

## Adjusting gas discharge headlights - USA vehicles

### Requirements for checking and adjusting

- Tyre pressure OK.
- Headlight lenses must be clean and dry.
- Headlight lenses must not be damaged.
- Reflectors and bulbs OK.

Vehicle loading: driver's seat occupied, otherwise vehicle unloaded (unladen weight).

- One person or 75 kg.

The unladen weight is the weight of the vehicle ready for operation with full fuel tank including the weight of all equipment normally carried.

- Fuel tank: at least 90% full.
- Equipment: e.g. spare wheel, tools, jack, fire extinguisher etc.

If the fuel tank is not at least 90 % full, put in additional weight as follows:

- Read off fuel tank level at fuel gauge in instrument cluster, compare with the following table and, if necessary, place additional weight in luggage compartment.

Fuel gauge	Additional weight in kg
1/4	55
1/2	37
3/4	18
Full	0

Example: If fuel tank is half full, place an additional weight of 37 kg into luggage compartment.

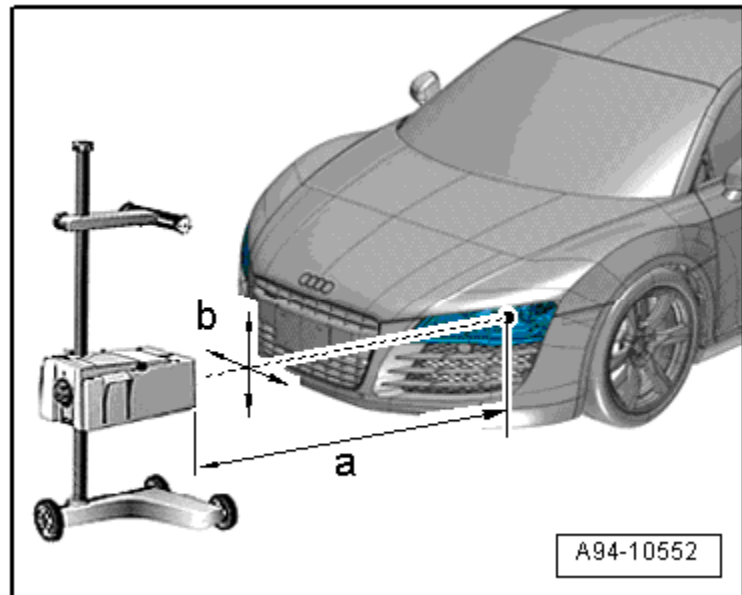


### Note

*Use canisters filled with water as additional weight (a 5 litre canister filled with water weighs approx. 5 kg).*

- Roll vehicle several metres or depress front and rear springs fully several times so that springs settle correctly.
- Release electromechanical parking brake to relieve any load on suspension.
- Vehicle and headlight adjustment unit must be on a level surface.

- Headlight adjustment unit must be aligned to vehicle → [Operating instructions for headlight adjustment unit](#).
- Position headlight adjustment unit in front of headlight at distance -a- 30 ... 70 cm. Dimension -b- = 3 cm must not be exceeded (measured from centre of light emission surface).
- Dip setting on headlight adjustment unit has been adjusted → [Operating instructions for headlight adjustment unit](#).



- Dip setting -arrow- is marked on top edge of headlight -1- in “%”.



#### Note

- ◆ Adjust headlights according to dip setting marked on headlight.
- ◆ The percentage value is for a range of 10 m. Example: Converting a dip setting of 1.0% = 10 cm.

