



**Lightning alignment device SMART-digital measurement**

**Manual**

**007935902010**

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## ACCEPTANCE OF THE MACHINE

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	660
length	mm	695
Height	mm	1780
Supply voltage	V d.c.	9
Field of light intensity reading	klux/1m	0-150
	lux/25m	0-240
Vertical deviation	%	0 -4
Horizontal orientation	cm/10m	+/-5

## 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 PACKED MACHINE

The machine is packed in a special crate.

Do not stack more than two crates

**The packed weight is 40 kg.**

The external dimensions are:

**B:** 630 mm **L:** 1800 mm **H:** 660 mm

## PACKING CONTENT

N°1 box contains the basis

N°1 column

N°1 visor

N°1 box contains:

- an optical box
- a pack containing 2 screws and n ° 2 washers to fix the structure of the optical box
- use and maintenance manual
- conformity declaration

In case of any incorrect, missing or damaged parts, please contact your dealer. Keep the packing including the original packing materials, in case you need to ship the product back to be repaired.

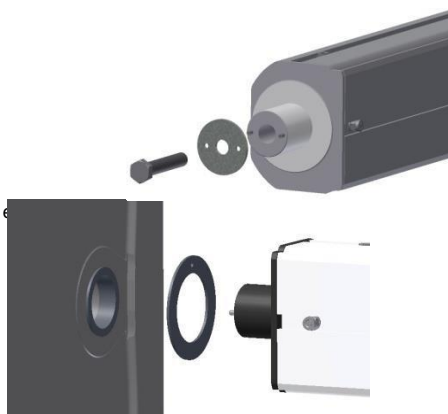
## HOW TO ASSEMBLE THE MACHINE

Open the packing from the top.

Take out the parts taking care not to cause a violent shock or damage .

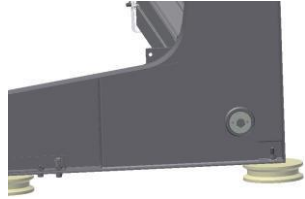
Take the column and Prendere la colonna e unscrew the screw and washer from the axle.

Insert the column into the basis taking care to centre the friction ring between the two parts.



## PREPARATION OF THE MACHINE

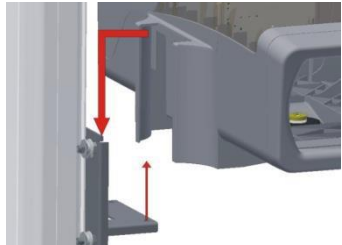
Remount the screw and the washer by centering the 2 holes with the plugs. Tighten the screw until you eliminate the column game and tighten again for a quarter-turn, always paying attention to the orientation.



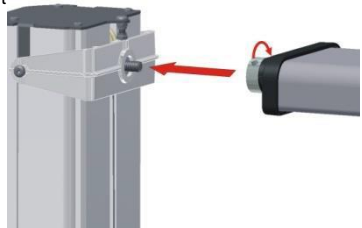
Vertically replace the structure, check the right orientation between basis and column and the rotation of the column.



Unpack the optical box from the packing, insert from the top the optical box into the sliding system seat of the column, taking care to insert it completely. Fix the optical box to the sliding system through the supplied 2 screws, which have to be mounted on the lower side of the box, as indicated by the arrows in the picture.



Remove the visor from the packing, screw it to the support and tighten through the hole at the visor.



## PREPARATION OF THE MACHINE

Remove the screw and the lock washers of the counterbalance in the lower part of the column.



### MACHINE ADJUSTING

Place the machine in the working area.

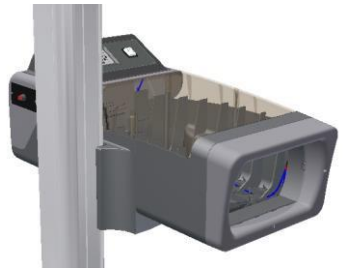
Check inside the optical box the level position. IN case it is not right aligned, please slightly loosen the set screw of the wheel and adjust the inclination through the above screw, finally tighten the set crew of the wheel.



