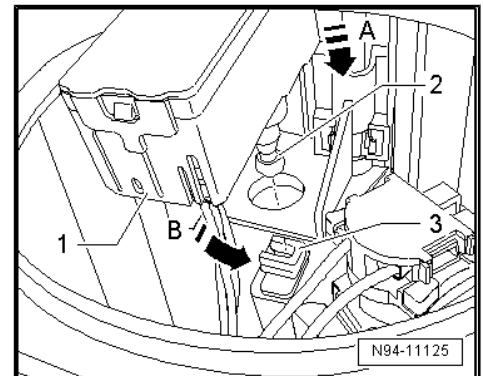
- Fit connector on headlight range control motor .
- First set headlight range control motor -1- downwards -arrow A- in installation position in headlight.
- Slightly lift dipped beam reflector in headlight and swing ball head -2- in direction of -arrow B- so that it can be slid into ball head mounting -3-.



#### Note

*Before tightening headlight range control motor , check whether ball head -2- is correctly inserted into ball head mounting -3-.*

- Screw both securing bolts for headlight range control motor .
- Seal broken open spot on headlight with provided plug.



#### Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

- Install cover cap again.
- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

## 2.6.2 Checking right headlight range control motor - V49-

- Check right headlight range control motor - V49- ⇒ Vehicle diagnostic tester.



### 2.6.3 Checking left headlight range control motor - V48-

- Check left headlight range control motor - V48- ➔ Vehicle diagnostic tester.

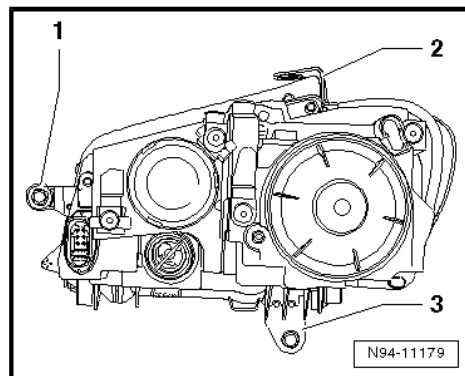
## 2.7 Repairing headlight retaining tabs

If the upper headlight retaining tab -2-, the inner headlight retaining tab -1- or the lower headlight retaining tab -3- is damaged or has broken off, it can be repaired by installing a repair kit. There is no need to renew the entire headlight.



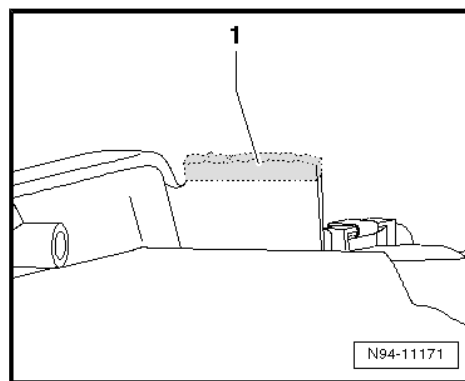
#### Note

- ♦ Check that there is no further damage to the headlight that would make installation of the repair kit unnecessary.
- ♦ Two different repair kits are available for the left and right headlights ➔ ETKA (electronic parts catalogue).
- Repairing upper retaining tab ➔ [page 188](#).
- Repairing outer retaining tab ➔ [page 188](#).
- Repairing lower retaining tab ➔ [page 189](#).



### 2.7.1 Repairing upper retaining tab

- Switch off ignition and all electrical consumers and remove ignition key.
- Remove headlight ➔ [page 178](#).
- Remove area -1- of existing headlight retaining tab from headlight.



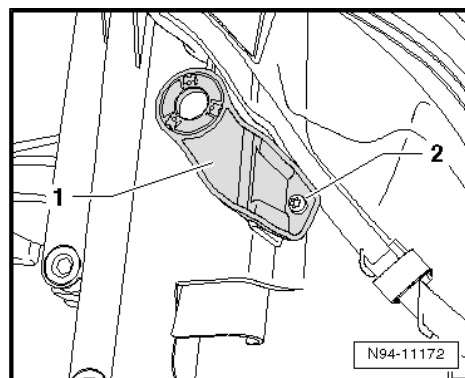
- Fit new retaining tab -1- on base of headlight housing and tighten securing bolt -2-.



#### Note

The speed nut is already pre-assembled on the new retaining tab -1-.

- Install headlight ➔ [page 178](#).
- Check headlight settings and adjust if necessary ➔ Maintenance ; Booklet ; Descriptions of work .

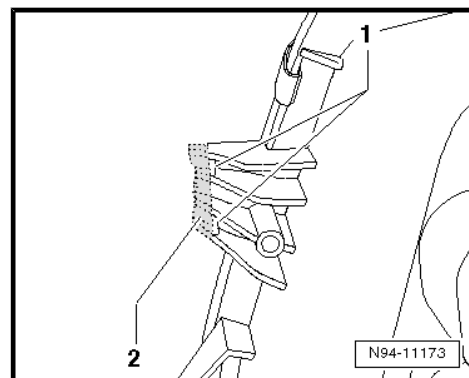


### 2.7.2 Repairing inner retaining tab

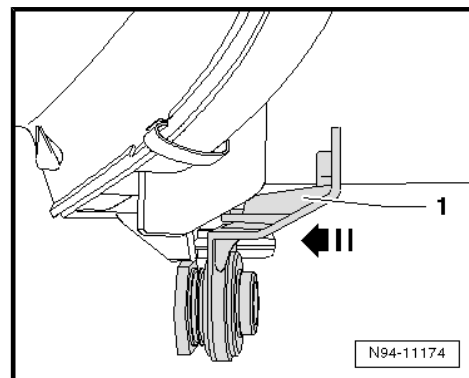
- Switch off ignition and all electrical consumers and remove ignition key.



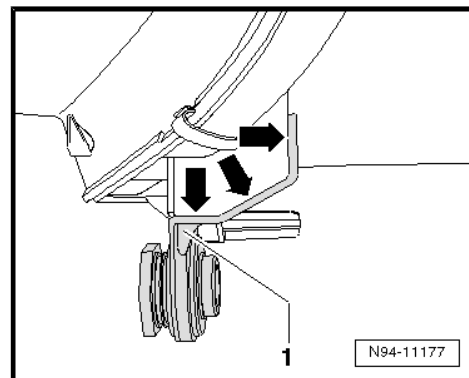
- Remove headlight ⇒ [page 178](#) .
- Remove area -2- of existing headlight retaining tab until webs -1- are flush with edge of headlight housing.



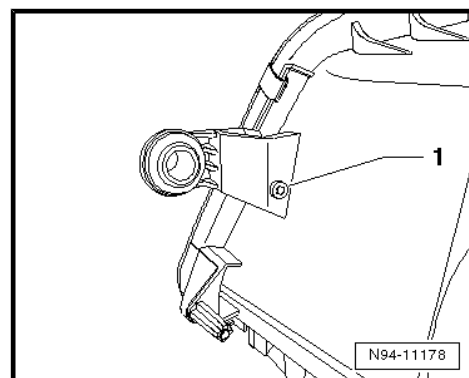
- Form-fit new retaining tab -1- in direction of arrow on base of headlight housing.



- Ensure that new retaining tab is flush on headlight housing -arrows-.



- Secure new retaining tab with screw -1-.
- Install headlight ⇒ [page 178](#) .
- Check headlight settings and adjust if necessary ⇒ Maintenance ; Booklet ; Descriptions of work .

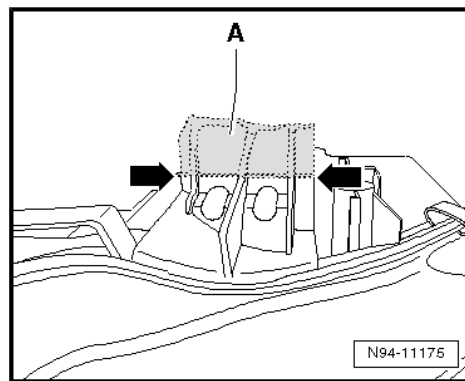


### 2.7.3 Repairing lower retaining tab

- Switch off ignition and all electrical consumers and remove ignition key.
- Remove headlight ⇒ [page 178](#) .



- Remove existing headlight retaining tab -A- up to mark -arrows- from headlight.



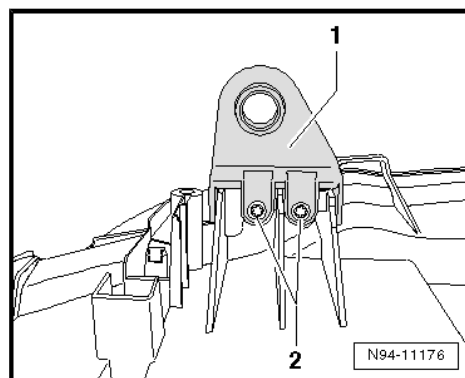
- Form-fit new retaining tab -1- on base of retaining tab at headlight and tighten securing bolts -2-.



#### Note

*The adjustment bush is already pre-assembled on the new retaining tab.*

- Install headlight ➔ [page 178](#) .
- Check headlight settings and adjust if necessary ➔ Maintenance ; Booklet ; Descriptions of work .



## 2.8 Converting headlights for use when driving on the left or right



#### Note

- ◆ *To avoid dazzling oncoming traffic with the asymmetrical lights, both headlights should be converted relevant to the country (driving on the left or right) in which the vehicle is being driven.*
- ◆ *Conversion of the headlights is not designed as a permanent conversion for other countries. It is only suitable as a "tourist solution" for a short stay abroad.*
- ◆ *Both headlights of a vehicle must always be converted.*
- ◆ *The details "right" and "left" always refer to forwards when viewing from inside the vehicle.*
- ◆ *The procedure for converting the headlights is the same for both sides and is described as follows using the right headlight as an example.*

### 2.8.1 Converting headlights designed for driving on the right to driving on the left



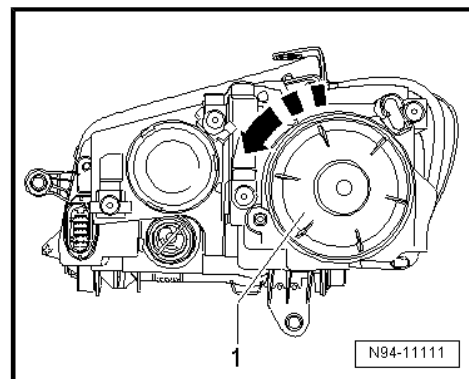
#### Note

*The conversion of the headlights is operated using a small actuator lever below the retainer for the headlight dipped beam bulb . There is no requirement to remove the headlight to convert from driving on the left or right.*

- Switch off ignition and all electrical consumers and remove ignition key.



- Turn cover cap in -direction of arrow- and remove.



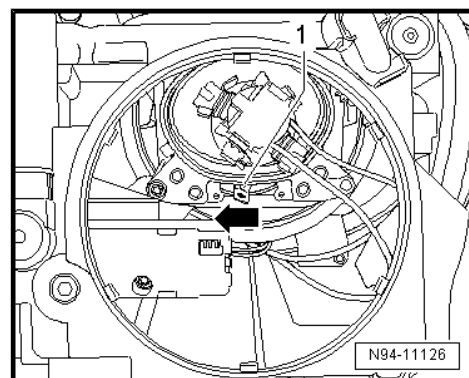
- Swivel actuator lever -1- to left in direction of -arrow-.



#### Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

- Install cover cap again.



