Use, maintenance and spare parts manual

HEADLIGHT

HL 26DL1-L2

Summary

1 About this manual

1.1 Usage Information

Read the manual carefully. Particular attention is paid to the first pages where the safety regulations and conditions of liability are reported. The information contained herein is for personal protection purposes only when working with the instrument. When using the unit, it is advisable to consult the pages where the individual work steps are shown again, in order to prevent any risk to people and the instrument itself. The tool can only be used by a technician with specific technical training in the automotive sector. The information and knowledge transmitted during this training will no longer be reported or repeated in this user manual.

1.2 Symbology

	**WARNING/NOTE** This symbol indicates a possibly hazardous situation which, if not avoided, may result in minor injury or serious injury. Texts marked with NOTE contain useful and important information. It is therefore advisable to observe them carefully.

2 Safety Instructions

2.1 General Safety Instructions

	• The diagnostic tool is intended for use in vehicles only. The use of the tool requires the user to have good technical expertise and therefore the knowledge of the sources of danger and risks associated with working in workshop and on the vehicle. • All warnings and indications given in the individual chapters of the manual are valid of user. The following precautions and safety measures should also be observed. • All the general provisions of the office must always apply of the Labour Inspectorate, of the trade associations and of the manufacturers of motor vehicles, of the anti-pollution regulations as well as all the laws, decrees and rules of conduct that the workshop is commonly required to observe.

2.2 Safety instructions for the device

	To avoid any incorrect use of the appliance resulting in injury to the user or irreparable damage to the instrument, observe the following: • Make all necessary connections strictly according to the instructions in user guide or in the user manual. • Protect the instrument from moisture (not waterproof). • Protect the instrument from sudden blows (e.g. falls). • Do not open the tool. Only technicians authorized by Spin are authorized to open the instrument. Any warranty claim is void in the event of unauthorized work on the instrument. • If the instrument malfunctions, contact Spin's technical staff or a sales partner immediately. • Have the lens replaced if it is rifled or damaged • The image displayed on the control panel may be affected by dirt and scratches. Clean the lens only with a soft cloth and glass cleaner. • Regularly check the status of the 9V battery inside the optical box and the 3 traditional 1.5V AA type batteries of the laser module (presence of leakage/sulfonation).

2.3 Safety Instructions – Risk of Injury

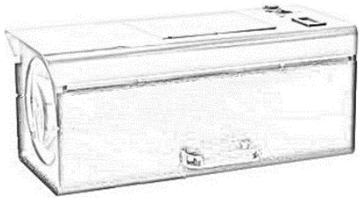
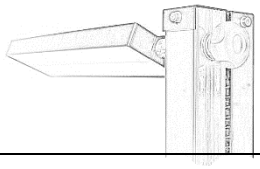
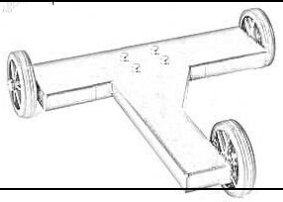
	Carrying out work on board the vehicle exposes you to the risk of injury caused by rotating components or accidental movement of the vehicle. Therefore, please scrupulously to the following: • Lock the vehicle in such a way that it cannot be moved. • If the vehicle is equipped with an automatic transmission, move the gear lever to the Parking (P). • Never touch moving parts.

2.4 Safety instructions regarding the LASER

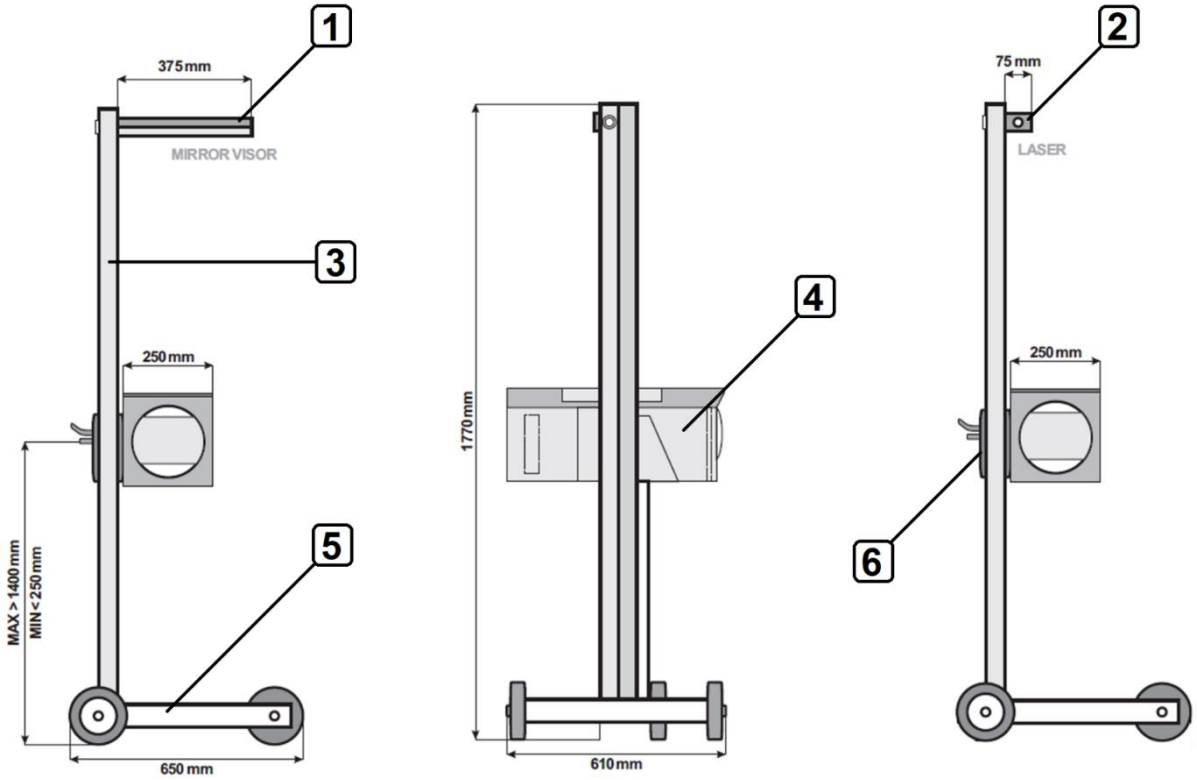
	The use of the laser presents a risk of injury due to blinding of the eyes. Keep to therefore scrupulously to the following: • Never place the laser beam at people, doors, or windows. • Never look directly into the laser beam. • Ensure good lighting of the workspace. • Avoid tripping hazards. • Protect the mechanical parts from the risk of falling or detaching.

