



# HEADLIGHT TESTER ART. 12240

Operating Manual rev. 0.0

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## ACCEPTANCE OF THE MACHINE

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At the time of delivery it is essential to check at once and make sure you have received all the material indicated in the shipping documents, and that the machine has not undergone damage during shipment. In this case, show the damage to the forwarder and inform our customer service department. Only if you proceed promptly in this way will it be possible to obtain any missing material and reimbursement of the damage.

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## FOREWORD

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This is a device designed for correct beam alignment of the headlights on any motor vehicle.

The machine must be used for this purpose only. Even the finest of machines can function properly and ensure profitable service only if it is used correctly and kept in the best possible condition. For this reason, we ask you to read this manual with care and to reread it whenever difficulties should arise in using the machine. In case of need, we remind you that our service centers, organized in cooperation with our retailers, are always at your disposal for any advice you may need.

**NOTE:** the manufacturer may decide to make changes in the device without notice, in order to adapt it to technological advances and specific production or installation needs. Therefore, even if the illustrations shown in the manual differ slightly from the machine in your possession, the safety and instructions are guaranteed.

TECHNICAL DATA	U/M	
Width	mm	545
length	mm	773
height	mm	1820
Voltage supply	V d.c.	9
Range of light intensity reading	klux/1m	0 - 150
	lux/25m	0 - 240
Vertical deviation	%	0 - 4
Horizontal orientation	° (degrees)	+/- 6

## SYMBOLS USED IN THE MANUAL



Warning symbol

Read the sections preceded by this symbol with particular care, for the safety of the operator and the machine

## PREPARATION OF THE MACHINE

### HANDLING CRATED MACHINE

The machine is packed in a special crate.  
Do not stack more than 5 pieces  
Weight 42 kg.  
The external dimensions are:  
**B:** 630 mm **L:** 1800 mm **H:** 660 mm

### PACKAGING CONTENT

N°1 box with base  
N°1 box with column  
N°1 visor  
N°1 box:  

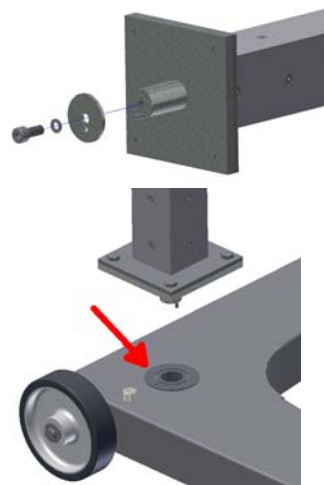
- o 1 optical box
- o 1 box with n°2 screws e n°2 washers for optical box fixing to the structure
- o Manual for use and maintenance
- o Declaration of conformity

In the event of any incorrect, missing or damaged part, contact your supplier. Keep the carton, including the original packing materials, in case you need to ship the product to be repaired.

### HOW TO ASSEMBLE THE MACHINE

Open the crate from the top and, tilting it slightly, remove the machine.  
Extract the parts without causing strikes and damages.

Take the column unscrewing the screw and washer from the linchpin.



Insert the column into the base paying attention to center friction ring between the 2.

## PREPARATION OF THE MACHINE

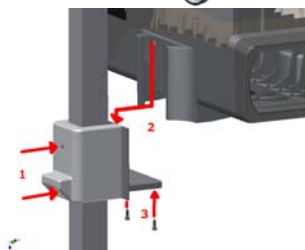
Insert the screw and washer centering the pin hole. Tighten the screw by removing the play of the column and tighten again for a quarter turn, always paying attention of the orientation.



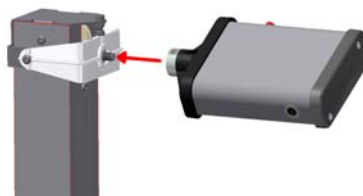
Reposition the structure in vertical and check the correct orientation between the base and column and the rotation of the column.



Unpack the optical box, loosen the fixing screws ( 1 ) of the sliding carter, insert from the top the optical box ( 2 ) in the seat of the sliding system of the column taking care to insert it completely. Fix the optical box to sliding system with the screws supplied, to be mounted on the underside of the optical box ( 3 ) . Retighten the screws fixing the carter.



Remove the visor from the box, screwing it to the support and tighten it using the hole into the visor.