## MACHINE DESCRIPTION

The headlight tester is an equipment suitable to provide an apparatus suitable to the control of the beam of all kinds of motorcycles, cars and heavy vehicles in general. The unit can be installed as fixed station (with lateral movements on rails) or as mobile station on a wheeled column. The column can rotate, through a pin mounted on bearings, of about  $15^\circ$  to be aligned to the vehicle.

The optical box is adjustable in height through a sliding system on accurate plastic runners on a drawn aluminium column, where is reported a centimetre scale for the exact positioning with respect to the beam.



The analogic equipment is provided with three scales, of which one is coloured, and a button for the beam selection.



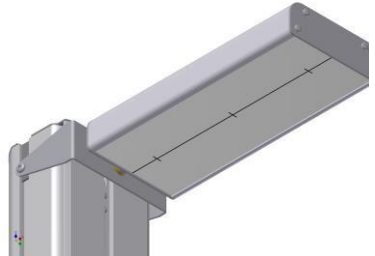
In the back side a knob with a graduated scale allows the positioning to the desired inclination the control panel for a right verification of the beams. A button allows the lighting of the laser pointing system for a fast centering of the beam.



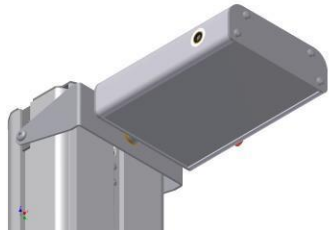
## MACHINE DESCRIPTION

The visor, which facilitates the alignment of the equipment to the vehicle, can be with mirror or laser pointer.

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

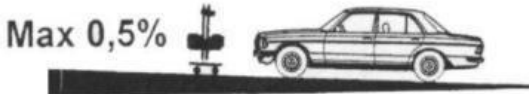
### VEHICLE PREPARATION

Make sure that beams are clean and dry. If the vehicle is equipped with beam controller inside, please set it on "0".<sup>E</sup>  
Remove anything might affect the proper attitude of the vehicle: mud, snow, ice, etc. Straighten the car wheels. Make<sup>N</sup>  
sure that the vehicle has no distortion on the frame. Check the tyre pression. Start the engine and proceed with the<sup>T</sup>  
test. In case of vehicles with air suspensions, start the engine five minutes before starting the test and proceed with  
the engine running.



#### ATTENTION!

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.



## ALIGNMENT WITH THE VEHICLE

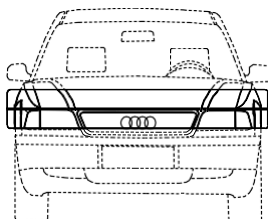
## POSITIONING

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

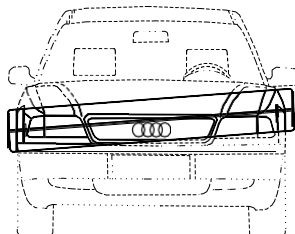


## ALIGNMENT WITH THE MIRROR VISOR

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 THE 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.



### ATTENTION!

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.



### ATTENTION!

During this operation, never look directly at the beam, and make sure it is not aimed at anyone in the vicinity of the work island.

# BEAM 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.



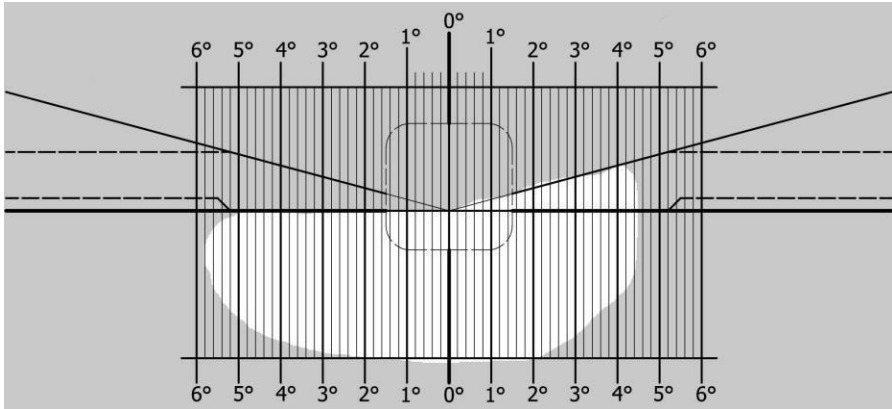
### ATTENTION!