3 Tool Description

3.1 Delivery Details

QUANTITY	DESCRIPTION	
1	Darkroom	
1	Mirror or LASER viewer (optional)	 or 
1	Base with plastic wheels	
1	Column with mounted sliding system	
1	Accessory kit A for fixing the column to the base	• 4 x M8 x 30 screws • 4 x 8 x 16 washers A
1	Accessory kit B for attaching the optical camera to the sliding system	• 1 x M8 x 20 Snap Lever • 1 x M8 x 20 screw • 1 x 8 x 16 washer • 1 x 8 x 24 washer B
1	Accessory kit C for attaching the viewer to the column	• 1 x M10 x 70 Flyer • 1 x 10 x 20 disc spring • 2 x 10 x 30 washers C
1	Operation and maintenance manual	

3.2 Tool Overview



Position	Description
1	**Mirror display** Allows you to make a correct alignment between the tool and the vehicle
2	**Laser Viewer (optional)** Allows you to make a correct alignment between the tool and the vehicle
3	**Column**
4	**Darkroom**
5	**Base on wheels** Allows the instrument to be moved
6	**Sliding system** Allows vertical movement of the instrument

3.3 Technical Characteristics

HEIGHT	166 cm	**MINIMUM OPERATING HEIGHT**	23 cm
WIDTH	61 cm	**MAXIMUM OPERATING HEIGHT**	146 cm
LENGTH	65 cm	**FEEDING**	9V BATTERY
WEIGHT	30 kg		

The instrument is supplied packed in a recycled cardboard box

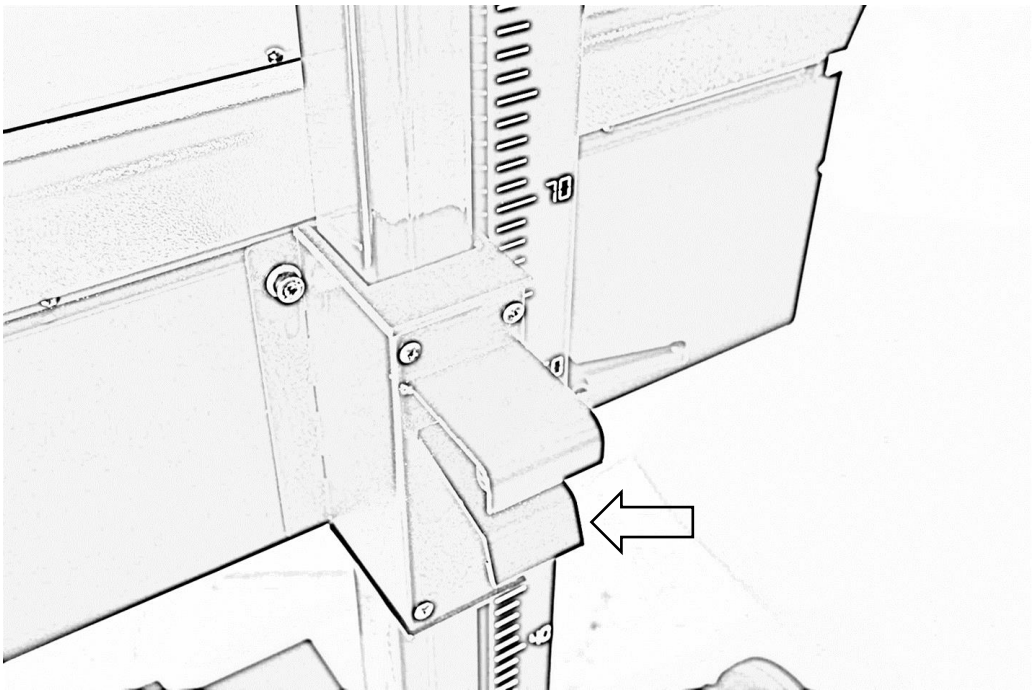
For the possible installation of the instrument, see paragraph **4 "Assembly"**

3.4 Using the sliding system

To adjust the height of the optical camera, proceed as follows:

1. Hold the optical camera from underneath with one hand and the sliding system with the other
2. Press the slide system lever (see below)
3. Move the optical camera vertically to the desired height
4. Release the slide system lever