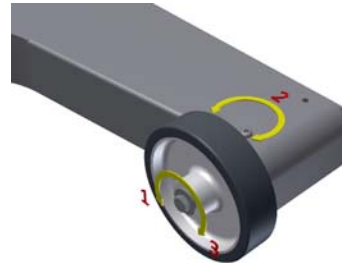
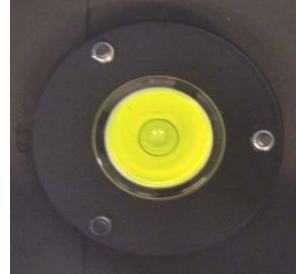
## PREPARATION OF THE MACHINE

Remove the screw and washers for counterweight stop into the lower part of the column.



### MACHINE LEVELLING

The machine is levelled during assembling process from factory, if the floor of the area of use of the setter should not be leveled, by adjusting the screws on the base:  
loosen the set screw of the wheel ( 1 ) , using the top screw ( 2 ) adjust the angle, then tighten the screw of the wheel ( 3 ) controlling the level inside of the optical box.



## DESCRIPTION OF THE MACHINE

The headlight tester is a device that allow to test headlights of all types, for motor vehicles, cars and trucks in general.

The machine can be installed as a fix station (with lateral movement on rails) or mobile station on rubber wheels.

The column can rotate, by means of a pin installed on a glide bearing of 15° to align with the vehicle.



The optical box is adjustable in height by means of sliding accurate and silent rollers on a column of aluminum, where a scale in centimeters is indicated to grant exact positioning to the beam.



The luxmeter can have an analogical or digital display. The analogical version displays the following scales: lux/25 m, klux/1 m, kcd and a colored scale with a switch to select the type of beam.



In the rear part of the optical box a graduated scale knob allows you to place the panel at the desired inclination accurately for proper verification of headlights

A button allows turning on the laser pointer for a fast centering of the beam.





## DESCRIPTION OF THE MACHINE

The visor can be a mirror or a visor laser.

Mirror visor



Laser visor



## GENERAL SAFETY RULES

The following rules must be followed carefully to prevent damage to the operator and machine.

- Read the machine labels, do not cover them for any reason, and replace them immediately if they should be damaged.
- The device should only be used by authorized personnel, trained in its use.
- Do not use the device in an explosive atmosphere.
- The working environment should be dry and sufficiently ventilated.
- When moving the machine, pay attention to other people, especially children, in the vicinity.
- Do not bump shelves or scaffoldings where there may be a danger of falling objects: you and the machine could be hurt.
- The storage temperature should be between -5° and +55°C.
- The working temperature should be between +5° and +45°C.
- Provide an adequate exhaust system for the exhaust gas, since the headlight test must be performed with the motor vehicle's engine running. Accidental inhalation of carbon monoxide can cause serious harm to the organism, with a fatal outcome in some cases. Contact our agent in your zone, who can indicate the most suitable system for your company.
- Do not leave the headlight tester in the sun or in the immediate vicinity of hot objects like heaters, radiators, etc.
- Do not leave the headlight tester out in the rain or in an excessively damp place as its electronic circuits could be damaged.
- If the headlight tester will not be used for a prolonged period, we recommend that you cover it with its dust cover (optional).
- There is a battery in the headlight tester that could cause a fire or explosion hazard if handled improperly. To prevent this risk do not heat or use open flames near the battery and, when replacing it, use one with the same characteristics.
- When you encounter any malfunction in use of the machine, contact the retailer or send the machine to the nearest service center.
- In case of parts replacements, order ORIGINAL parts from a concessionaire or authorized retailer.
- Tampering with any part of the machine will cause invalidation of the warranty.

## PREPARATION OF THE VEHICLE

### PREPARATION OF THE VEHICLE

Make sure the headlights are clean and dry. If the vehicle is equipped with a headlight aligner, set in on "0". Eliminate anything that could affect the correct position of the vehicle: mud, snow, ice, etc. Straighten the wheels. Make sure the vehicle does not have any distortions of the frame. Make sure the tires are inflated at the correct pressure. Start the engine and perform the test. In case of vehicles with pneumatic suspension, start the engine five minutes before starting the test and proceed with the engine running.



### CAUTION!

When operating in an enclosed space with the engine running it is essential to evacuate the toxic gasses produced by combustion. We recommend using a specific fan for exhaust fumes

### WORKING SURFACE

During the headlight test the floor surface must be level. If this is not possible, the headlight tester should be positioned on a surface with a uniform slope, in any case not exceeding 0.5%. Do not test headlights on floors that are not perfectly regular and level, as the measurement might not be accurate.