**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%.**



## LOW BEAM TEST

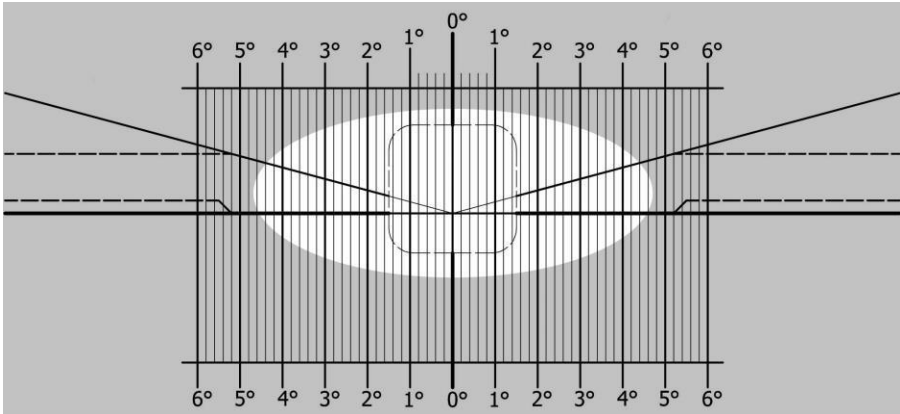
Check the position of the low beam headlight projection on the control panel. It should be aligned with the silkscreen printed line. Press the switch with the low beam symbol and read the value on the instrument.



## BEAM TEST

### HIGH BEAM TEST

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.



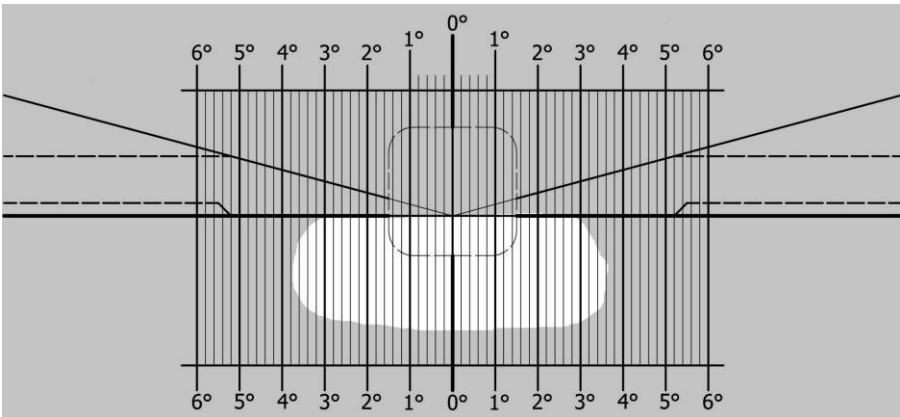
## BEAM TEST

### FOG BEAM TEST

Center the fog beam, turn the knob in the back side of the optical box to the required inclination.

In case there were no indications of the manufacturer, please follow the local laws.

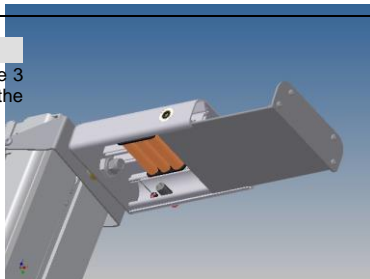
Check on the control panel the position of the headlight projection. aligned with the seriphic the , press the switch with the low beam symbol and read the value on the instrument.



## 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 MAINTENANCE

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.

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