The optical camera is now positioned at the desired height



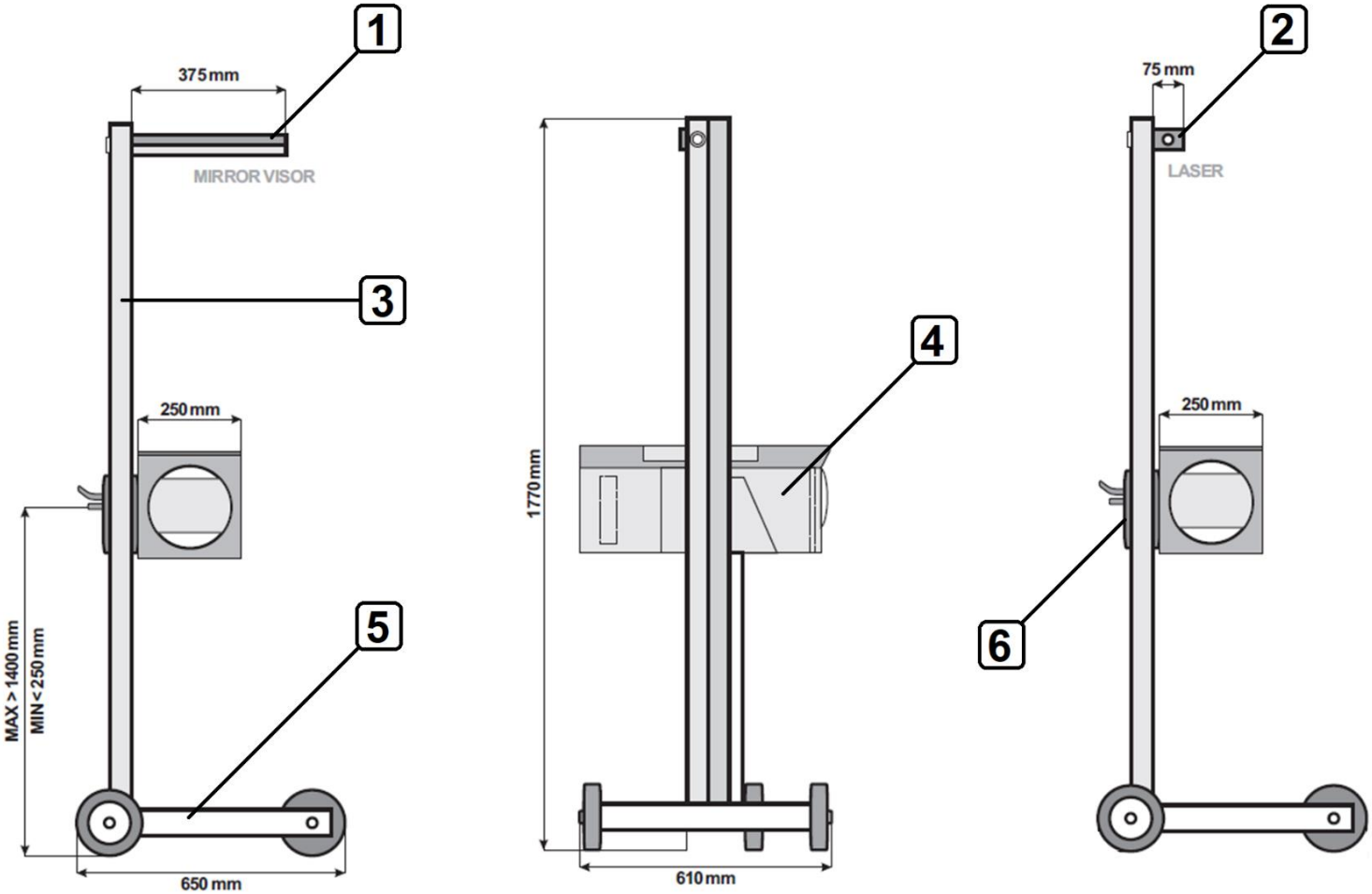
4 Mounting

1. Mount the column (3) to the base (5) using accessory kit A. Pay attention to the direction of the sliding system as shown in the figure below.

2. Attach the optical box (4) to the sliding system (6) using accessory kit B. Use the 8 x 16 washer for screw attachment and the 8 x 24 washer for the snap lever. To make it easier to attach the snap lever, use a flat-tip screwdriver

3. Attach the mirror viewer (1) to the column (3) using accessory kit C. The disc spring must be inserted between the washer and the viewer. Once the headset is secured, use an Allen key to tighten the grain of the headset so that it locks permanently.

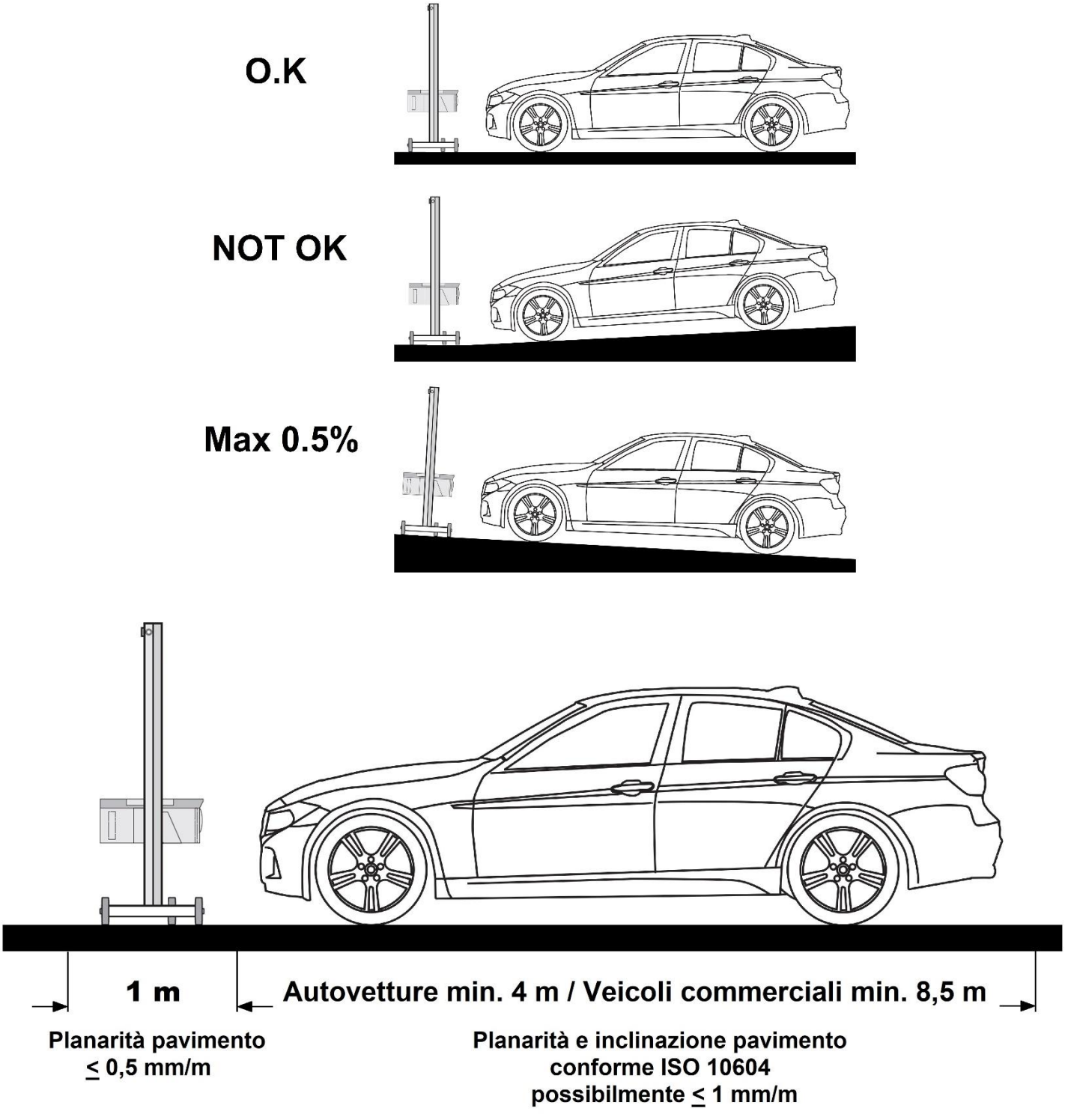
	**NOTE** **The LASER viewer (optional) is supplied with its own accessory kit and instructions for fixing.**



5 ISO 1060 Control Surface

During the headlight test, the floor should be as flat as possible. If this is not possible, the headlamp holder and the vehicle must be at least on a surface with a uniform difference in height, in any case with a slope of no more than 0.5%.