## ALIGNMENT WITH THE VEHICLE

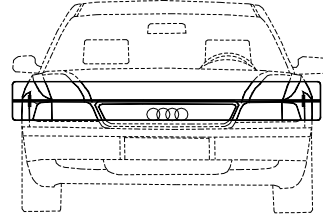
### POSITIONING

Place the headlight tester in front of the right headlight of the vehicle at a distance of about 20 cm, measure the height from the floor at the center of the headlight and adjust the optical chamber at the corresponding height using the graduated scale on the column. As index of the scale use the top of the slider runner.

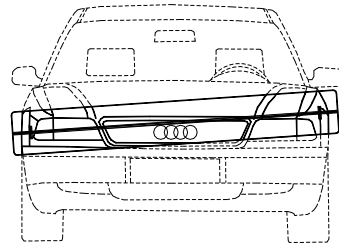


### ALIGNMENT WITH MIRROR VISOR

Locate two details on the front of the vehicle that are perfectly symmetrical between them (for example the top of the windshield or the headlights themselves). Release the column by means of the pedal, turn the optical chamber until, when you look in the mirror, the two reference points meet the black line stenciled on the mirror.



**OK**



**NO**

## ALIGNMENT WITH THE VEHICLE

### ALIGNMENT WITH LASER VISOR

The operator and designer of the work island must be aware of the risks deriving from the laser. The island must not be located in a transit zone and must be well marked and outlined by a yellow line, and possibly enclosed with special barriers.

Make sure there are no people in the test zone, release the column using the pedal, turn the visor downward and switch it on.

Locate two details on the front of the vehicle, such as the headlights themselves, turn the optical chamber until the two reference points meet the line projected by the visor and block the column.



#### CAUTION!

Switch off the laser immediately before proceeding with the other operations of control and possible adjustment of the headlight.

The laser beam is in class 3A with a wave length of 650 nm (nanometers) and a power of 3 mW (milliwatts) which means that even only direct observation of the beam with the use of amplifying optical devices such as binoculars can be hazardous. Accidental exposure is not considered hazardous as, since it is in the visible range, the eyelid reflex does not permit an exposure of more than 0.25 sec.

### POSITIONING WITH THE AID OF THE LASER POINTER (optional)

Switch the laser on by pressing the red button on the side of the optical box. The laser beam will be projected from a point corresponding to the center of the lens, and will help you to align it with the center of the headlight.

After completing each test, to prevent rapid discharge of the batteries, switch off the laser.



#### CAUTION!

During this operation, never look directly at the beam, and make sure it is not aimed at anyone nearby the working area



## HEADLIGHT TEST

### ADJUSTMENT

At the top of the headlight, read the tilt indicated by the manufacturer, e.g. 1.2%, and turn the knob on the bottom of the optical chamber as needed.  
If there is no indication by the manufacturer, comply with the laws in force



### CAUTION!

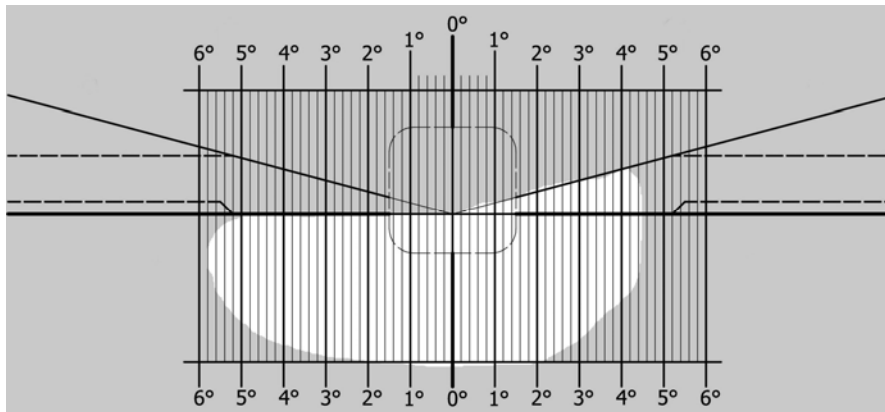
Remember that the headlight tilt must in any case comply with the law in force, which establishes that for low beam headlights at a height above ground of **up to 80 cm** the tilt must be at least **1%**.

For low beam headlights **higher than 80 cm** the tilt must be at least **1.5%**.