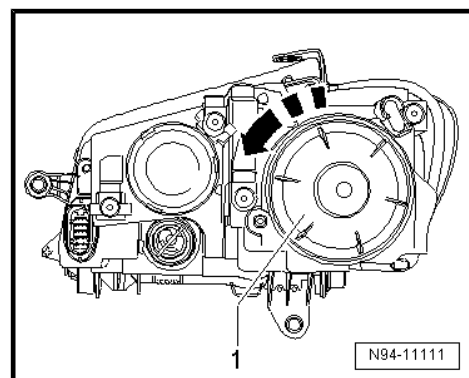
## 2.8.2 Converting headlights designed for driving on the left to driving on the right



#### Note

*The conversion of the headlights is operated using a small actuator lever below the retainer for the headlight dipped beam bulb. There is no requirement to remove the headlight to convert from driving on the left or right.*

- Switch off ignition and all electrical consumers and remove ignition key.
- Turn cover cap in -direction of arrow- and remove.







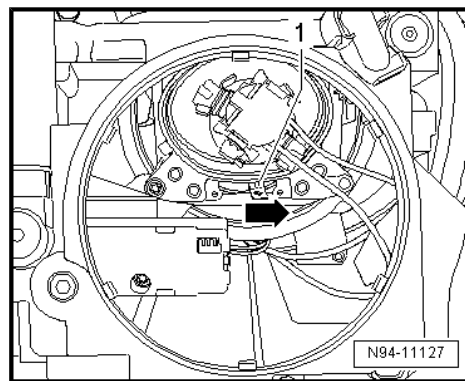
- Swivel actuator lever -1- to right in direction of -arrow-.



#### Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

- Install cover cap again.



## 2.8.3 Adjusting headlights

Adjusting headlights ⇒ Maintenance ; Booklet ; Descriptions of work



## 3 Headlights with gas discharge bulbs

### 3.1 General description



#### Note

- ◆ *Before working on gas discharge headlights, always switch off the headlights and remove the ignition key.*
- ◆ *The automatic headlight range control on headlights with gas discharge bulbs is equipped with self-diagnosis.*
- ◆ *When dealing with complaints, it is absolutely essential that the function and operation of the lighting system are first understood.*
- ◆ *Additional information:*

⇒ Current flow diagrams, Electrical fault finding and Fitting locations

⇒ Operating manual

⇒ Self-study programme No. 306 ; The Touran

⇒ Self-study programme No. 307 ; The Touran - Electrical system

#### Fault detection and fault display:

The automatic headlight range control (HRC) and onboard supply control unit have a self-diagnosis function, which makes fault finding on the headlights using gas discharge bulbs easier.

For fault finding, use vehicle diagnosis, testing and information system in "Guided fault finding" mode.

### 3.2 Assembly overview - gas discharge headlights



#### Note

*After any measures which could affect the headlight setting, the headlights must be checked and if necessary adjusted ⇒ Maintenance ; Booklet ; Descriptions of work .*



**1 - Front left turn signal bulb - M5- or front right turn signal bulb - M7-**

- ☐ Bulb 12 V, PY 21 W.
- ☐ Replacing ⇒ [page 168](#) .

**2 - Bulb holder with grip element**

- ☐ For front left turn signal bulb - M5- or front right turn signal bulb - M7- .

**3 - Cover cap**

**4 - Securing screws**

- ☐ For left headlight range control motor - V48- or right headlight range control motor - V49-

**5 - Cover cap**

**6 - Starter unit for gas discharge bulbs - N195-**

**7 - Bulb retainer**

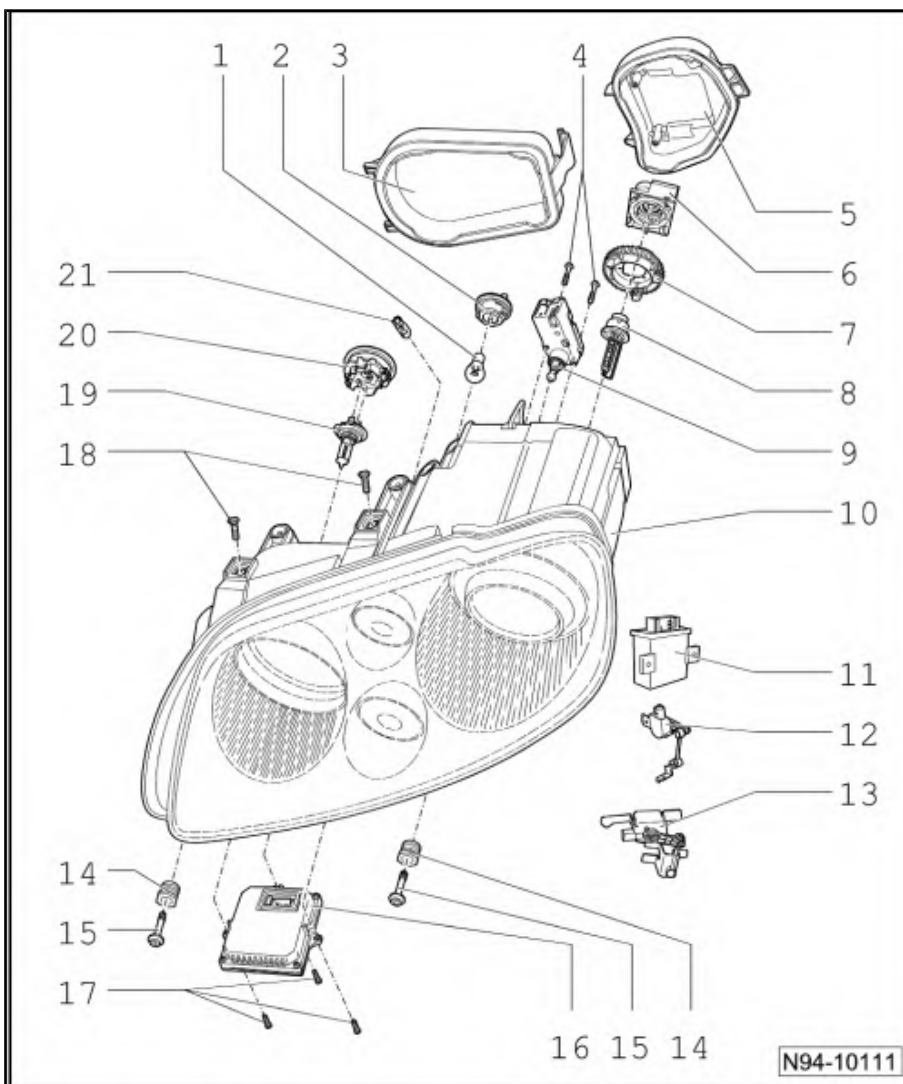
- ☐ For left gas discharge bulb - L13- or right gas discharge bulb - L14-

**8 - Left gas discharge bulb - L13- or right gas discharge bulb - L14-**

- ☐ Type D2S, 35 W
- ☐ Replacing ⇒ [page 195](#) .

**9 - Left headlight range control motor - V48- or right headlight range control motor - V49-**

- ☐ Removing and installing ⇒ [page 197](#) .



Volkswagen Technical Site: <http://vwts.ru> <http://vwts.info>

**10 - Headlight**

- ☐ Removing and installing ⇒ [page 162](#) .
- ☐ Adjusting installation position of headlight ⇒ [page 163](#) .
- ☐ Repairing headlight retaining tabs ⇒ [page 171](#)
- ☐ Converting headlights to drive on the left or the right ⇒ [page 203](#) .

**11 - Headlight range control unit - J431-**

- ☐ Removing and installing ⇒ [page 200](#) .
- ☐ Coding ⇒ [page 200](#)

**12 - Front left vehicle level sender - G78-**

- ☐ Removing and installing ⇒ [page 201](#) .
- ☐ Checking ⇒ [page 202](#)

**13 - Rear left vehicle level sender - G76-**

- ☐ Removing and installing ⇒ [page 202](#) .
- ☐ Checking ⇒ [page 202](#)

**14 - Adjustment bushes**

- ☐ Adjusting installation position of headlight ⇒ [page 163](#) .

**15 - Securing screws**

- ☐ 4 Nm



- ☐ On base of headlight

**16 - Control unit for left gas discharge bulb - J343- or control unit for right gas discharge bulb - J344-**

- ☐ Not capable of self-diagnosis
- ☐ Removing and installing ⇒ [page 199](#) .

**17 - Securing screws**

- ☐ For left gas discharge bulb control unit - J343- or right gas discharge bulb control unit - J344-

**18 - Securing screws**

- ☐ 4 Nm
- ☐ On top of headlight

**19 - Left headlight main beam bulb - M30- or right headlight main beam bulb - M32-**

- ☐ Bulb H7U 12 V, 55 W
- ☐ Replacing ⇒ [page 166](#) .

**20 - Bulb holder with grip element**

- ☐ For left main beam bulb - M30- or right main beam bulb - M32-

**21 - Left side light bulb - M1- or right side light bulb - M3-**

- ☐ Bulb 12 V, W 5 W Xenon blue.
- ☐ Replacing ⇒ [page 167](#) .

### 3.3 Removing and installing headlight

Removing and installing headlights ⇒ [page 162](#) .

### 3.4 Adjusting headlight installation position

Adjusting headlight installation position ⇒ [page 163](#)

### 3.5 Renewing headlight bulbs

#### 3.5.1 Renewing gas discharge bulb

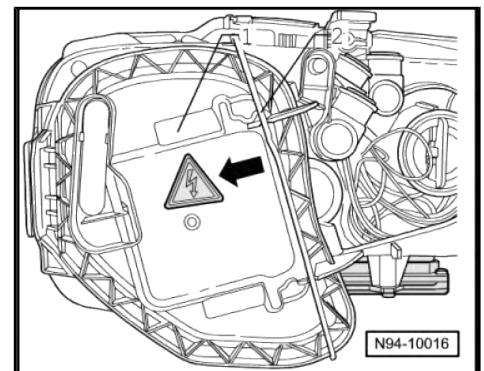


**Note**

*The diagrams show renewal of a gas discharge bulb for the left headlight. Renewal for the right headlight is similar.*

**Removing:**

- Remove headlight ⇒ [page 162](#) .
- Push bulb retaining spring -2- in direction of -arrow-.
- Remove cover cap -1- in -direction of arrow- out of side recesses in headlight.





- Pull off connector -1-.



#### Note

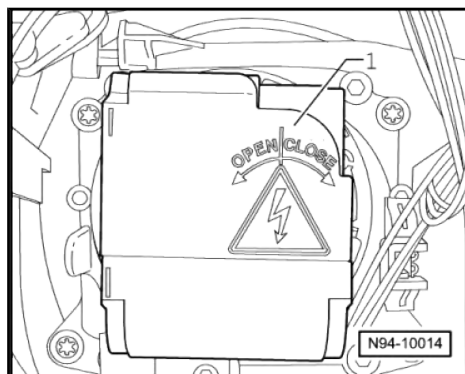
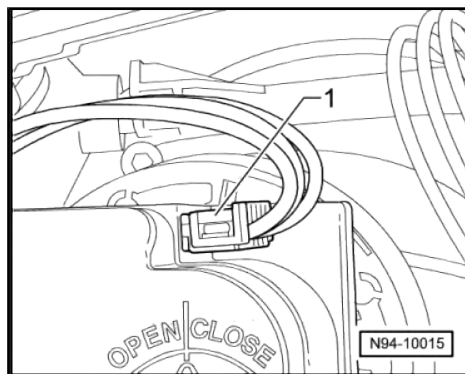
*The connector is ejected automatically when the gas discharge bulb starter unit - N195- is removed.*

- Turn gas discharge bulb starter unit - N195- -1- in direction of starter unit lettering “OPEN” and pull gas discharge bulb starter unit - N195- off headlight.