	ATTENTION!!! **The characteristics and condition of the contact surfaces are decisive for correct adjustment of the headlights. It is not recommended to test the headlights on floors that are not perfectly regular and flat as the adjustment cannot be precise.**



6 Vehicle Preparation

	NOTE **The tyres must be inflated to the prescribed pressure!**

The following loads must be present on the vehicle:

- Motor vehicles: one person or 75 kg in the driver's seat and no other loads.
- Trucks and other vehicles with one or more axles: no load.
- Single-axle vehicles and tractors and single-axle operating machines (with driver's seat or trailer): one person or 75 kg on the driver's seat.

If there is hydraulic or air suspension, the engine must run at medium speed, until the height of the vehicle no longer changes. If there is automatic correction of the projectors or stepless or two-stage adjustment, the manufacturer's instructions must be observed.

	NOTE **National provisions must be complied with in all cases.**

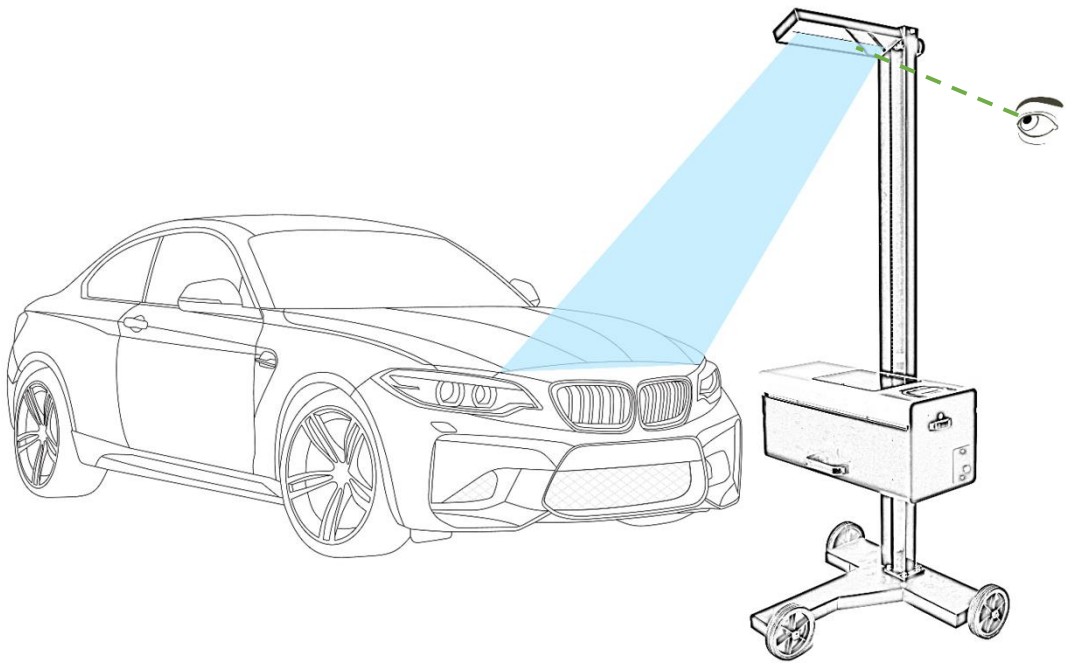
7 Alignment

	NOTE **Make sure that, once moved in front of each headlight, the headlamp holder has remained parallel to the vehicle, by checking again through the viewer. The freewheel trolley of the headlamp holder does not guarantee a perfectly linear flow, which can also be determined by soil imperfections or operator movement**

7.1 Alignment via MIRROR viewer

Position the optical box with the mirror viewer so that the line of the viewer touches two points at the same height, symmetrical with respect to the longitudinal axis of the vehicle.

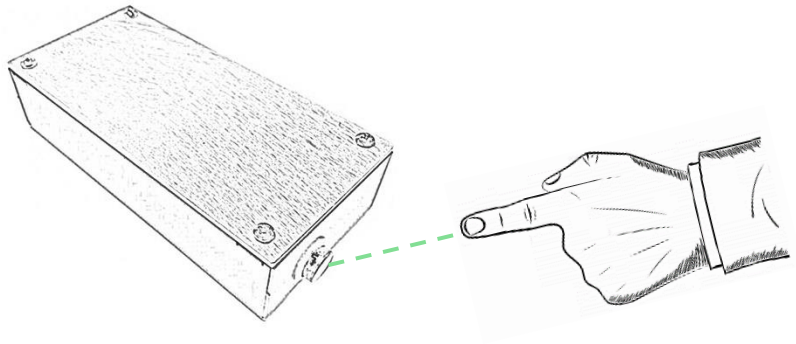
If alignment difficulties occur on some trucks or buses with a very curved front, return the center of the headlamp to the ground with a plumb line or otherwise and detect it with the viewer.



