

82-040 Adjusting lamps, front

Adjusting table (dimensions in cm for test area at a distance of 10 m from headlamps)

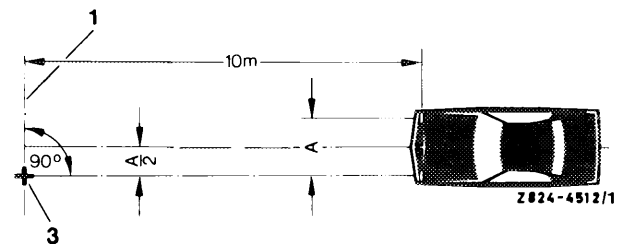
Type of vehicle	Vehicle load during adjustment	Adjusting dimension "e" in cm	
		Main headlamps	Fog lamps
Passenger cars in which the upper reflector edge of the headlamps is not more than 135 cm above vehicle base.	One person or 75 kg on driver's seat of the otherwise unloaded vehicle (curb weight*).	10	10

*) Curb weight is the weight of the vehicle ready for operation with completely filled, built-in fuel tank, including the weight of all the equipment carried along while driving (e.g. spare wheels and tires, spare parts, tools, vehicle jack, fire extinguisher).

A. Preparations for adjustment

Place vehicle on level ground. Even a slightly irregular surface under vehicle may falsify adjustments. Keep inflation pressure on all tires as specified. Load vehicle according to data in adjusting table and drive slowly on adjusting surface so that the spring adjustment will not change when the brakes are applied.

Adjust headlamps individually by switching off or covering the other headlamps. Whenever possible, make adjustments in a closed room, in a fairly dark environment, since the accuracy of the adjustment can be influenced by wind (movements of test surface) and by other light sources. Use a headlamp adjusting device whenever possible. Proceed accurately according to pertinent instructions. If no headlamp adjusting device is available, adjust by means of an adjustable, level test surface.

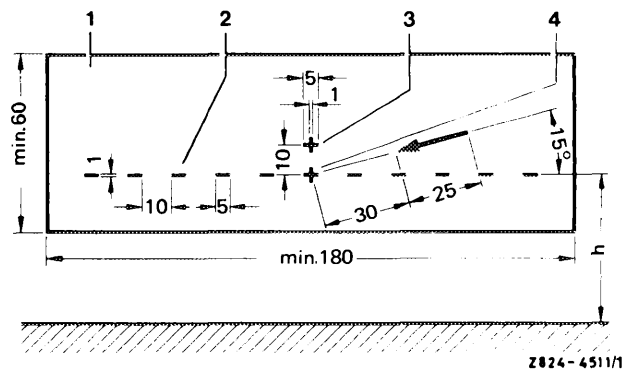


In an emergency, the test surface can also be drawn on a wall. The surface should be bright and provided with a central mark and a boundary line, in vertical relation to the vehicle longitudinal axis. For using the adjusting dimensions according to the adjusting table, the distance between the test surface and the headlamps to be adjusted should be 10 m.

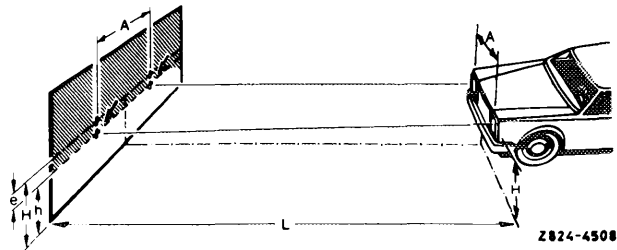
Test surface (dimensions in cm)

- 1 Test surface
- 2 Parting line
- 3 Central mark
- 4 Break

min = minimum



At an increased inclination of the light beam, e.g. on fog lamps, the distance should be 5 m; the specified adjusting dimensions are then cut to half. The central mark of the test surface should be located in the plane parallel to the vehicle longitudinal axis passing through the center of the headlamp to be adjusted. For each headlamp to be adjusted, the boundary line must be adjusted parallel to vehicle base and at height h above it.



Vehicles with hydropneumatic suspension

Adjustment of headlamps requires uniform setting of vehicle level on front and rear axle. Varying response of level controllers (e.g. at front axle due to load condition, and on rear axle due to no-load condition or vice versa), caused by the idle path of the level controller, may result in an incorrect adjustment of headlamps.