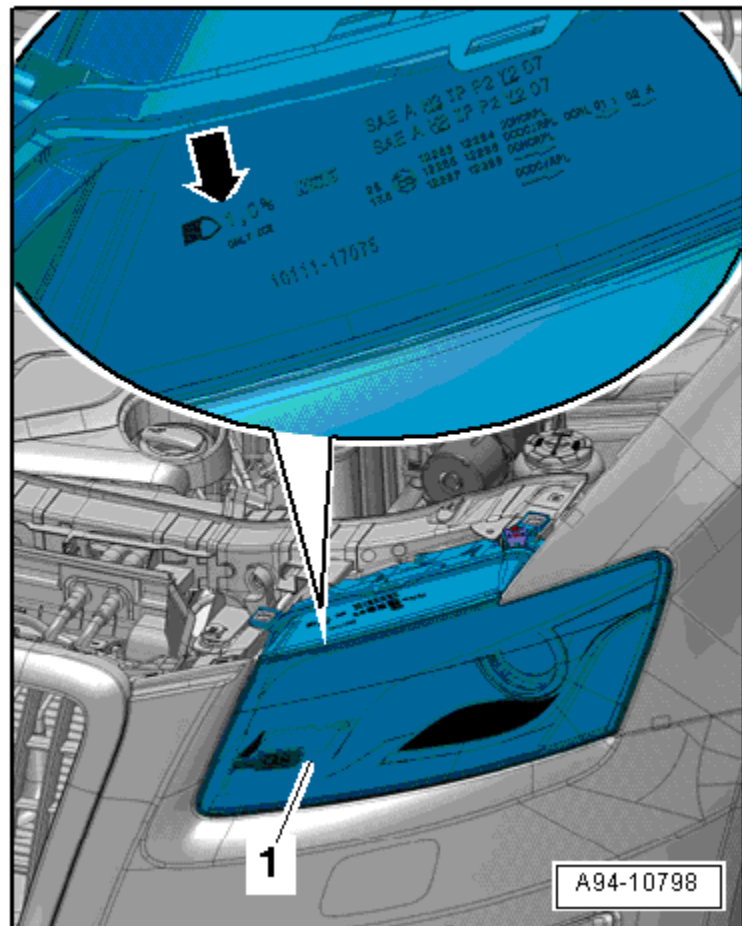


#### DANGER!

When working on a vehicle with the ignition switched on or while the drive system is active, the engine can start unexpectedly and exhaust fumes can cause a health hazard in closed rooms. Moving parts can trap or draw in parts of the body and/or clothing (safety hazard).

Before switching on the ignition, perform the following steps:

- ◆ Move selector lever to position **P**
- ◆ Activate parking brake
- ◆ Switch off ignition
- ◆ Open bonnet
- ◆ Connect battery charger (e.g. -VAS 5095A-) to jump-start connections of 12 V electrical system
- ◆ Switch on ignition



#### Preparations

- Vehicle must be on a level surface.
- Turn light switch to “dipped beam” position – not to “Auto” position.
- Close all doors and the rear lid and keep them closed during the complete checking and adjusting procedure.
- Connect vehicle diagnostic tester  
→ [Vehicle diagnostic tester](#).

#### Vehicles up to model year 2012:

- Select  mode and start diagnosis.
- Select  tab.
- Select  then the following options one after the other:
  - ◆ Body
  - ◆ Electrical system
  - ◆ 01 - Self-diagnosis compatible systems
  - ◆ 55 - Dynamic headlight range control J431/J745
  - ◆ 55 - Headlight range control, functions
  - ◆ 55 - Basic setting (Repair Group 94)



#### Note

*With this programme the headlights return to the basic setting.*

#### Vehicles from model year 2013 onwards:

- Select  mode and start diagnosis.
- Select  tab.
- Select  then the following options one after the other:
  - ◆ Body
  - ◆ Electrical system
  - ◆ 01 - Self-diagnosis compatible systems
  - ◆ 09 - Electronic central electrics J519
  - ◆ 09 - Onboard supply control unit, functions
  - ◆ 09 - Basic setting for headlights (Repair Group 94)



#### Note

*With this programme the headlights return to the basic setting.*

- Continue to follow the instructions on the display of the vehicle diagnostic tester.
- You will be requested to perform headlight adjustment while running through the programme.