7.2 Alignment using the LASER viewer (only versions that provide it)

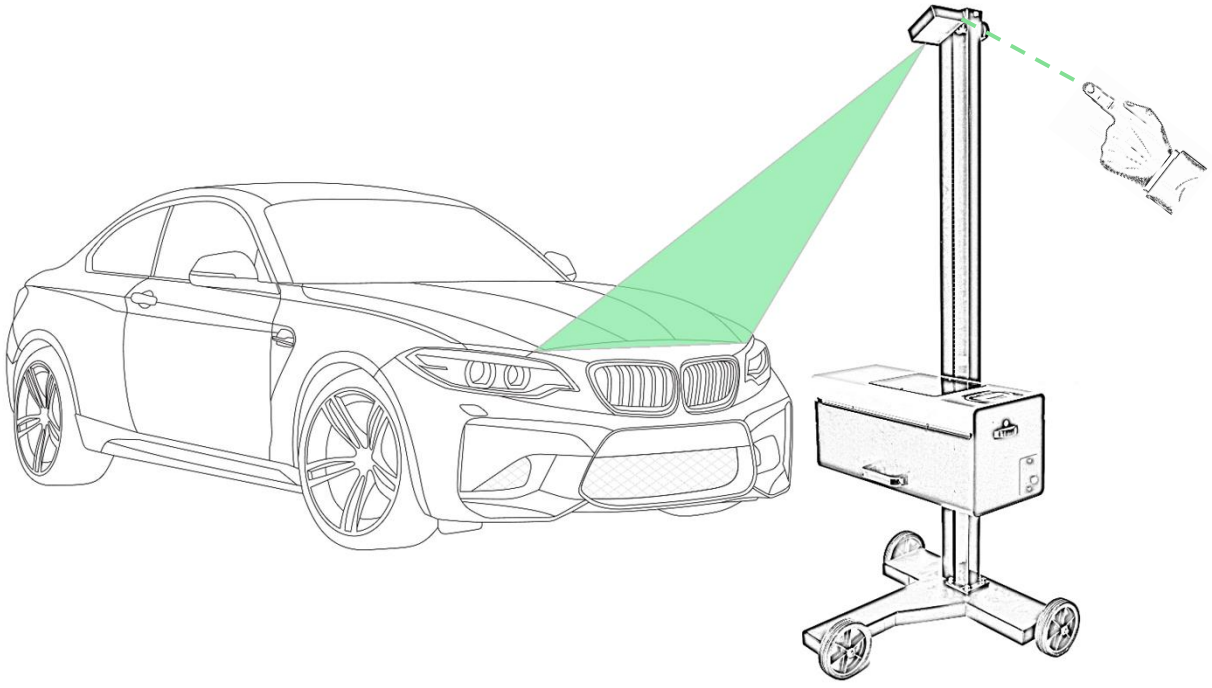
	**LITIGATION** **The use of the laser presents a risk of injury due to blinding of the eyes. Therefore, scrupulously follow the following instructions:** **• Never place the laser beam at people, doors, or windows.** **• Never look directly into the laser beam.** • Ensure good lighting of the workspace. • Avoid tripping hazards. • Protect the mechanical parts from the risk of falling or detaching.

The LASER viewer is equipped with a return button to avoid the risk of injury to the operator. To turn on the laser, **press and hold the green button** located on the back of the viewer as shown below:



Position the optical box with the laser viewer so that the green laser line touches two points at the same height, symmetrical with respect to the longitudinal axis of the vehicle.

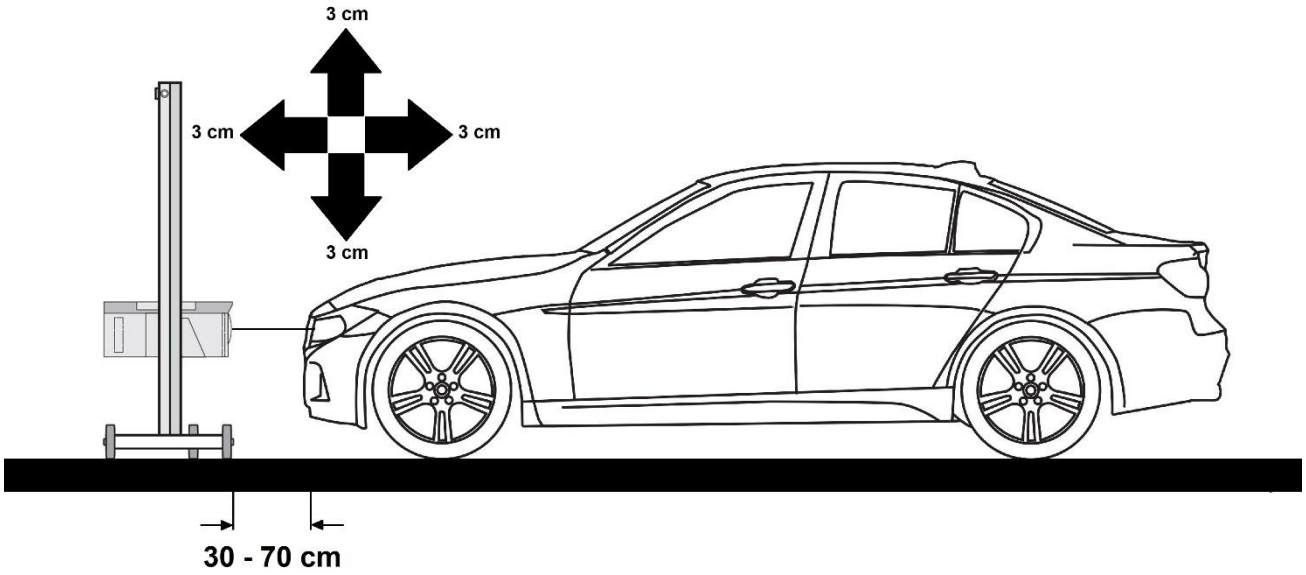
If alignment difficulties occur on some trucks or buses with a very curved front, return the center of the headlamp to the ground with a plumb line or otherwise and detect it with the viewer.



	NOTE If the headlamp holder is not equipped with a slider system, **ALIGNMENT WITH THE VEHICLE MUST BE CHECKED IN FRONT OF EACH HEADLAMP TO BE CHECKED**

1. Place the headlamp center in front of the projector to be controlled.
2. Measure the height of the floor in the centre of the headlight and bring the optical box to the corresponding height using the graduated scale located on the pole. The top of the sliding system should be used as a reference
   (This operation is not carried out if the device is equipped with a laser aiming system, see par. 7.3)
3. Check that the optical box is in the center of the projectors.

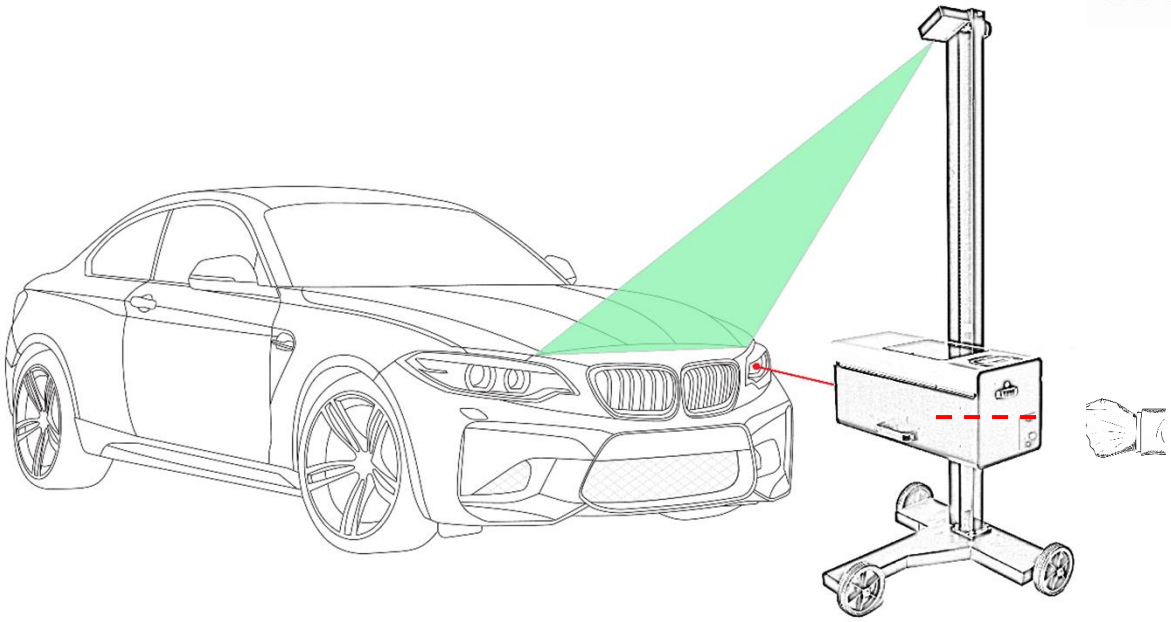
	NOTE **Maximum height and lateral deviations: 3 cm.** **Distance from the front edge of the optical box to the projector: 30 to 70 cm**.