Adjustment

- 1 Move puller for adjusting switch of valve unit into position N = "normal level" (switch on instrument panel completely pulled down).
- 2 To fill central reservoir, run engine at approx. 2000/min (normal filling time of empty central reservoir up to shutoff pressure approx. 30 s).
- 3 Move adjusting switch of valve unit into position H "higher level" (switch completely pulled out). After approx. 10 seconds, readjust to position N = "normal level".
- 4 Adjust headlamps.

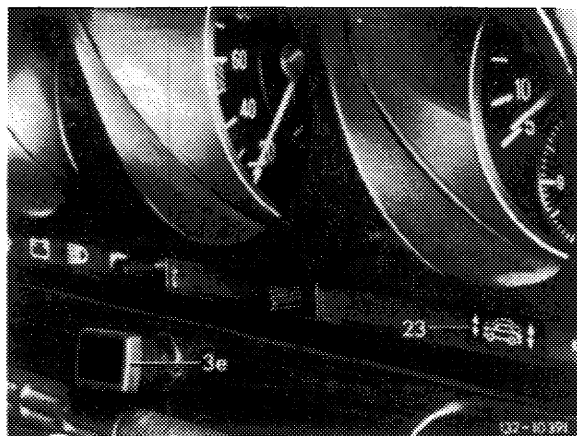
Attention!

After moving adjusting switch from position "H" to position "N", as well as while adjusting headlamps, do not load or unload vehicle.

- 3e Puller for adjusting switch of valve unit
- 23 Warning lamp (red, with vehicle symbol)

Positions of adjusting switch:

- N = Normal level
Switch completely pushed in
- S = Locking position
Switch locked in center position
- H = Higher level
Switch completely pulled

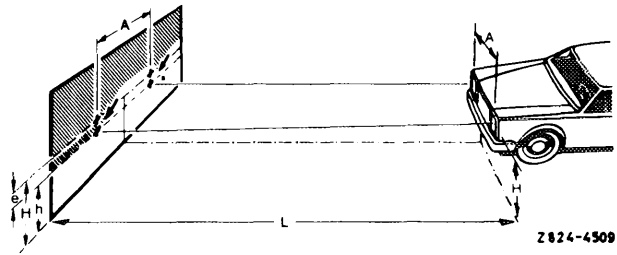


Vehicles with level control

On vehicles with level control on rear axle, run engine at medium speed for approx. 30 seconds after mounting load and then permit vehicle to roll to a stop.

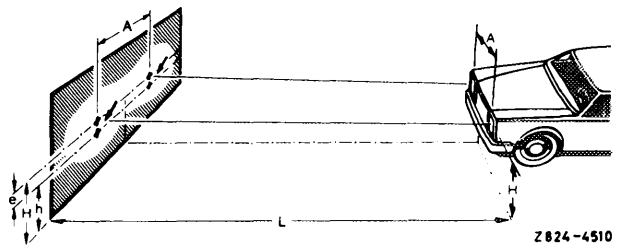
B. Main headlamps

The main headlamps are adjusted according to the asymmetric low beam. The light-dark boundary should touch the parting line to the left of center. The intersection between the left-hand (as much as possible horizontal) and the right-hand rising portion of the light-dark boundary should be on the vertical line through the central mark. For easier determination of the point of intersection, the left-hand half may be alternately covered and uncovered several times.



The center of the high beam should be on the central mark. For headlamps on which the high beam and the low beam (dimmer) are adjusted together, deviations of 20 cm each to the right or left or of 15 cm up or 10 cm down are permitted.

- H = Height of headlamp center above base in cm
- h = Height of parting line of test surface above base in cm
- e = Adjusting dimension in cm (refer to adjusting table)
- $e = H - h$



C. Fog lamps

On fog lamps the highest point of the light-dark boundary should touch the parting line and should run as horizontally as possible across the minimum width of the test surface. In lateral direction the fog lamps are adjusted in such a manner that the light distribution is as much as possible symmetrical to the vertical line through the central mark.

- H = Height of headlamp center above base in cm
- h = Height of parting line of test surface above base in cm
- e = Adjusting dimension in cm (refer to adjusting table)
- $e = H - h$