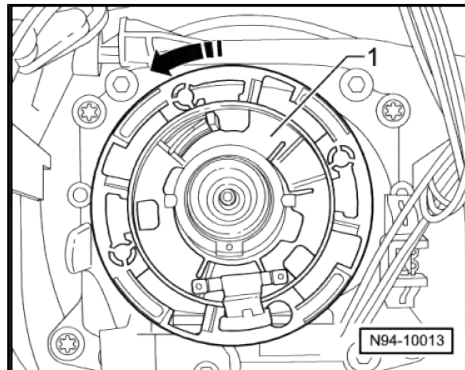


#### WARNING

- ◆ *Pressure in the glass envelope of a gas discharge bulb can range from between 7 bar (cold) and 100 bar (hot). Temperatures can reach up to 700 degrees Celsius on the glass bulb.*
- ◆ *Should the glass bulb explode, there is a risk of injury from burning.*
- ◆ *Always wear eye protection and gloves when removing and installing gas discharge bulbs!*



- Turn bulb retainer -1- in direction of -arrow- and remove bulb retainer.





- Carefully pull gas discharge bulb -1- out of mounting.

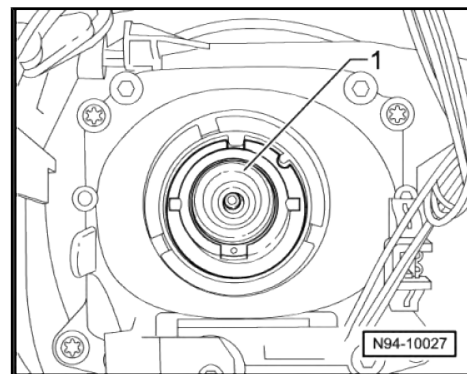
Installing:



#### WARNING

*Ensure glass bulb of gas discharge bulb is not stressed mechanically. The glass bulb is extremely sensitive and is also under a high internal pressure.*

*Avoid looking directly into the collimated beam as the UV radiation from the gas discharge bulb is about 2.5 times higher than from normal halogen bulbs.*



#### Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*



#### Note

- ◆ *Do not touch glass bulb when fitting gas discharge bulb. Fingers leave traces of grease on the glass bulb, which evaporate when the gas discharge bulb is switched on and cause the glass bulb to cloud over.*
- ◆ *If a headlight with automatic range control is removed, the basic setting of the headlight should always be checked when reinstalling → Maintenance ; Booklet 18.1.*

Installation is carried out in the reverse order. When installing observe the following:

- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
→ Maintenance ; Booklet ; Descriptions of work

### 3.5.2 Renewing headlight main beam bulb

Renewing main beam headlight bulb → [page 166](#).

### 3.5.3 Renewing side light bulb

Renewing side light bulb → [page 167](#).

### 3.5.4 Renewing front turn signal bulb

Renewing front turn signal bulb → [page 168](#).

## 3.6 Removing and installing headlight range control motor

Removing:

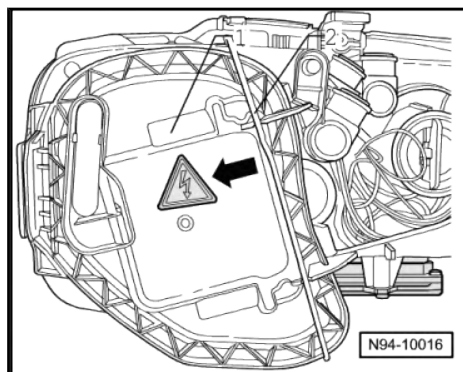


#### Note

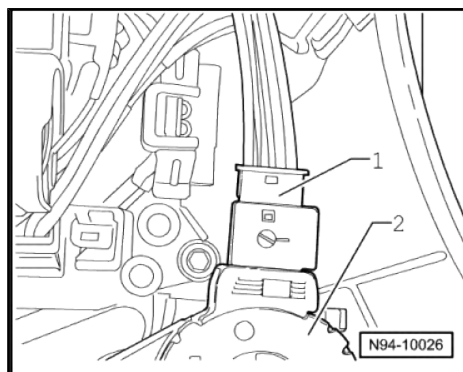
*If control motors are removed and reinstalled or renewed on headlights with automatic range control, a headlight basic setting must be carried out → Maintenance ; Booklet 18.1.*



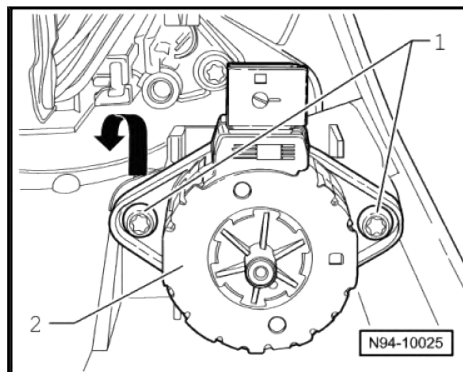
- Remove headlight ⇒ [page 162](#) .
- Push bulb retaining spring -2- in direction of -arrow-.
- Remove cover cap -1- in direction of arrow out of side recesses in headlight.



- Pull connector -1- off headlight range control motor -2-.



- Unscrew retaining screws -1- from headlight range control motor -2-.
- Push headlight range control motor -2- in -direction of arrow- so that ball head of headlight range control motor can be pulled downwards out of ball head cup on reflector.
- Take headlight range control motor out of headlight housing.



**Installing:**



**Caution**

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*



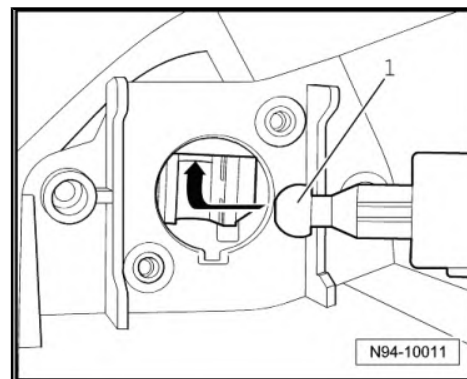
**Note**

*If control motors are removed and installed or renewed on headlights with automatic range control, a headlight basic setting must be carried out ⇒ Maintenance ; Booklet 18.1 .*

Installation is carried out in the reverse order. When installing observe the following:



- Carefully place ball head of control motor -1- in ball head guide -arrow-.
- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work



### 3.7 Removing and installing gas discharge bulb control unit



#### Note

*The left gas discharge bulb control unit - J343- or right gas discharge bulb control unit - J344- is not capable of self-diagnosis.*

#### Removing:

- Remove headlight ⇒ [page 162](#) .
- Unscrew securing bolts -arrows- of gas discharge bulb control unit -1-.



#### Note

*It is not necessary to pull off any connectors in order to remove the gas discharge bulb control unit . The connector is fixed on the headlight and is automatically separated when the gas discharge control unit is removed.*

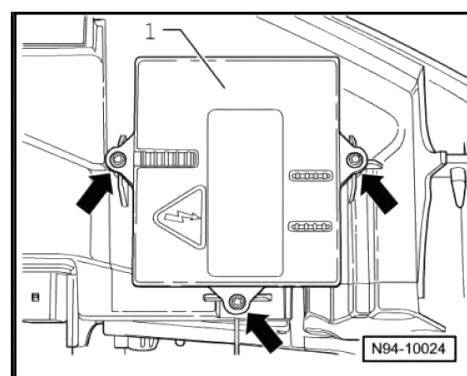
- Remove gas discharge control unit -1- from headlight.

#### Installing:



#### Caution

***Ensure that the seal is seated correctly when installing the gas discharge bulb control unit . The ingress of water will lead to permanent damage to the headlight.***



Installation is carried out in the reverse order. When installing observe the following:

- Check headlight functions.
- Carry out headlight basic setting ⇒ Maintenance ; Booklet 18.1 .





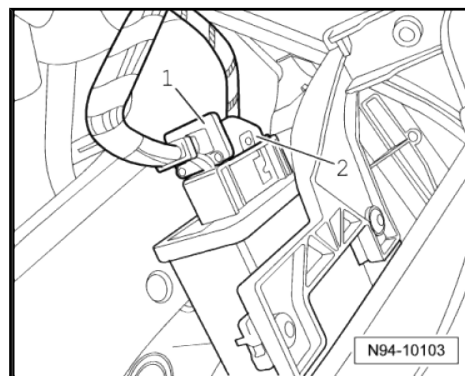
## 3.8 Headlight range control unit - J431-

### 3.8.1 Removing and installing headlight range control unit - J431-

The headlight range control unit - J431- is located under the dash panel on the centre console on the driver side.

#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Remove storage compartment on driver side ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments, covers and trim; Removing and installing storage compartment on driver side .
- Release retaining clip -1- and pull connector -2- off headlight range control unit - J431- .



- Unscrew securing screws -arrows- and remove headlight range control unit - J431- from bracket.

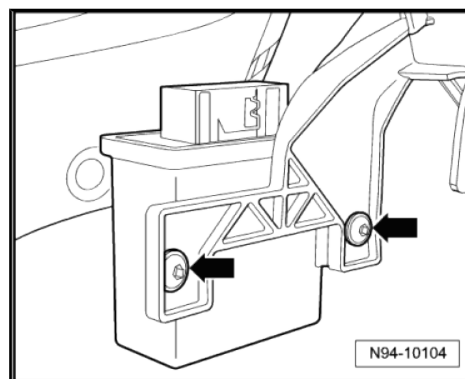
#### Installing:

Installation is carried out in the reverse order. When installing observe the following:



#### Note

After installing a new control unit for headlight range control - J431- , the control unit must be coded ⇒ [page 200](#) .



### 3.8.2 Coding headlight range control unit - J431-

- Coding control unit for headlight range control - J431- ⇒ Vehicle diagnostic tester.



#### Note

If headlight range control unit - J431- has been coded, basic setting of the headlights must be carried out ⇒ Maintenance ; Booklet 18.1 afterwards.

## 3.9 Vehicle level sender

There is a vehicle level sender located on the front axle ( front left vehicle level sender - G78- ) and on the rear axle ( rear left vehicle level sender - G76- ).



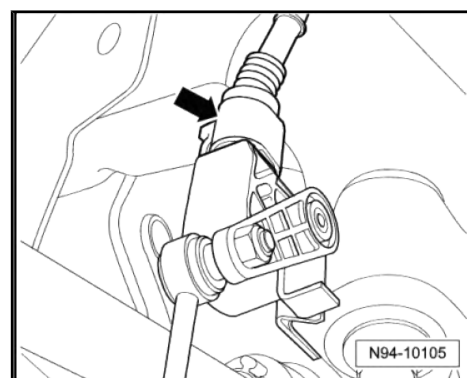
#### Note

- ◆ If the vehicle level sensors are replaced, check the values from the sensors ⇒ [page 202](#) and carry out basic setting on headlights ⇒ Maintenance ; Booklet 18.1 .
- ◆ If the values from the vehicle level sensors are outside the specified tolerance, basic headlight setting cannot be carried out.

### 3.9.1 Removing and installing front left vehicle level sender - G78-

#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Disconnect connector -arrow-.