7.3 Using the LASER Pointer (LASER Pointer Only)

	LITIGATION **The use of the laser presents a risk of injury due to blinding of the eyes. Therefore, scrupulously follow the following instructions:** **• Never place the laser beam at people, doors, or windows.** **• Never look directly into the laser beam.** • Ensure good lighting of the workspace. • Avoid tripping hazards. • Protect the mechanical parts from the risk of falling or detaching.

If the device is equipped with the LASER POINTER accessory, this can be used to facilitate the positioning of the device in the center of the projector to be controlled. Once the alignment has been checked using the headset, turn on the pointer by pressing the button behind the optical box. Use the sliding system to bring the optical camera with the laser dot to the center of the projector to be controlled (see below)



8 Checking and/or adjusting the headlights

	NOTE The headlamp holder allows you to control all headlight systems, including DE, FF, LED and xenon headlight systems. The rectangle drawn on the control screen corresponds to the dimensions of the control surface that is mandatory in accordance with the directives on the adjustment of vehicle headlights. After adjustment, the headlights must be attached to the vehicle in such a way that no unintentional change occurs. The adjustment of the headlights should always be checked after a repair to the vehicle's suspension. The same is also recommended after replacing the bulb of a headlight.

In vehicles with automatic load-dependent headlamp or body tilt compensation,
observe the special features of these devices according to the manufacturer's instructions.

In vehicles with the possibility of manual adjustment of the headlights, the adjustment device must be in the position of
Locking required for basic adjustment.

Floodlights with adjustment devices for only 2 positions, where the locking positions are not marked in
In particular, proceed as follows:

• In vehicles where the light beam rises as the load increases, adjust to the final position
of the dimming device where the light beam is at its maximum height.

• In vehicles where the light beam decreases as the load increases, adjust to the final position
of the dimming device where the light beam is at the minimum height.

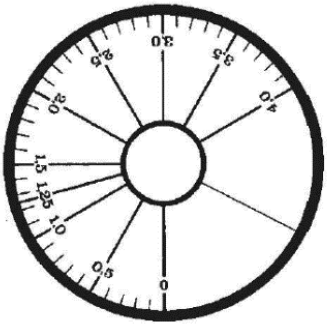
8.1 Interior Panel

The inner panel moves by means of the graduated wheel located on the back of the optical box. Depending on the type of vehicle you want to control, place the thumbwheel on the corresponding sign as follows:

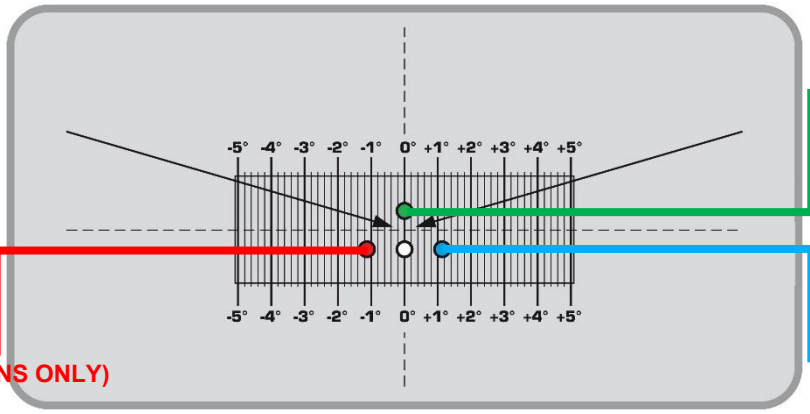
CASTER IN POSITION 1: For vehicles with headlamp centre clearance up to 80 cm.

WHEEL IN POSITION 1.5: For vehicles with ground clearance in the centre of the headlights over 80 cm.

Graduated wheel



Interior Panel



Brightness sensor DAZZLING

Brightness sensor ANTI-GARE

Brightness sensor ANTI-GARE

(LEFT-HAND DRIVE VERSIONS ONLY)

On some vehicles, the manufacturer may have indicated, imprinted near the headlight, the inclination to be given to the headlights of the vehicle itself. In this situation, use the manufacturer's indication

E.g. The headlight is printed with the inscription 1.2% - put the wheel in position 1.2

	**NOTE** **Before proceeding with the headlight test CAREFULLY CHECK THAT THE LEVEL INSIDE THE OPTICAL CHAMBER IS LEVEL.** If necessary, in order to level the optical chamber, open the friction lever, move the optical chamber until it reaches perfect leveling, retighten the friction lever. Proceed to the headlight test

A) Prepare the headlamp holder and the car as per the previous instructions and turn on the dipped headlights, the headlight projection will appear on the inside dashboard.

B) Check that this is at the reference line.