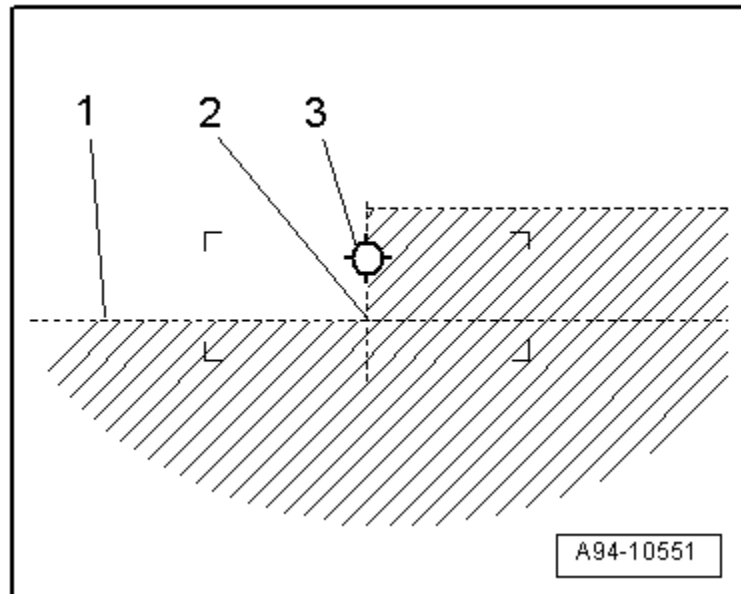
### Headlight adjustment

- The horizontal light-dark border should coincide with the setting line -1- of the test surface on the headlight adjustment unit.
- The break-away point -2- between the horizontal section of the light-dark border on the left and the vertical section on the right should coincide with the vertical line running through the central point -3-. The bright spot in the centre of the beam should be to the right of the vertical line.



#### Note

- ◆ *To make it easier to find the break-away point -2-, cover and uncover the left half of the headlight (as seen in direction of travel) a few times. Then check the dipped beam again.*
- ◆ *If dipped beams have been adjusted correctly the centre point of the main beam should lie on central point -3-.*

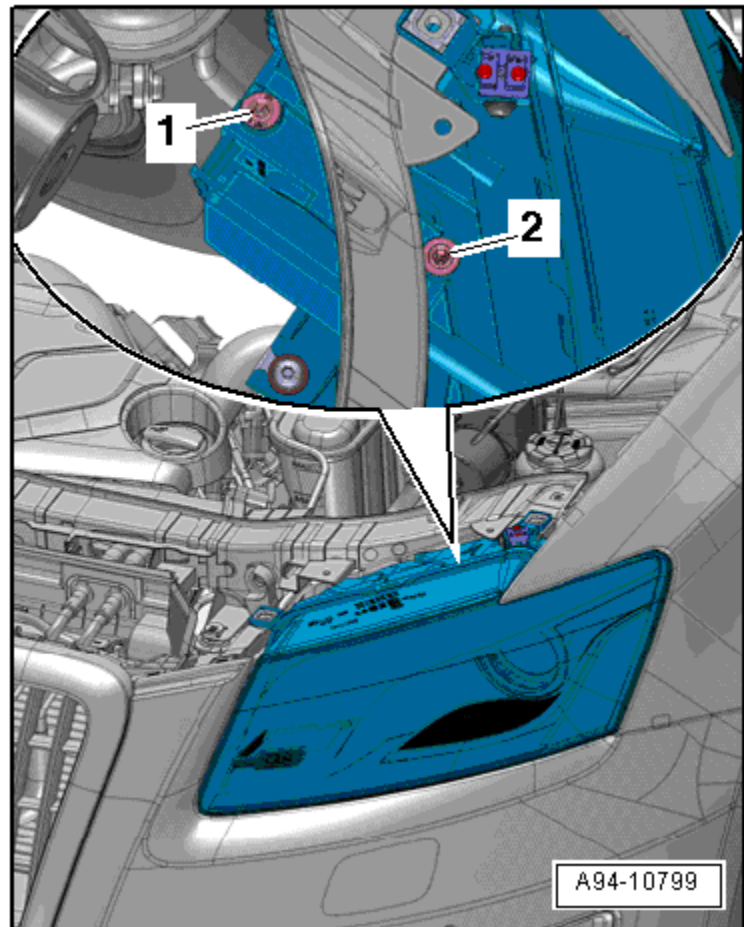


**Vehicles up to model year 2012:**

- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border slightly below setting line.
- Then adjust light-dark border to setting line from below.
- Turn adjuster screw -2- for lateral adjustment.

**Note**

*The arrangement on the right headlight is symmetrically opposite.*



**Vehicles from model year 2013 onwards:**

- Before adjusting height of headlight, use adjuster screw -1- to position light-dark border slightly below setting line.
- Then adjust light-dark border to setting line from below.
- Turn adjuster screw -2- for lateral adjustment.
- Lateral adjuster screw must be secured with a plug after adjustment. For plug, refer to → [Electronic parts catalogue](#).

**Note**

*The arrangement on the right headlight is symmetrically opposite.*

**All vehicles (continued):**

- After completing headlight adjustment, end "Basic setting", switch off ignition and unplug diagnostic connector.