### TEST OF LOW BEAM

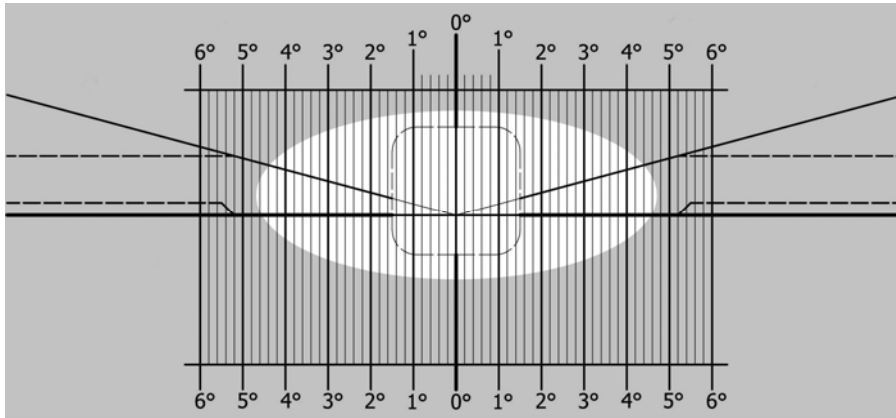
Check the position of the low beam headlight projection on the control panel. It should be aligned with the silkscreen printed line.  
Press the switch with the low beam symbol and read the value on the instrument.



## HEADLIGHT TEST

### TEST OF HIGH BEAM

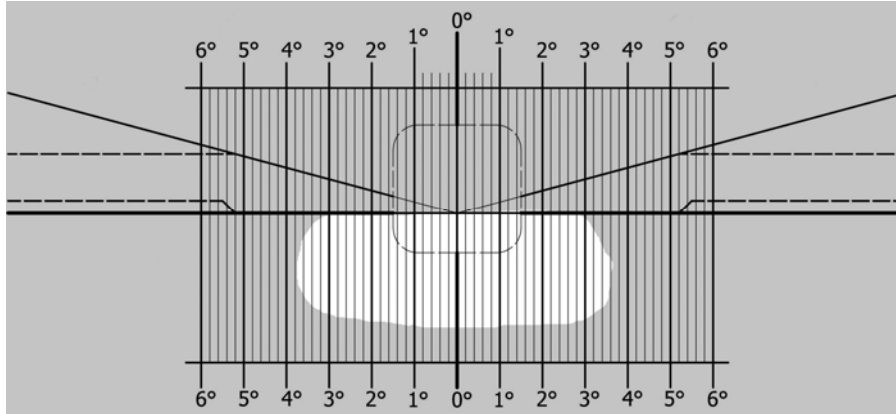
Check the position of the high beam headlight projection on the control panel. It should be aligned with the silkscreen printed line. Press the switch with the high beam symbol and read the value on the instrument..



## HEADLIGHT TEST

### FOG LIGHT TEST

Check the position of the fog light projection on the control panel. It should be aligned with the silkscreen printed line. Press the switch with the low beam symbol and read the value on the instrument.

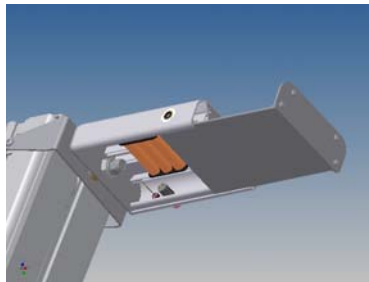




## SUPPLEMENTARY INSTRUCTIONS

### REPLACEMENT OF LASER VISOR BATTERIES

Unscrew the two screws on the cover of the laser visor and replace the 3 penlight batteries size AA 1.5V, respecting the correct polarity, close the visor and fasten the cover with the screws provided.



### CLEANING AND MAINTAINANCE

The machine does not require particular maintenance other than normal cleaning with a damp cloth (water or normal detergent).



#### **CAUTION!**

Do not use nitro solvents

### DEMOLITION AND DISPOSAL

The machine is mainly composed of steel.

Other parts:

in plastic, the optical box and some parts

in aluminum, the column

in cardboard and paper, packing and documents.

The machine is painted with scratch-resistant epoxy powder.

In disposing of the machine, comply with the provisions of the local authorities.

## **WARRANTY**

In case of evident and acknowledged manufacturing defects of any product, it will be repaired or replaced under the warranty only if the claim is made and documented within 8 days of delivery. Returns of defective goods will be accepted only FREIGHT PREPAID, while all returns carriage forward will be rejected. All other forms of reimbursement are excluded