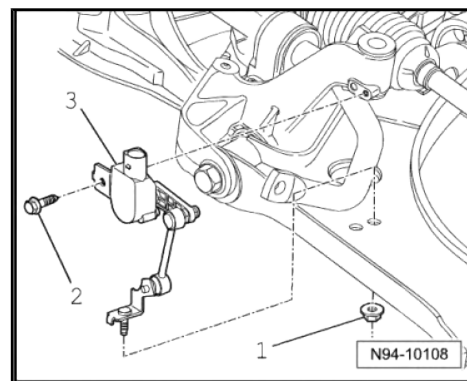


- Remove securing nut -1-.
- Unscrew securing bolt -2- and remove front left vehicle level sender - G78- -3-.

#### Installing:

Install in the reverse order of removal. When doing this, note the following:

- Tighten threaded connections to specified torques ⇒ [page 274](#) .
- Check front left vehicle level sender - G78- ⇒ [page 202](#) .
- Carry out headlight basic setting ⇒ Maintenance ; Booklet 18.1 .



#### Note

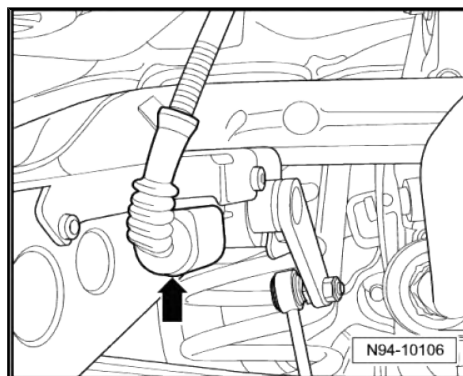
- ◆ If the vehicle level sensors are replaced, check the sensor values ⇒ [page 202](#) and carry out basic setting on headlights ⇒ Maintenance ; Booklet 18.1 .
- ◆ If the values from the vehicle level senders are outside the specified tolerance, basic headlight setting cannot be carried out.



### 3.9.2 Removing and installing rear left vehicle level sender - G76- :

#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Disconnect connector -arrow-.

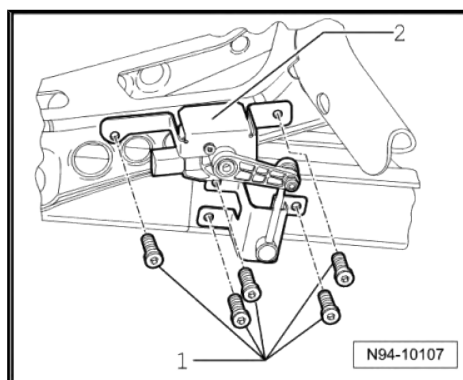


- Unscrew the five securing bolts -1- and remove Rear left vehicle level sender - G76- -2-.

#### Installing:

Install in the reverse order of removal. When doing this, note the following:

- Tighten threaded connections to specified torques  
⇒ [page 274](#) .
- Check rear left vehicle level sender - G76- ⇒ [page 202](#) .
- Carry out headlight basic setting ⇒ Maintenance ; Booklet 18.1 .



#### Note

- ♦ If the vehicle level sensors are replaced, check the sensor values ⇒ [page 202](#) and carry out basic setting on headlights ⇒ Maintenance ; Booklet 18.1 .
- ♦ If the values from the vehicle level senders are outside the specified tolerance, basic headlight setting cannot be carried out.

### 3.9.3 Checking vehicle level sender

The vehicle level senders transmit the longitudinal inclination angle of the vehicle by way of signals to the control unit for cornering light and headlight range control - J431- .

A check is made as to whether the rear left vehicle level sender - G76- and front left vehicle level sender - G78- supply the control unit for headlight range control - J431- with plausible signals.

No event entry is stored in the control unit for cornering light and headlight range control - J431- in the following instances:

- ♦ Vehicle level senders installed are not of type specified in this workshop manual
- ♦ Vehicle level senders have mechanical fault
- ♦ Vehicle suspension has been modified (e.g. lowered).



**i** Note

*If the values from the vehicle level sensors are outside the specified tolerance, basic headlight setting cannot be carried out.*

- Check vehicle level sender ⇒ Vehicle diagnostic tester.

### 3.10 Repairing headlight retaining tabs

Repairing headlight securing tabs ⇒ [page 171](#)

### 3.11 Converting headlights for use when driving on the left or right

To avoid dazzling oncoming traffic with the asymmetrical lights, both headlights should be converted (driving on the left or right) for the country in which the vehicle is being driven.

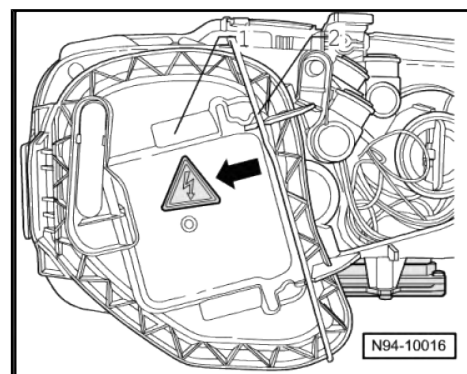
**i** Note

- ◆ *Before working on gas discharge headlights, always switch off the headlights and remove the ignition key.*
- ◆ *The procedure for converting the headlights is the same for both sides and is described therefore for just one headlight.*
- Turn light switch to position “0”.
- Switch off ignition and remove ignition key.
- Push retaining spring -2- to side in direction of arrow.
- Remove cover cap -1- in -direction of arrow- out of side recesses in headlight.



#### WARNING

- ◆ *Pressure in the glass envelope of a gas discharge bulb can range from between 7 bar (cold) and 100 bar (hot). Temperatures can reach up to 700 degrees Celsius on the glass bulb.*
- ◆ *Should the glass bulb explode, there is a risk of injury from burning.*
- ◆ *Always wear eye protection and gloves when removing and installing gas discharge bulbs!*





- Push control lever -1- in position - A- or -B-.



#### Note

*On actuation, the control lever jumps back to position -0- under spring pressure.*

Left headlight:

- Control lever -1- up = driving on left -A-
- Control lever -1- down = driving on right -B-

Right headlight:

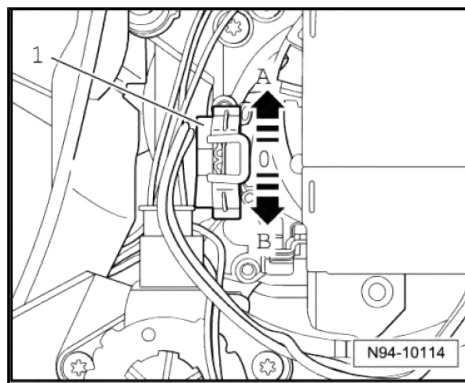
- Control lever -1- down = driving on left -B-
- Control lever -1- up = driving on right -A-

Install in the reverse order of removal. When doing this, note the following:



#### Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*



- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

### 3.12 Adjusting headlights

Adjusting headlights with gas discharge bulbs ⇒ Maintenance ; Booklet ; Descriptions of work .



## 4 Headlights with gas discharge bulbs and cornering lights

### 4.1 General description



#### Note

- ◆ *Before working on headlights, always switch off the headlights and remove the ignition key.*
- ◆ *The automatic headlight range control and cornering lights on headlights with gas discharge bulbs is equipped with self-diagnosis.*
- ◆ *When dealing with complaints, it is absolutely essential that the function and operation of the lighting system are first understood.*
- ◆ *Additional information:*

⇒ Current flow diagrams, Electrical fault finding and Fitting locations

⇒ Operating manual

⇒ Self-study programme No. 306 ; The Touran

⇒ Self-study programme No. 307 ; The Touran - Electrical system

#### General description:

The headlights with gas discharge bulbs and cornering lights (AFS = Adaptive Front Lighting System) have a “bi-xenon” function.

With conventional “xenon” headlights, the gas discharge bulbs only generate the dipped beam. The “bi-xenon” features makes it possible to generate both the dipped beam and the main beam with “one” gas discharge bulb. To achieve this, an electromechanical adjuster ( left dip beam screen motor - V294- or right dip beam screen motor - V295- ) uncovers the screened area of the dipped beam on actuation of the main beam function, thus producing main beam light distribution.

This means that with “bi-xenon” headlights the main beam is always automatically adjusted together with the dipped beam.

The headlights with gas discharge bulbs and cornering lights do not have an “additional main beam”.

The cornering light has the following features:

- ◆ Swivelling main and dipped beams (dynamic cornering lights): at vehicle speeds in excess of 10 km/h and steering turned.
- ◆ Cornering light bulb (static cornering light): when turning into tight bends (bend radius < 500 m) or when turning a corner at vehicle speeds of less than 50 km/h

#### Fault detection and fault display:

The automatic headlight range control, the cornering lights and onboard supply control systems feature self-diagnosis to facilitate fault finding for headlights with gas discharge bulbs.

To localise faults, refer to chapter entitled “Vehicle diagnosis, testing and information system” and use “Guided fault finding” function.



## Note

The "bulb failure" warning lamp lights-up in the dash panel when the headlight range control or the AFS (adaptive front lighting system) malfunctions ➔ [Item 5 \(page 108\)](#) . Displayed.

## 4.2 Assembly overview - headlights with gas discharge bulbs and cornering lights



## Note

After any measures which could affect the headlight setting, the headlights must be checked and if necessary adjusted ➔ Maintenance ; Booklet 18.1 .

### 1 - Rear left vehicle level sender - G76-

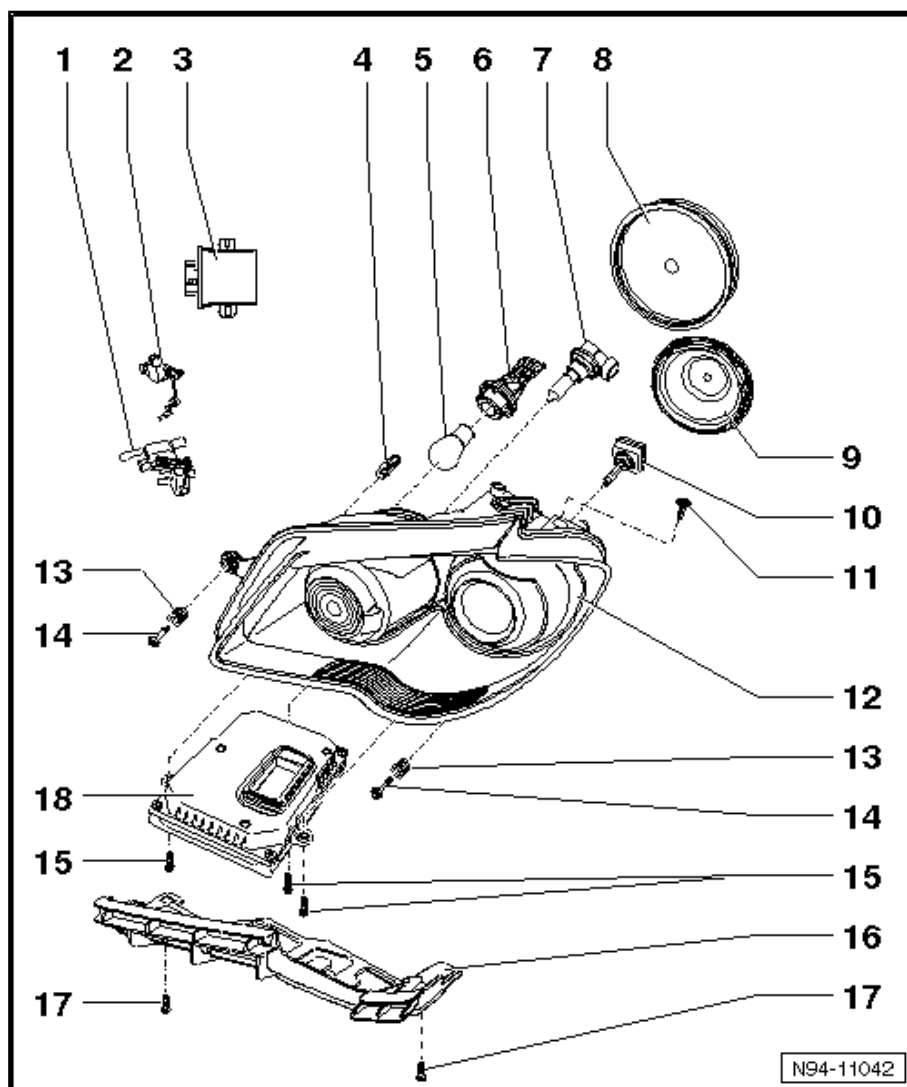
- ☐ Removing and installing ➔ [page 222](#) .
- ☐ Securing bolt specified torque (M8): 5 Nm
- ☐ Checking ➔ [page 223](#)
- ☐ Observe installation notes ➔ [page 223](#)

