

## SEG Economy



## Operating and Installation Instructions

BD0055V0001US0914S0

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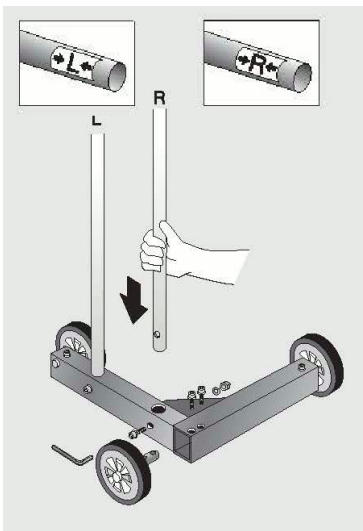
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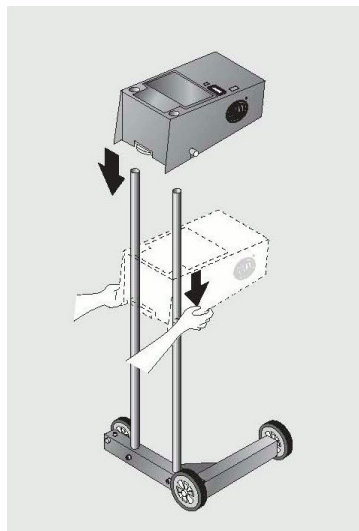
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# 1 Installation

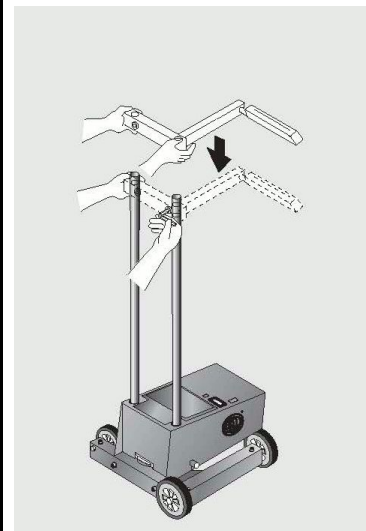
1. Mount the weels.
2. Insert the column into the base as far as it will go.
3. Tighten the hexagon socket screws evenly.



- Insert the beamsetter box on the columns with the actuation button pressed and allow it to rest on the base.



1. Set the sight bridge to an optimum operating height.
2. Tighten the right-hand screw, slightly supporting the extension with your free hand to prevent the bridge twisting.
3. Tighten both screws evenly as with the base.



## Spare parts list

- 9XS 863 524-001 Set of replacement rollers
- 9EV 864 203-001 Viewing window
- 8PL 863 005-001 Luxmeter
- 9ST 863 241-001 Switch for Luxmeter


All other spare parts can only be replaced when the device adjustment is being checked or re-set.

## 2 Prepare the vehicle – acc.to StVZO –

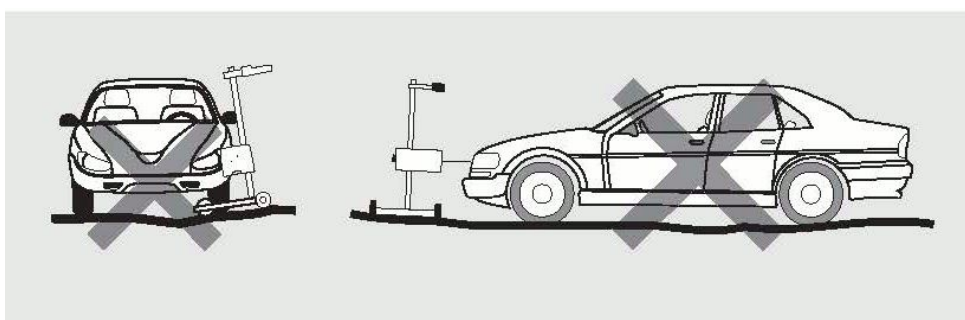
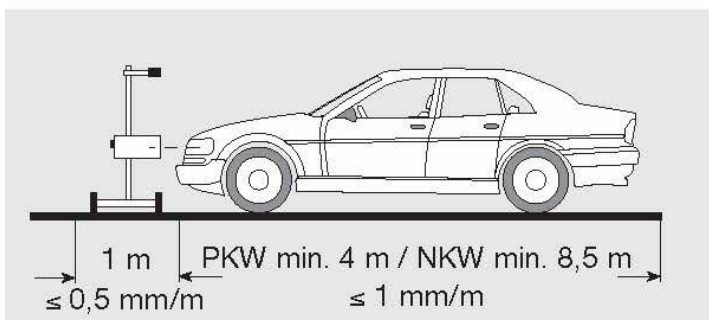
	<b>NOTICE!</b> The tyres must have the prescribed pressure.
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The vehicle must be loaded as follows:

- Cars, with one person or 75 kg on the driver seat with the vehicle otherwise unloaded.
- Trucks and other multi-track vehicles are to be without load (empty weight acc. to § 42 Sec. 3 StVZO).
- Single-track vehicles as well as single-axle tractors or machines (with seat cart or trailer): with one person or 75 kg on the driver seat. In the case of hydraulic or air suspension the engine has to run at medium speed until the height of the vehicle no longer changes. If automatic correction of the headlight or an infinite or 2-stage setting fixture is available, heed the manufacturer's instructions.

	<b>NOTICE!</b> National regulations must always be heeded.
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### 2.1 Prüffläche ISO 10604

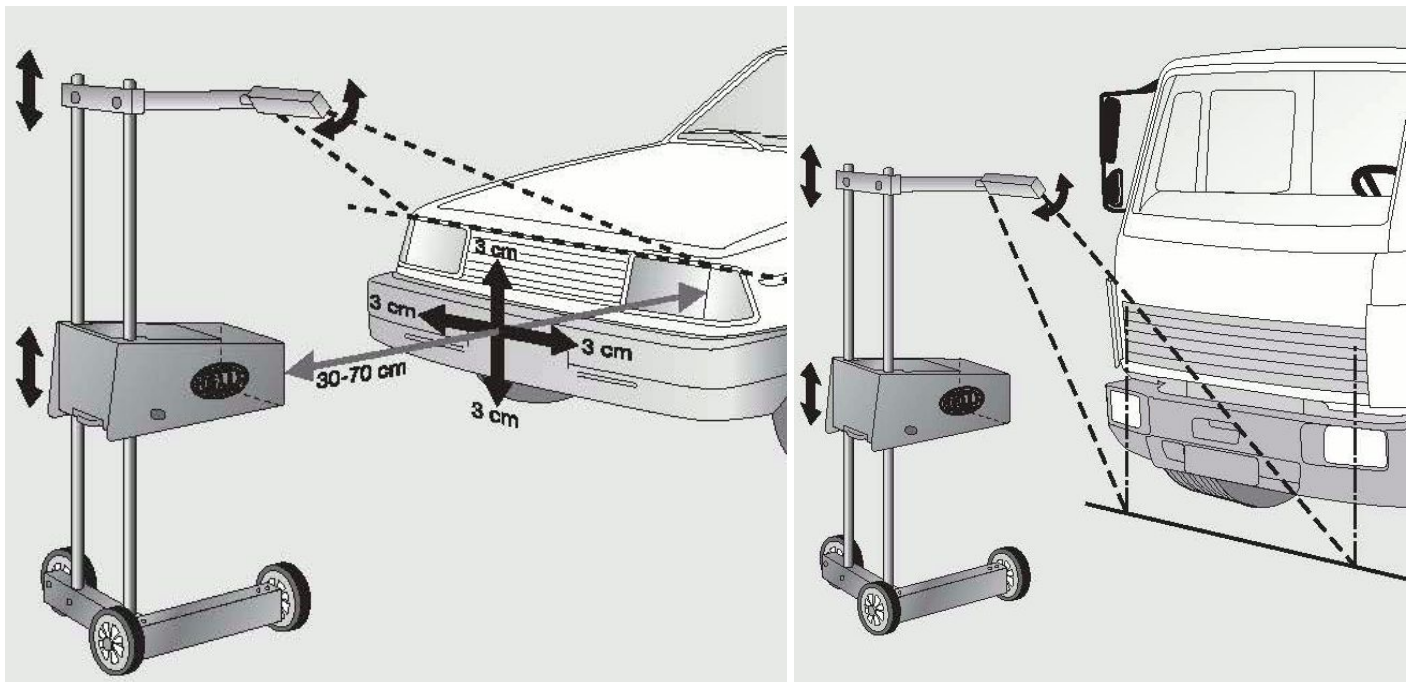


### 3 Set-up

1. The beamsetter is moved to in front of the headlight to be tested.
2. Set the beamsetter box at the centre of the headlight.

Deviations in height and to the side max. 3 cm.

Distance from the front edge of the beamsetter box to the headlight 30 to 70 cm.



#### 3.1 Aligning the beamsetter box to the vehicle



##### **NOTICE!**

Devices with roller bases must be aligned individually for each headlight to be tested.

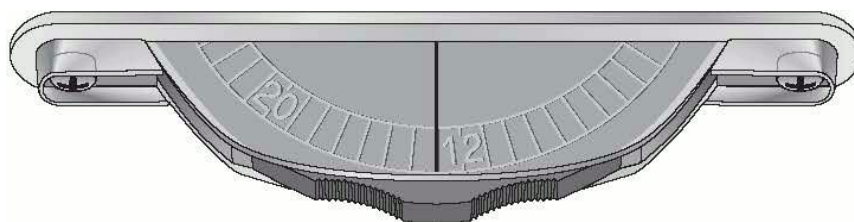
1. Align the beamsetter box with broadband sight in such a way that the sight line (slot) touches two points at the same height and symmetrical to the longitudinal axis of the vehicle.
2. If alignment is difficult in individual cases of commercial vehicles and buses with extremely vaulted front ends, the centres of the headlights must be transferred to the floor using a plumb bob or other suitable object and recorded using the sight.