### 2 - Front left vehicle level sender - G78-

- ☐ Removing and installing ➔ [page 221](#) .
- ☐ Securing bolt specified torque (M8): 9 Nm
- ☐ Checking ➔ [page 223](#)

### 3 - Headlight range control unit

- ☐ Removing and installing





⇒ [page 220](#) .

- ☐ Coding ⇒ [page 221](#)

#### 4 - Left side light bulb - M1- or right side light bulb - M3-

- ☐ Bulb 12 V, W 5 W
- ☐ Replacing ⇒ [page 214](#) .

#### 5 - Front left turn signal bulb - M5- or front right turn signal bulb - M7-

- ☐ Bulb 12 V, 21 W
- ☐ Replacing ⇒ [page 216](#) .

#### 6 - Bulb holder with grip element

- ☐ For front left turn signal bulb - M5- or front right turn signal bulb - M7-

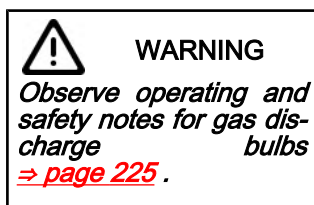
#### 7 - Left cornering light bulb - L148- or right cornering light bulb - L149-

- ☐ Bulb H8 12V 35W
- ☐ Replacing ⇒ [page 213](#) .
- ☐ Checking ⇒ [page 218](#)

#### 8 - Cover cap

#### 9 - Screw cap

#### 10 - Left gas discharge bulb - L13- or right gas discharge bulb - L14- ("bi-xenon")



- ☐ Type D1S, 35 W
- ☐ Replacing ⇒ [page 210](#) .

#### 11 - Securing bolt

- ☐ For securing headlight ⇒ [Item 12 \(page 207\)](#) to body
- ☐ Specified torque: 4 Nm

#### 12 - Headlight

- ☐ Removing and installing ⇒ [page 208](#) .
- ☐ Adjusting installation position of headlight ⇒ [page 209](#) .
- ☐ Converting headlights to drive on the left or the right ⇒ [page 223](#)
- ☐ Perform basic setting of headlights ⇒ Maintenance ; Booklet 18.1 .

#### 13 - Adjustment bushes

#### 14 - Securing screws

- ☐ For securing headlight ⇒ [Item 12 \(page 207\)](#) to body
- ☐ Specified torque: 4 Nm

#### 15 - Securing screws

- ☐ For securing electronic starter unit with AFS output module ⇒ [Item 18 \(page 207\)](#) to headlight housing

#### 16 - Frame

#### 17 - Securing screws

- ☐ For securing frame ⇒ [Item 16 \(page 207\)](#) to headlight

#### 18 - Electronic starter unit with AFS output module

- ☐ Removing and installing ⇒ [page 219](#) .





#### Note

*After installing a new electronic starter unit with AFS output module, code electronic starter unit with AFS output module ⇒ [page 221](#) then subsequently perform basic setting of headlights ⇒ Maintenance ; Booklet 18.1 .*

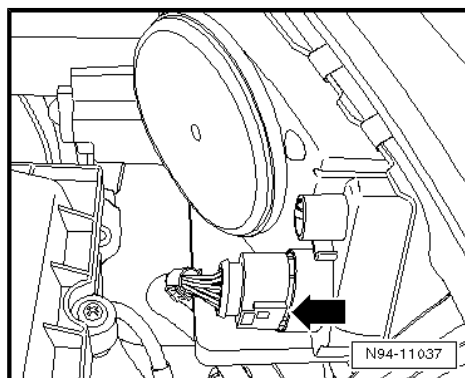
## 4.3 Removing and installing headlight with gas discharge bulb and cornering light

### Removing:



#### Note

- ◆ *There is no requirement to disconnect the battery earth strap.*
- ◆ *If a headlight is removed, it should always be adjusted following installation ⇒ Maintenance ; Booklet 18.1 .*
- ◆ *The illustrations show removal and installation for the left headlight. The removal and installation of the right headlight follows the same principle.*
- Switch off ignition and all electrical consumers and remove ignition key.
- Release and disconnect connector -arrow- on back of headlight.
- Remove front bumper cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper .





- Remove the three securing bolts -arrows- and remove the headlight -1- forwards out of the vehicle.

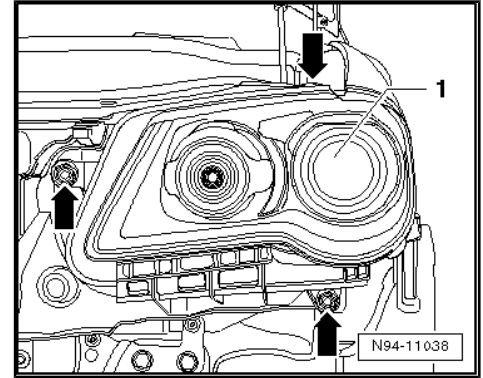
#### Installing:

Installation is carried out in the reverse order. When installing observe the following:

- Tighten all securing bolts to specified torque ⇒ [page 274](#) .
- Check headlight installation position is central, i.e. shut lines/gaps are equal around headlight.

If the shut lines/gaps around the headlight are uneven, the installation position must be adjusted ⇒ [page 209](#) .

- Check headlight functions.



#### Note

*If a headlight is removed, it should always be adjusted following installation.*

- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

## 4.4 Adjusting headlight installation position

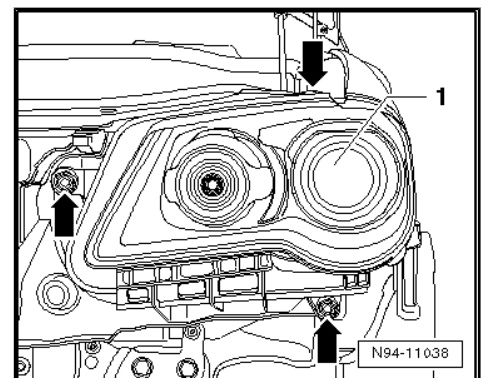


#### Note

*The diagrams show the adjustment of the installation position for the left headlight. The adjustment of the right headlight follows the same principle.*

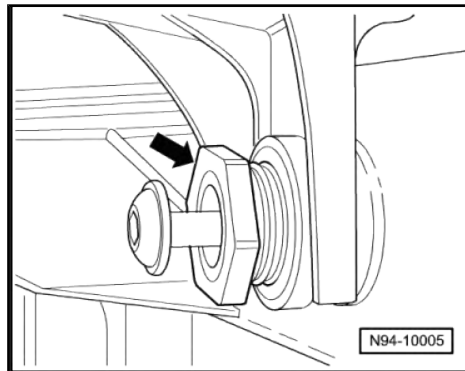
If it transpires during checking of the installation position that the shut lines/gaps between headlight and body are uneven, the installation position must be adjusted.

- Switch off ignition and all electrical consumers and remove ignition key.
- Remove front bumper cover ⇒ General body repairs, exterior; Rep. gr. 63 ; Front bumper .
- Loosen the three securing bolts -arrows-.





- Adjust shut lines/gaps to body by pushing in or pulling out alignment bush -arrow-.
- Tighten all securing bolts to specified torque ➔ [page 206](#) .
- Check and, if necessary, readjust headlight to ensure gaps are even all round.
- Install bumper cover in reverse order of removal.
- Check headlight functions.
- Vehicles with automatic headlight range control, carry out basic setting of headlight ➔ Maintenance ; Booklet ; Descriptions of work .
- Check headlight setting and adjust headlight if necessary ➔ Maintenance ; Booklet ; Descriptions of work



## 4.5 Renewing headlight bulbs



### WARNING

*Observe procedure and safety notes when changing gas discharge lamp bulbs ➔ [page 225](#) .*

### 4.5.1 Renewing gas discharge bulb



### WARNING

*Observe procedure and safety notes when changing gas discharge lamp bulbs ➔ [page 225](#) .*



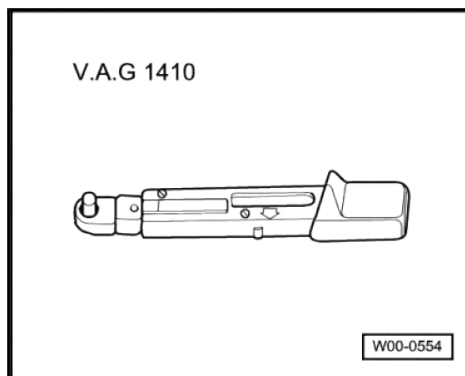
### Note

- ◆ Left gas discharge bulb - L13- and right gas discharge bulb - L14- can be checked by the final control diagnosis for the onboard supply control unit - J519- ➔ [page 341](#) .
- ◆ The diagrams show renewal of a gas discharge bulb for the left headlight. Renewal for the right headlight is similar.

### Removing:

#### Special tools and workshop equipment required

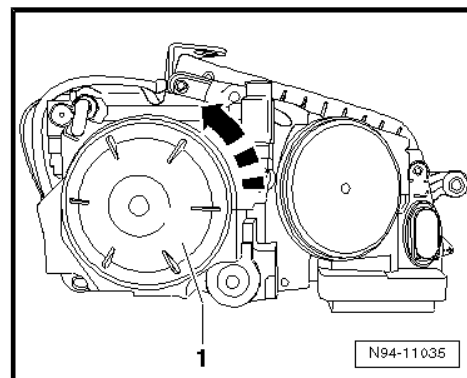
- ◆ Torque wrench - V.A.G 1410-



- Switch off ignition and all electrical consumers and remove ignition key.



- Remove headlight with gas discharge bulb and cornering light  
⇒ [page 208](#) .
- Turn cover cap -1- in direction of -arrow- and remove.



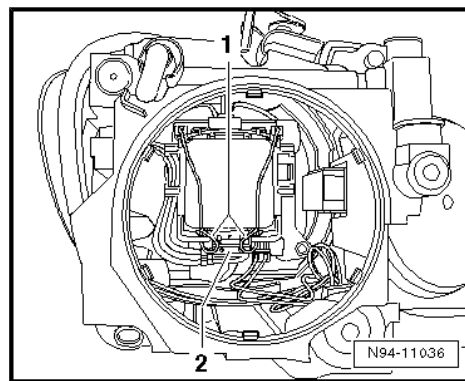


- Pull connector -2- downwards off starter unit for gas discharge lamp - N195- .



#### WARNING

- ◆ *Pressure in the glass envelope of a gas discharge bulb can range from between 7 bar (cold) and 100 bar (hot). Temperatures can reach up to 700 degrees Celsius on the glass bulb.*
- ◆ *Should the glass bulb explode, there is a risk of injury from burning.*
- ◆ *Always wear eye protection and gloves when removing and installing gas discharge bulbs!*



- Open spring clip -1- and carefully pull starter unit for gas discharge lamp - N195- together with gas discharge lamp bulb to rear out of headlight.

#### Installing:



#### WARNING

*Ensure glass bulb of gas discharge bulb is not stressed mechanically. The glass bulb is extremely sensitive and is also under a high internal pressure.*

*Avoid looking directly into the collimated beam as the UV radiation from the gas discharge bulb is about 2.5 times higher than from normal halogen bulbs.*



#### Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*



#### Note

- ◆ *Do not touch glass bulb when fitting gas discharge bulb . Fingers leave traces of grease on the glass bulb, which evaporate when the gas discharge bulb is switched on and cause the glass bulb to cloud over.*
- ◆ *If a headlight with automatic range control is removed, the basic setting of the headlights is always to be checked after installation ⇒ Maintenance ; Booklet ; Descriptions of work .*

Installation is carried out in the reverse order. When installing observe the following:

- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work



## 4.5.2 Renewing cornering light bulb

### Note

- ◆ The diagrams show renewal of the cornering light bulb for the left light. Renewal for the right headlight is similar.
- ◆ Checking cornering light bulb ➔ [page 218](#).

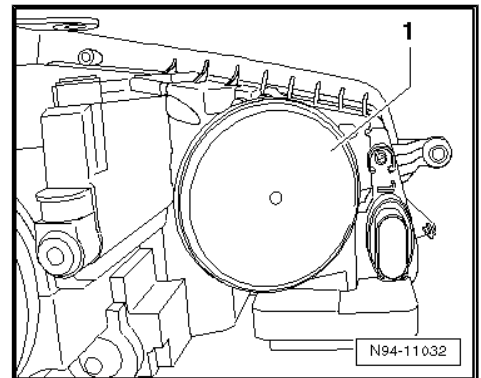
### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.

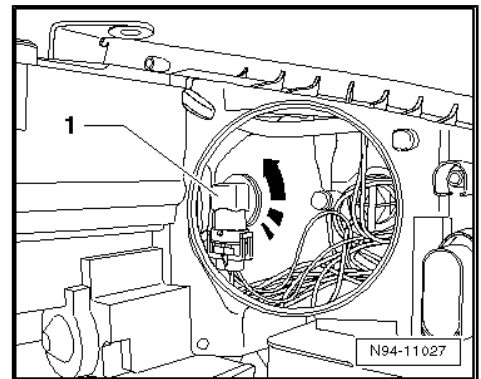
### Note

*For reasons of clarity, the headlight is shown removed in the following illustrations. There is no requirement to remove the light to replace the cornering light bulb.*

- Remove cover cap -1-.



- Turn bulb holder with cornering light bulb -1- in -direction of arrow- and remove to rear, taking connected wiring length into account.





- Release and disconnect connector -arrow- and remove cornering light bulb -1-.

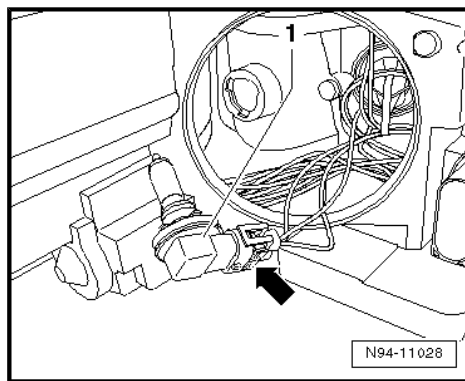
Cornering light bulb H8 12V 35W

Installing:



**Caution**

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

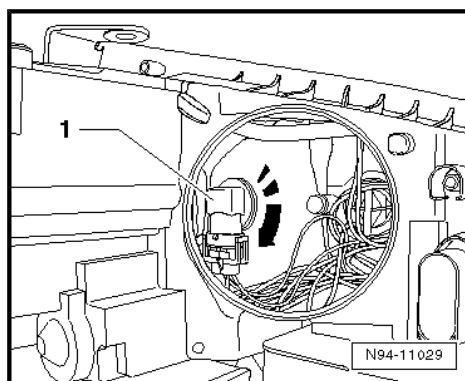


**Note**

*Do not touch bulb glass when fitting cornering light bulb. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*

Installation is carried out in the reverse order. When installing observe the following:

- Place bulb holder with cornering light bulb -1- in headlight and turn bulb holder with cornering light bulb in -direction of arrow-.
- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work



### 4.5.3 Renewing side light bulb



**Note**

*The diagrams show renewal of the side light bulb for the left headlight. Renewal for the right headlight is similar.*

Removing:

- Switch off ignition and all electrical consumers and remove ignition key.

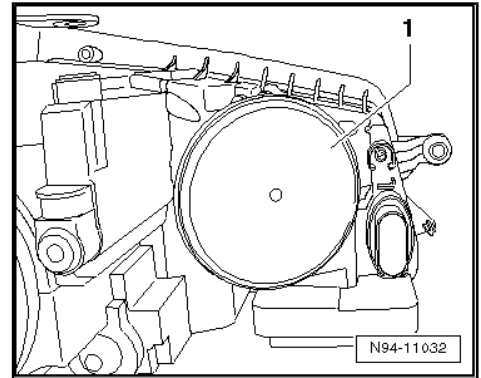


**Note**

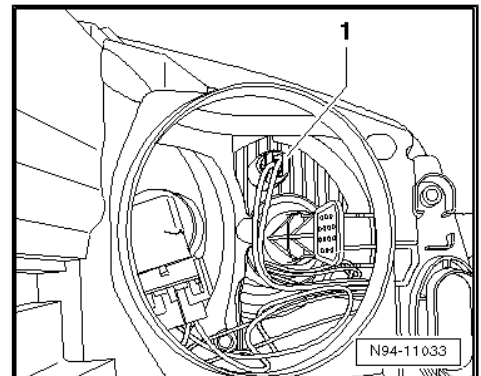
*For reasons of clarity, the headlight is shown removed in the following illustrations. There is no requirement to remove the light to replace the side light bulb.*



- Remove cover cap -1-.



- Pull bulb holder with side light bulb -1- to rear out of reflector, taking connected wiring length into account.



- Pull side light bulb -1- out of bulb holder -2-.

Installing:



**Caution**

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

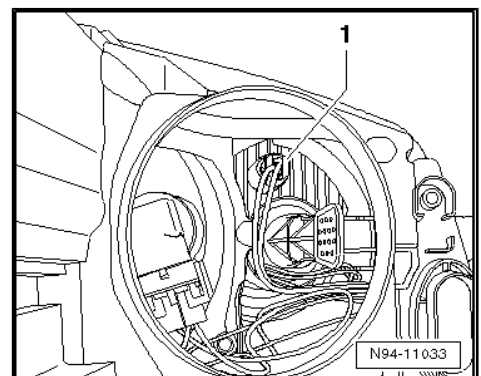
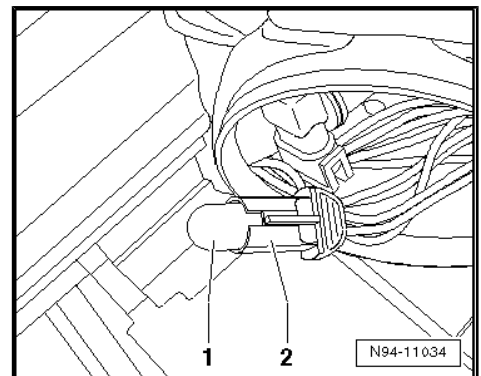


**Note**

*Do not touch bulb glass when fitting bulbs. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*

Installation is carried out in the reverse order. When installing observe the following:

- Ensure bulb holder -1- is seated correctly in headlight reflector.
- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work







## 4.5.4 Renewing front turn signal bulb



### Note

*The illustrations show the renewal of the front turn signal bulb for the left headlight. Renewal for the right headlight is similar.*

### Removing:

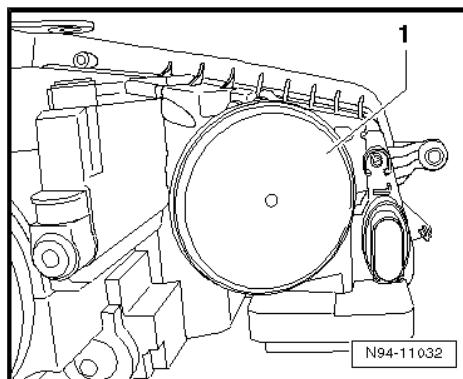
- Switch off ignition and all electrical consumers and remove ignition key.



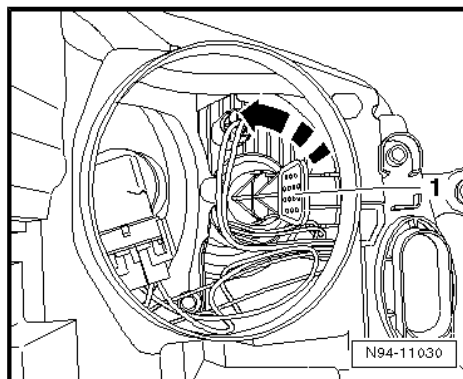
### Note

*For reasons of clarity, the headlight is shown removed in the following illustrations. There is no requirement to remove the light to change the front turn signal bulb.*

- Remove cover cap -1-.



- Turn bulb holder with front turn signal bulb -1- in -direction of arrow- and remove from headlight.





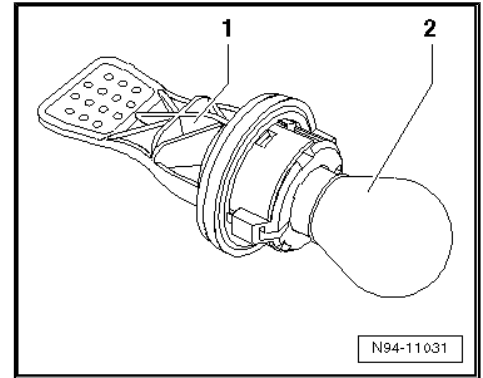
- Push front turn signal bulb -2- into bulb holder -1-.
- Simultaneously turn front turn signal bulb -2- anti-clockwise and pull bulb out of bulb holder.

Installing:



**Caution**

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*



**Note**

*Do not touch bulb glass when fitting bulbs. Fingers leave traces of grease on the glass, which evaporate when the bulb is switched on and cause the glass to cloud over.*

Installation is carried out in the reverse order. When installing observe the following:

- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

## 4.6 Headlight range control motor

### 4.6.1 Removing and installing left headlight range control motor - V48- or right headlight range control motor - V49-

The headlight range control motor is integrated in the headlight and can neither be individually replaced nor adjusted.