## 4 Setting tables

Different angles to the cut-off in % are prescribed for different vehicle types (see the setting table for angle to the cut-off in % x 10 corresponds to measurement e).

<b>For headlights of motor vehicles with the exception of agricultural or forestry tractors and machines</b>		Headlight for low beam	Fog light
1.1	EWG (EG) /ECE as basis for test	Setting dimension given on vehicle	2,0 %
1.1.1	Motor vehicle with lighting mounted according to 76/756/EEC or with approval according to ECE-R-48		
1.2	StVZO as basis for test		
1.2.1	Motor vehicles first registered after 01.01.1990. Headlights not higher than 1200 mm above road level <sup>1)</sup>		
1.2.2	Motor vehicles first registered before 31.12.1989. Headlights not higher than 1400 mm above road level <sup>1)</sup> , as well as motor vehicles first registered after 01.01.1990. Headlights higher than 1200 mm but not higher than 1400 mm above road level <sup>1)</sup>	1,2 %	2,0 %
a)	Passenger cars (including combination vehicles)	1,2 %	2,0 %
b)	Passenger cars with levelling suspension or automatic compensation of beam tilt <sup>2)</sup>	1,0 %	2,0 %
c)	Trucks with loading area to the front		
d)	Trucks with loading area to the rear	3,0 %	4,0 %
e)	Truck tractor		
f)	Motor coaches		
	Except motor vehicles according to 1.2.2 b)		
1.2.3	Motor vehicles with headlights $H \geq 1400$ mm <sup>1)</sup>	H/3	(H/3 + 7)
2.	Motorbikes	see operating instructions	
3.	Agricultural or forestry tractors and machines		
<sup>1)</sup> Up to the highest point of the illuminated area <sup>2)</sup> Features of these devices must be heeded according to manufacturers' instructions.			

## Aligning the beamsetter box to the vehicle



<b>For headlights of motorbikes and agricultural or forestry tractors and machines</b>		Headlight for low beam	Fog light
2	Motorbikes and similar motor vehicles		
2.1	93/92/EWG as basis for test		
a)	2-wheel light motorbikes	No requirements	
b)	3-wheel light motorbikes and 4-wheel light motor vehicles		
c)	Motorbikes with / without sidecar	0,5 to 2,5 %	2,0 %
d)	3-wheel motor vehicles		
2.2	ECE-R 53 as basis for test	setting dimension given on vehicle	2,0 %
2.3	StVZO as basis for test	1,0 %	2,0 %
3.	Agricultural or forestry tractors and machines and similar motor vehicles		
3.1	EEC (EC) / ECE as basis for test		
a)	Headlight height: $500 \text{ mm} < h \leq 1200 \text{ mm}$	0,5 % to 4,0 %	2,0 %
b)	Headlight height: $1200 \text{ mm} < h \leq 1500 \text{ mm}$	0,5 to 6,0 %	2,0 %
c)	Auxiliary headlights (on tractors which are equipped for front bodies) $H \leq 2800 \text{ mm}$	H/3	–
3.2	StVZO as basis for test		
a)	Single-axle tractors or machines with headlights permanently on low beam, on which the required tilt for the centre of the beam is given	2 x N	2,0 %
b)	Multi-axle tractors or machines	1,0 %	2,0 %

## 5 Checking the headlight setting using the digital luxmeter

### Voltage supply:

Usual 9 V block battery (not included in the scope of supply).

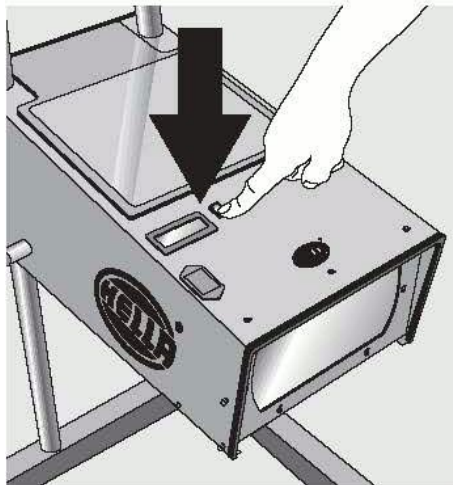
Once the headlights have been set the photo-electrical light measuring equipment is used to check whether the maximum permissible glare value of the low beam has been exceeded and the minimum illuminance of the high beam achieved, or the maximum illuminance of the high beam exceeded. Set the scaled wheel according to the setting table.



### NOTICE!

Before the lighting values are tested, a visual inspection of the headlights must be carried out.

- Set the scaled wheel according to the setting table.
  1. Press the button on the light measuring device.



2. read off the value


<b>Low beam:</b>	<b>High beam:</b>
Reference values: <ul style="list-style-type: none"><li>- Main headlight <math>\leq</math> 1.2 Lux</li></ul>	Reference values: <ul style="list-style-type: none"><li>- 48 - 240 Lux for halogen headlights or main headlights.</li><li>- 70 - 180 Lux for Xenon main headlights.</li></ul> <p>On account of the different setting possibilities, the light values for combined headlights with several lighting modules integrated must be assessed according to the vehicle manufacturer's specifications.</p>



## 6 Checking the beamsetter

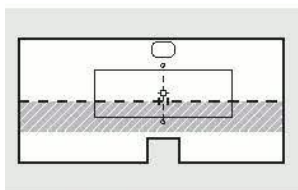
Hella beamsetters are delivered pre-adjusted. In the course of work being carried out in the garage, the beamsetter could become misadjusted through improper treatment (e.g. being knocked over). For this reason, we recommend having the beamsetter checked with the Hella setting device 8PD 860 755-01 e.g. by the wholesaler at regular intervals depending on how frequently it is used.