In the event of damage, the headlight must be renewed



**Note**

*If faulty, check wiring of headlight range control motor for wiring defects and/or loose connections before renewing headlight.*

### 4.6.2 Checking left headlight range control motor - V48- or right headlight range control motor - V49-

- Check left headlight range control motor - V48- or right headlight range control motor - V49- using ⇒ Vehicle diagnostic tester.

## 4.7 Control motor for dynamic cornering light

The dynamic cornering light only functions at a speed above approx. 10 km/h when the dipped beam is switched on.

### 4.7.1 Removing and installing left dynamic cornering light control motor - V318- or



## **right dynamic cornering light control motor - V319-**

The dynamic cornering light control motor is integrated in the headlight and can neither be individually replaced nor adjusted.

In the event of damage, the headlight must be renewed



### **Note**

*If faulty, check wiring of dynamic cornering light control motor for wiring defects and/or loose connections before renewing headlight.*

### **4.7.2 Checking left dynamic cornering light control motor - V318- or right dynamic cornering light control motor - V319-**

- Check left dynamic cornering light control motor - V318- or right dynamic cornering light control motor - V319- using ⇒ Vehicle diagnostic tester.

## **4.8 Static cornering light**

The static cornering light integrated in the headlight is automatically switched on when the turn signal lever is operated and the vehicle turns and when turning into tight bends. The static cornering light only functions at speeds lower than 40 km/h when the dipped beam is switched on.

### **4.8.1 Checking left static cornering light - M51- or right static cornering light - M52-**

- Check left static cornering light - M51- or right static cornering light - M52- using ⇒ Vehicle diagnostic tester.

## **4.9 Swivel module position sensor**

### **4.9.1 Removing and installing right swivel module position sensor - G475- or left swivel module position sensor - G474-**

The swivel module position sensors are integrated in the headlight and can neither be individually replaced nor adjusted.

In the event of damage, the headlight must be renewed

### **4.9.2 Checking right swivel module position sensor - G475- or left swivel module position sensor - G474-**

- Check right swivel module position sensor - G475- or left swivel module position sensor - G474- using ⇒ Vehicle diagnostic tester.



## 4.10 Dipped beam screen

### 4.10.1 Removing and installing dip beam screen

The dip beam screen is integrated in the headlight and can neither be individually replaced nor adjusted.

In the event of damage, the headlight must be renewed

## 4.11 Electronic starter unit with AFS output module

### 4.11.1 Removing and installing electronic starter unit with AFS output module

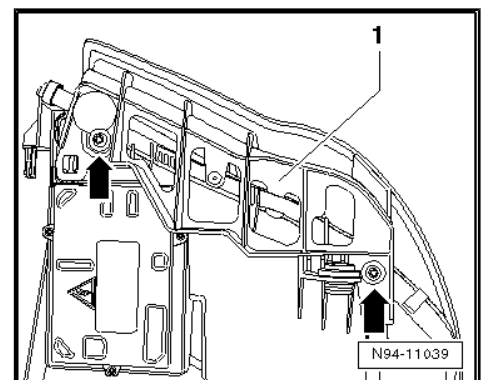


#### Note

- ◆ The illustrations show renewal of the electronic starter unit with AFS output module for the left headlight.
- ◆ The electronic starter unit with AFS output module for the right headlight is renewed in the same manner.
- ◆ The electronic starter unit with AFS output module is not capable of self-diagnosis.
- ◆ If a new electronic starter unit with AFS output module is installed, subsequently code headlight range control unit ⇒ [page 221](#) then perform basic setting of headlights ⇒ Maintenance ; Booklet 18.1 .

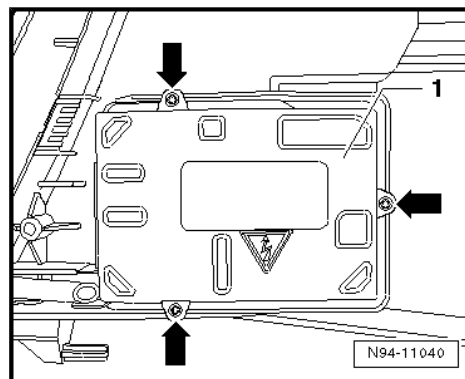
#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Remove headlight ⇒ [page 208](#) .
- Remove both securing bolts -arrows-.
- Pull frame -1- forwards off headlight.





- Remove the three securing bolts -arrows- from electronic starter unit with AFS output module -1-.
- Carefully pull electronic starter unit with AFS output module -1- upwards straight off headlight.



- Disconnect connector -arrow- and remove electronic starter unit with AFS output module -1-.

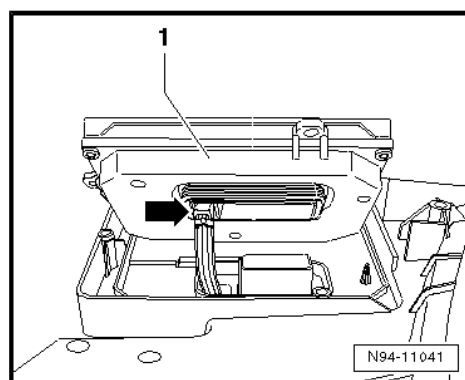
#### Installing:

Installation is carried out in the reverse order. When installing observe the following:



#### Note

*Ensure the seal is seated correctly when installing the electronic starter unit with AFS output module. The ingress of water will lead to permanent damage to the headlight.*



- Check headlight functions.
- Check headlight setting and adjust headlight if necessary  
⇒ Maintenance ; Booklet ; Descriptions of work

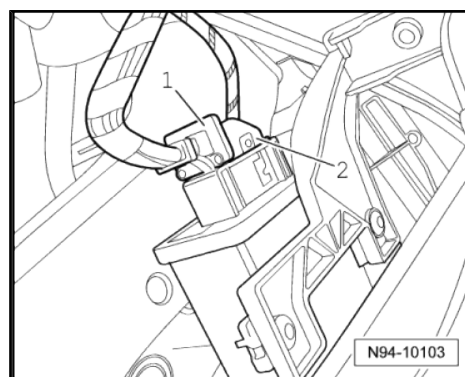
## 4.12 Headlight range control unit

### 4.12.1 Removing and installing headlight range control unit

The headlight range control unit - J431- is located under the dash panel on the centre console on the driver side.

#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Remove storage compartment on driver side ⇒ General body repairs, interior; Rep. gr. 68 ; Compartments, covers and trim; Removing and installing storage compartment on driver side .
- Release retaining clip -1- and pull connector -2- off headlight range control unit - J431- .





- Unscrew securing screws -arrows- and remove headlight range control unit - J431- from bracket.

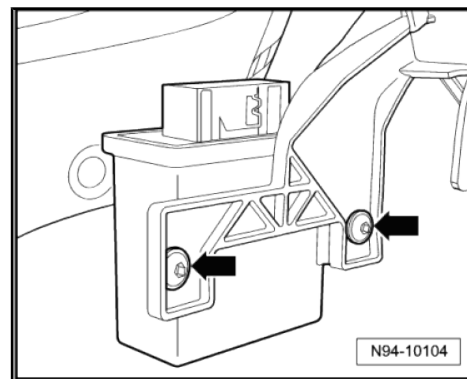
#### Installing:

Installation is carried out in the reverse order. When installing observe the following:



#### Note

After installing a new headlight range control unit - J431- , the control unit must be coded ⇒ [page 200](#) .



### 4.12.2 Coding headlight range control unit

- Coding control unit for headlight range control ⇒ Vehicle diagnostic tester.



#### Note

Once headlight range control unit - J431- has been coded, a headlight basic setting must be carried out ⇒ Maintenance ; Booklet 18.1 .

### 4.13 Vehicle level sender

There is a vehicle level sender located on the front axle ( front left vehicle level sender - G78- ) and on the rear axle ( rear left vehicle level sender - G76- ).



#### Note

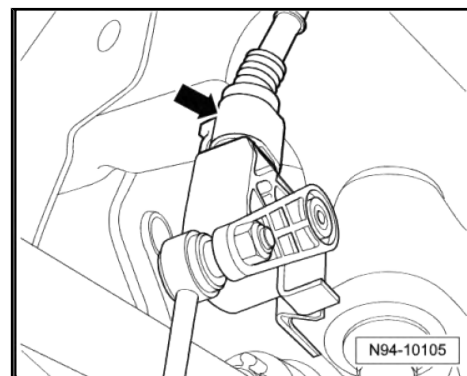
If the vehicle level senders are replaced, basic setting of the headlights must be performed ⇒ Maintenance ; Booklet 18.1 .

#### 4.13.1 Removing and installing front left vehicle level sender - G78-

The front left vehicle level sender - G78- is model year dependent and is therefore not installed in all vehicles.

##### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Disconnect connector -arrow-.



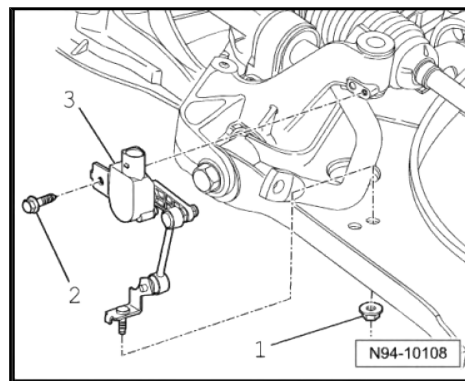


- Remove securing nut -1-.
- Unscrew securing bolt -2- and remove front left vehicle level sender - G78- -3-.

**Installing:**

Install in the reverse order of removal. When doing this, note the following:

- Tighten threaded connections to specified torques  
⇒ [page 206](#) .
- Carry out headlight basic setting ⇒ Maintenance ; Booklet 18.1 .



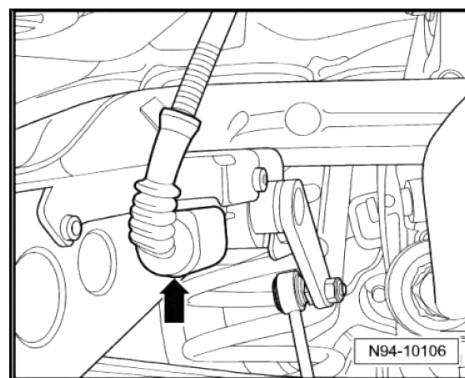
**Note**

*If the vehicle level senders are renewed, basic setting of the headlights must be performed ⇒ Maintenance ; Booklet 18.1 .*

#### 4.13.2 Removing and installing rear left vehicle level sender - G76- :

**Removing:**

- Switch off ignition and all electrical consumers and remove ignition key.
- Disconnect connector -arrow-.





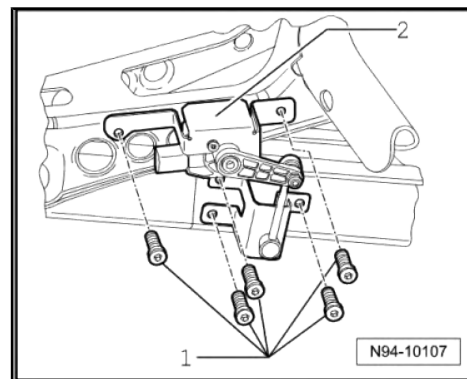
- Unscrew the five securing bolts -1- and remove rear left vehicle level sensor - G76- -2-.

#### Installing:



#### Note

*Ensure when installing the rear left vehicle level sender - G76- that the lever and the jointed rod are in the position as illustrated. Otherwise the rear left vehicle level sender - G76- will supply incorrect data which causes the headlight range control to malfunction.*



Install in the reverse order of removal. When doing this, note the following:

- Tighten threaded connections to specified torques  
⇒ [page 206](#) .
- Carry out headlight basic setting ⇒ Maintenance ; Booklet 18.1 .