## 7 Checking the headlight or setting it according to StVZO

	<p><b>NOTICE!</b></p> <p>All headlight systems can be checked using the Hella beamsetter, including DE, FF and XENON headlights. The rectangle on the screen corresponds to the size of the test zone which is binding according to the guidelines for setting vehicle headlights. After adjustment, headlights must be attached to the vehicle in such a way that unintentional displacement cannot occur. The headlight setting must always be checked following repairs to the vehicle suspension. Such a check is also recommended following headlight bulb replacement.</p>
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### a) Headlight with symmetrical low beam

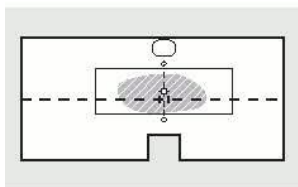
#### Low beam



1. Align the beamsetter as described in section 3.0.
2. Set the scaled wheel according to the setting table.
3. Switch on the low beam:

The cut-off must run across the whole width of the screen, as horizontally as possible along the dashed line.

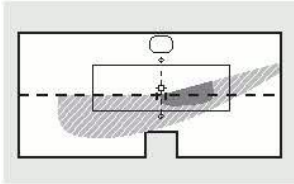
#### High beam



4. Correct the headlight setting using the setting screws if necessary.
5. Switch on the high beam:
 

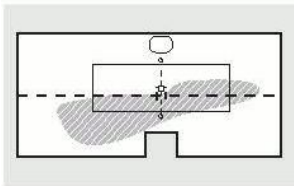
The centre of focus of the high beam must be on the central mark,
6. Correct using setting screws if necessary.
7. If high beam and low beam can be adjusted together, check the low beam again.

## b) Headlight with asymmetrical low beam

**Low beam**

1. Align the beamsetter as described in section 3.0.
2. Set the scaled wheel according to the setting table.
3. Switch on the low beam:

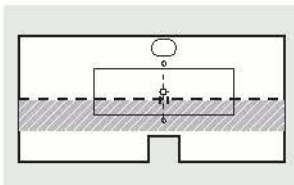
In the case of headlights with asymmetrical low beam, the cut-off must touch the dashed line of the test zone. The salient point between the left and right-hand gradient parts of the cut-off has to pass through the central mark (uppercross) on the vertical axis. The bright centre of the beam is to the right of the vertical axis which passes through the central mark.

**Bi-Xenon low beam**

- To make it easier to determine the salient point, cover and uncover the left-hand side of the headlight (in the direction of travel) and several times in succession. Then c
4. Check the low beam again.

**High beam: Following the correct setting of the cut-off for the low beam, the centre of focus of the high beam must be on the central mark (upper cross).**

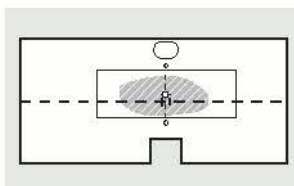
## c) Fog light

**Fog light**

1. Align the beamsetter as described in section 3.0.
2. Set the scaled wheel according to the setting table.
3. Switch on the fog light:

The cut-off must run across the whole width of the screen, as horizontally as possible along the dashed line. Correct the headlight setting using the setting fixture if necessary.

## d) Special headlight for high beam (e.g. auxiliary headlight)

**High beam**

1. Align the beamsetter as described in section 3.0.
2. Set the scaled wheel according to the setting table.
3. Switch on the high beam:

The centre of focus of the high beam must be on the central mark, correct using setting fixture if necessary.

**With separate high beam modules (e.g. in combination with Bi-Xenon headlights), the high beam should be adjusted according to the vehicle manufacturer's specifications, since there could be different possibilities in this case.**



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