#### Note

*If the vehicle level senders are renewed, basic setting of the headlights must be performed ⇒ Maintenance ; Booklet 18.1 .*

### 4.13.3 Checking vehicle level sender

The vehicle level senders transmit the longitudinal inclination angle of the vehicle by way of signals to the control unit for cornering light and headlight range control - J431- .

A check is made as to whether the rear left vehicle level sender - G76- and front left vehicle level sender - G78- supply the control unit for headlight range control - J431- with plausible signals.

No event entry is stored in the control unit for cornering light and headlight range control - J431- in the following instances:

- ◆ Vehicle level senders installed are not of type specified in this workshop manual.
- ◆ Vehicle level senders have mechanical faults.
- ◆ Vehicle suspension has been modified (e.g. lowered).
- Check vehicle level sender ⇒ Vehicle diagnostic tester.

### 4.14 Converting headlights for use when driving on the left or right



#### Note

- ◆ *To avoid dazzling oncoming traffic with the asymmetrical lights, both headlights should be converted relevant to the country (driving on the left or right) in which the vehicle is being driven.*
- ◆ *Both headlights of a vehicle must always be converted.*
- ◆ *The cornering light function must be deactivated before using the converted headlights ⇒ [page 225](#) .*





#### 4.14.1 Converting headlights with adjusting lever for left-hand/right-hand traffic

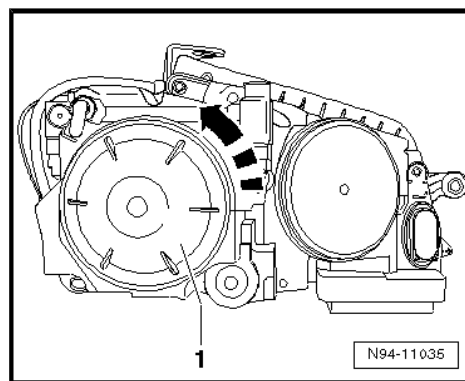
The conversion from driving on the left or right is carried out via the adjustment lever on the inside of the headlight.



##### Note

*For reasons of clarity the headlight is shown removed. There is no requirement to remove the headlight to convert from driving on the left or right.*

- Switch off ignition and all electrical consumers and remove ignition key.
- Turn cover cap -1- in direction of -arrow- and remove.

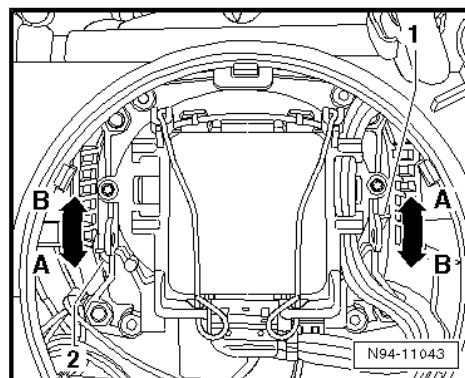


##### Right headlight:

- Move the adjustment lever -2- to the position required.

A - Driving on the right

B - Driving on the left

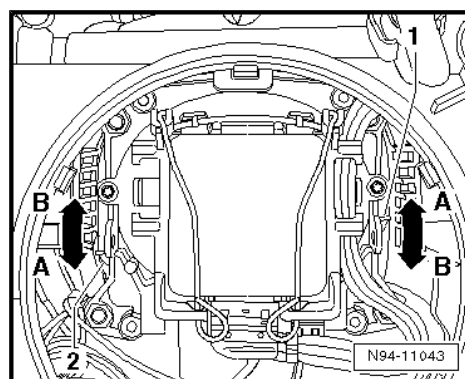


##### Left headlight:

- Move the adjustment lever -1- to the position required.

A - Driving on the right

B - Driving on the left



##### Caution

*When installing cover cap, ensure that it seats properly. The ingress of water will lead to permanent damage to the headlight.*

- Deactivating cornering light ➔ [page 225](#) .



#### 4.14.2 Deactivating cornering lights when converting headlights for use when driving on the left or right

- Deactivating cornering lights when converting headlights for use when driving on the left or right ⇒ Vehicle diagnostic tester.

#### 4.15 Adjusting headlights

Adjusting headlights ⇒ Maintenance ; Booklet ; Descriptions of work

#### 4.16 Operation and safety notes for gas discharge bulbs



##### WARNING

- ◆ *Never change bulbs if you are not familiar with the appropriate procedures, safety precautions and tools.*

- If repairs are to be made to the headlight with gas discharge bulbs, observe the following:

- ◆ Notes on dangerous high voltage/currents ⇒ [page 225](#)
- ◆ Notes on pressure, temperature and radiation/arcs ⇒ [page 226](#)
- ◆ Assembly notes for gas discharge bulbs ⇒ [page 226](#)
- ◆ Disposal regulations for gas discharge bulbs ⇒ [page 227](#)

##### Special tools and workshop equipment required

- ◆ Safety goggles
- ◆ Gloves

##### Note on dangerous high voltage/currents



##### WARNING

*Control units for light systems, connectors and components pertaining to bulb holders conduct lethally high voltage.*

*Operating the control unit and the starter unit is permitted only with the bulb fitted.*



##### WARNING

- *Switch off ignition and all electrical consumers and remove ignition key.*
- *When working on headlight system, ensure that there is no voltage in any components, including the dissipation of residual voltage after the headlights are switched off.*
- *Residual voltage can be dissipated by turning the dipped beams on and then off again after withdrawing the ignition key.*
- *When working on the headlight system, ensure that the lights cannot be switched on.*



## Notes on pressure, temperature and radiation/arcs



### WARNING

- *The bulbs may be operated in the headlight housing only (protection against contact due to very hot bulbs, absorption of UV radiation, avoidance of dazzling light, protection against explosion).*
- *The glass bulb of the bulbs can be very hot - danger of burns!*
- *Avoid looking directly into the beam, as the UV rays from the gas discharge bulb are about 2.5 times greater than normal halogen bulbs.*
- *Avoid looking into the light beam (danger of glare); vision may be impaired for a substantial time.*



### WARNING

- *Avoid contact with burst glass bulbs.*
- *H7 bulbs and gas discharge bulbs (xenon and bi-xenon) are under pressure and can explode while being changed - danger of injury.*
- *Always wear eye protection and gloves when removing and installing gas discharge bulbs!*

## Repair notes for gas discharge bulbs



### Caution

- ◆ *Before renewing a bulb, always switch off the concerned electrical consumer.*
- ◆ *Switch off ignition and all electrical consumers and remove ignition key.*
- ◆ *Do not touch the glass bulb with bare fingers; use a clean cloth glove. When the light bulb is switched on, the heat would vaporise the oil of the finger prints which would then settle on the reflector, impairing the brightness of the headlight.*
- ◆ *A light bulb must always be renewed with a bulb of the same sort. The designation appears on the base of the bulb or on the glass bulb.*
- ◆ *Properly engage connector during installation and ensure tight seating of the connection.*



#### Disposal regulations for gas discharge bulbs



##### WARNING

- *Gas discharge bulbs must be disposed of as hazardous waste; never dispose of gas discharge bulbs via household waste system.*
- *Gas discharge bulbs contain metallic mercury (Hg) and traces of thallium; never destroy these bulbs.*
- *These components must be recycled in the correct manner according to national law.*
- *Only dispose of in containers intended for this purpose at an authorised collection point.*



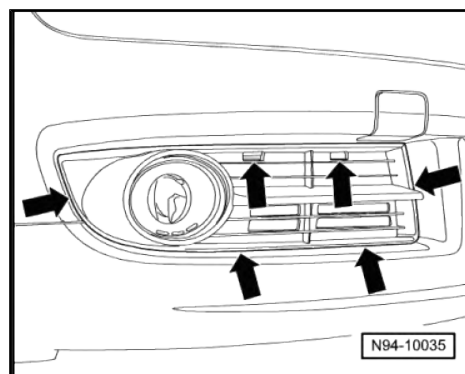
## 5 Fog lights

### 5.1 Removing and installing fog light

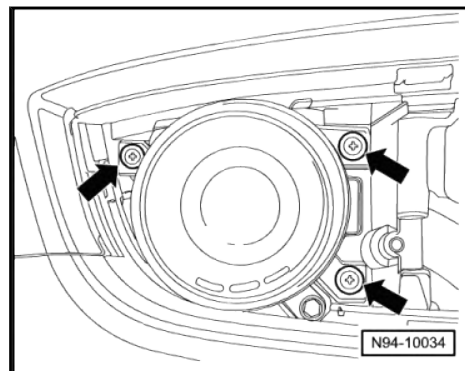
The procedure for removal and installation is the same for both fog lights and is therefore described for just one fog light. Vehicles as of product uprating (model year 2007) have a revised shape cover for the fog lights, the removal and installation procedure has not changed.

#### Removing:

- Switch off ignition and all electrical consumers and remove ignition key.
- Release cover cap from retaining clips -arrows-.



- Remove securing bolts -arrows-.

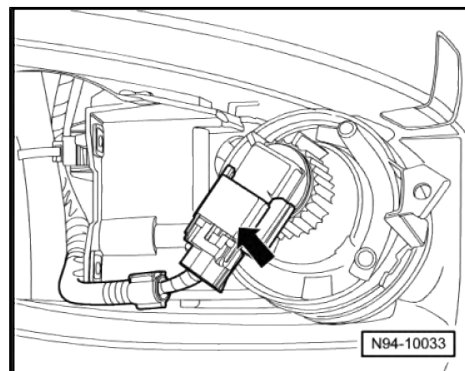


- Pull fog light housing out of bumper and disconnect connector -arrow-.

#### Installing:

Installation is carried out in the reverse order. When installing observe the following:

- Tighten threaded connections to specified torques  
⇒ [page 274](#) .
- Check headlight functions.
- Check fog light settings and adjust if necessary ⇒ Maintenance ; Booklet ; Descriptions of work .



### 5.2 Removing and installing left fog light bulb - L22- or right fog light bulb - L23-

The procedure for removing and installing the bulbs is the same for both headlights and is therefore described for just one headlight.



**Removing:**

- Remove fog light ➔ [page 228](#) .
- Turn bulb holder -1- in -direction of arrow- and take out of fog light.

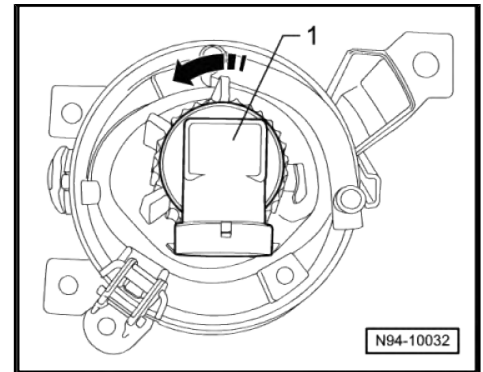
The bulb for the fog light is permanently attached to the bulb holder and cannot be renewed separately.

Fog light bulb : H11 12 V, 55 W

**Installing:**

Installation is carried out in the reverse order. When installing observe the following:

- Check headlight functions.
- Check fog light settings and adjust if necessary ➔ Maintenance ; Booklet ; Descriptions of work .



### 5.3 Adjusting fog lights

Adjusting fog lights ➔ Maintenance ; Booklet ; Descriptions of work