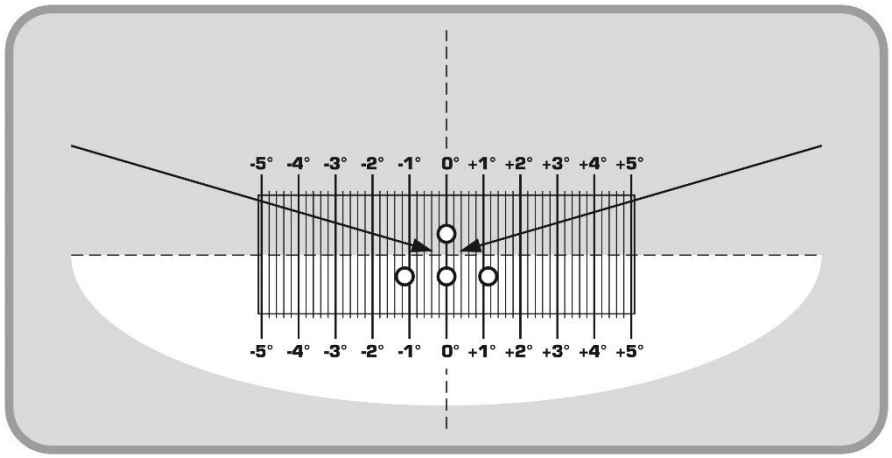
C) If necessary, adjust the headlight adjustment system until the desired result is obtained

8.2 SYMMETRICAL LOW BEAM HEADLIGHTS

Adjust the measuring wheel to the correct position (see par. 8.1)

Switch on the dipped headlights: the light/dark limit must run the entire width of the screen, possibly horizontally along the reference line. If necessary, correct the adjustment of the headlights using the adjustment screws.

Example of symmetrical dipped headlight adjustment:

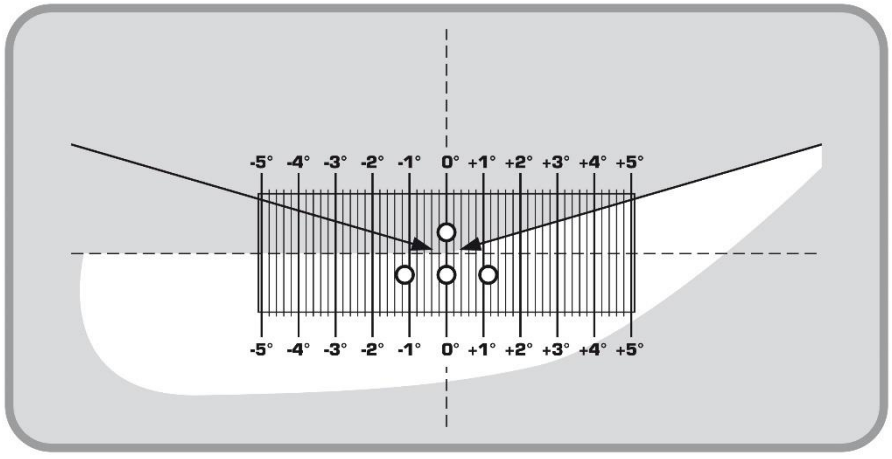


8.3 ASYMMETRICAL LOW BEAM HEADLIGHTS

Adjust the measuring wheel to the correct position (see par. 8.1)

Switch on the dipped headlights: In headlamps with an asymmetrical low beam, the light/dark limit must be in contact with the reference line. The point of intersection between the left and the right side of the light/dark boundary must coincide with the central mark (central cross of the panel). The bright core of the light beam is therefore located to the right of the vertical line that crosses the central marking. To make it easier to detect the point of intersection of the headlight centerline, cover and clear alternately a few times. Finally, check the dipped beam headlamp again.

Example of asymmetrical dipped headlight adjustment:

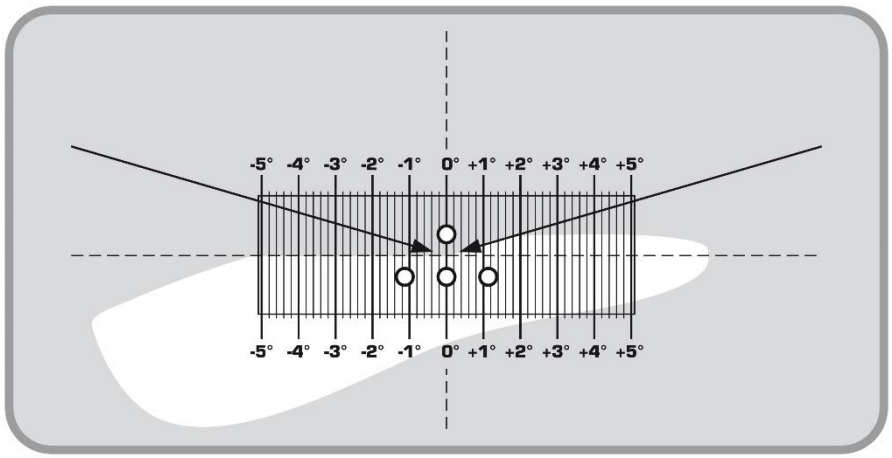


8.4 LOW BEAM LED-XENON HEADLIGHTS

Adjust the measuring wheel to the correct position (see par. 8.1)

Switch on the dipped headlights: In headlamps with an asymmetrical low beam, the light/dark limit must be in contact with the reference line. The point of intersection between the left and the right side of the light/dark boundary must coincide with the central mark (central cross of the panel). The bright core of the light beam is therefore located to the right of the vertical line that crosses the central marking. To make it easier to detect the point of intersection of the headlight centerline, cover and clear alternately a few times. Finally, check the dipped beam headlamp again.

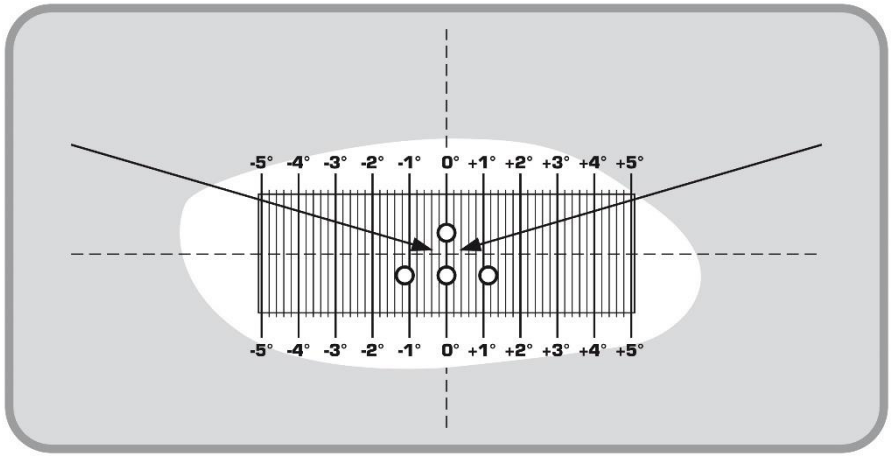
Example of LED-XENO dipped beam headlight:



8.5 HIGH BEAM headlights

	NOTE After a professional adjustment of the light/dark limit of the low beam, the centre of the beam of the high beam must be on the **HIGH BEAM sensor**

When the high beam is not placed in the same plane as the low beam, the high beam test must be carried out by centering the light projection as shown in the image:

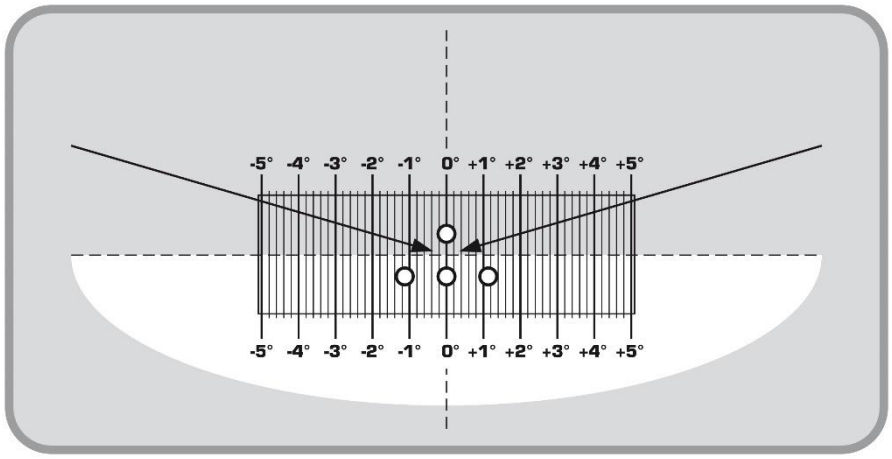


8.6 Fog LIGHTS

Adjust the measuring wheel to the correct position (see par. 8.1)

Switch on the fog lights: the light/dark boundary must run the entire width of the screen, possibly horizontally along the dotted line. If necessary, correct the headlight adjustment using the adjustment system provided.

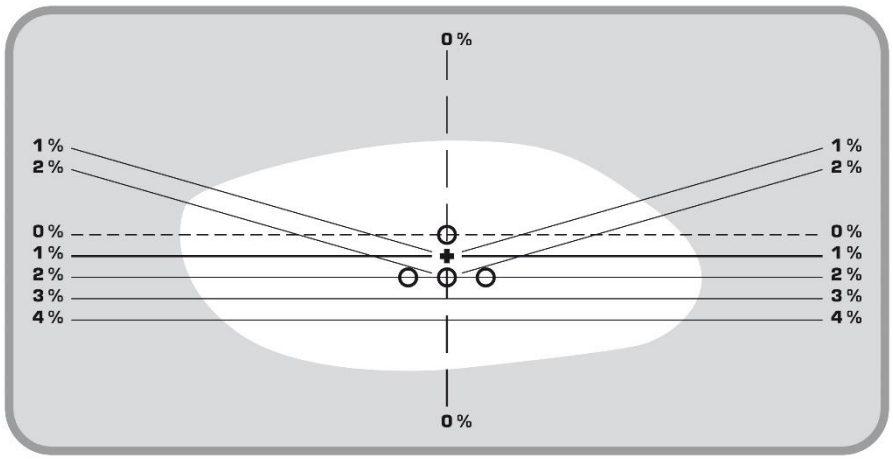
Example of fog light adjustment:



8.7 Special headlights for HIGH BEAM

Switch on the main beam: The centre of the high beam of the main beam must be on the **HIGH BEAM light sensor**; correct if necessary using the control system provided.

Example of special high beam headlight adjustment:



	**NOTE** In the case of separate high beam modules (e.g. in combination with bi-xenon headlamps), the main beam must be adjusted according to the vehicle manufacturer's specifications, as there may be several possibilities.

9 Using the Digital Lux Meter

The digital lux meter allows you to check, after adjusting the headlamps, whether the maximum permissible high beam value of the low beam headlamp has been exceeded and whether the minimum illumination power of the high beam has been reached and/or whether the maximum power has been exceeded.

9.1 Halogen headlamp test setting – LED/XENON (only versions that provide it)

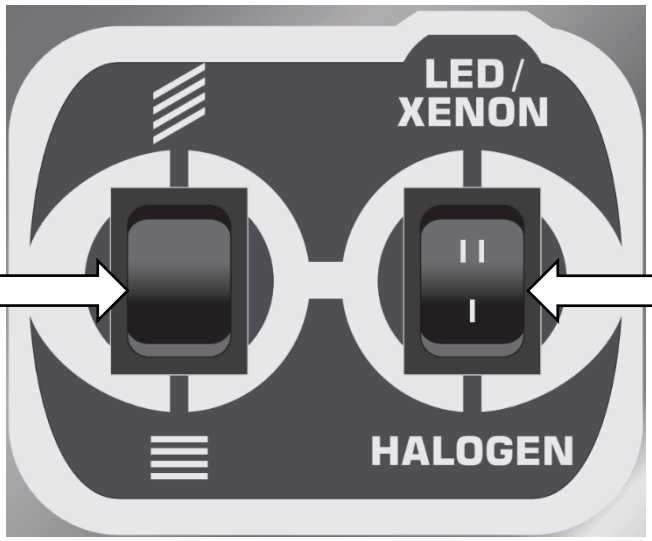
If the device is equipped with the LX accessory for reading the light intensity of the LED and XENO headlights as well, follow the instructions below for the correct setting of the keys before proceeding with the reading:

Using this button, choose the

Type of projector to be tested:

ANTI-GARE

DAZZLING



Using this button, choose the

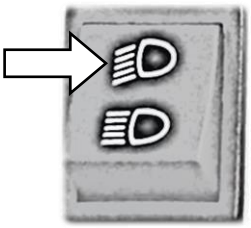
Projector Light Type:

LED/XENON

HALOGEN

9.2 Anti-glare headlamp test

Press the button with the low beam symbol to detect the light intensity (see below)

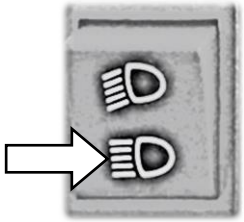


LOW BEAM HEADLAMP LIMITS

3.7 - 90 Klux/1m

9.3 HIGH BEAM headlamp test

Press the button with the high beam symbol to detect the light intensity (see below)



HIGH BEAM HEADLAMP LIMITS

20 – 150 Klux/1m

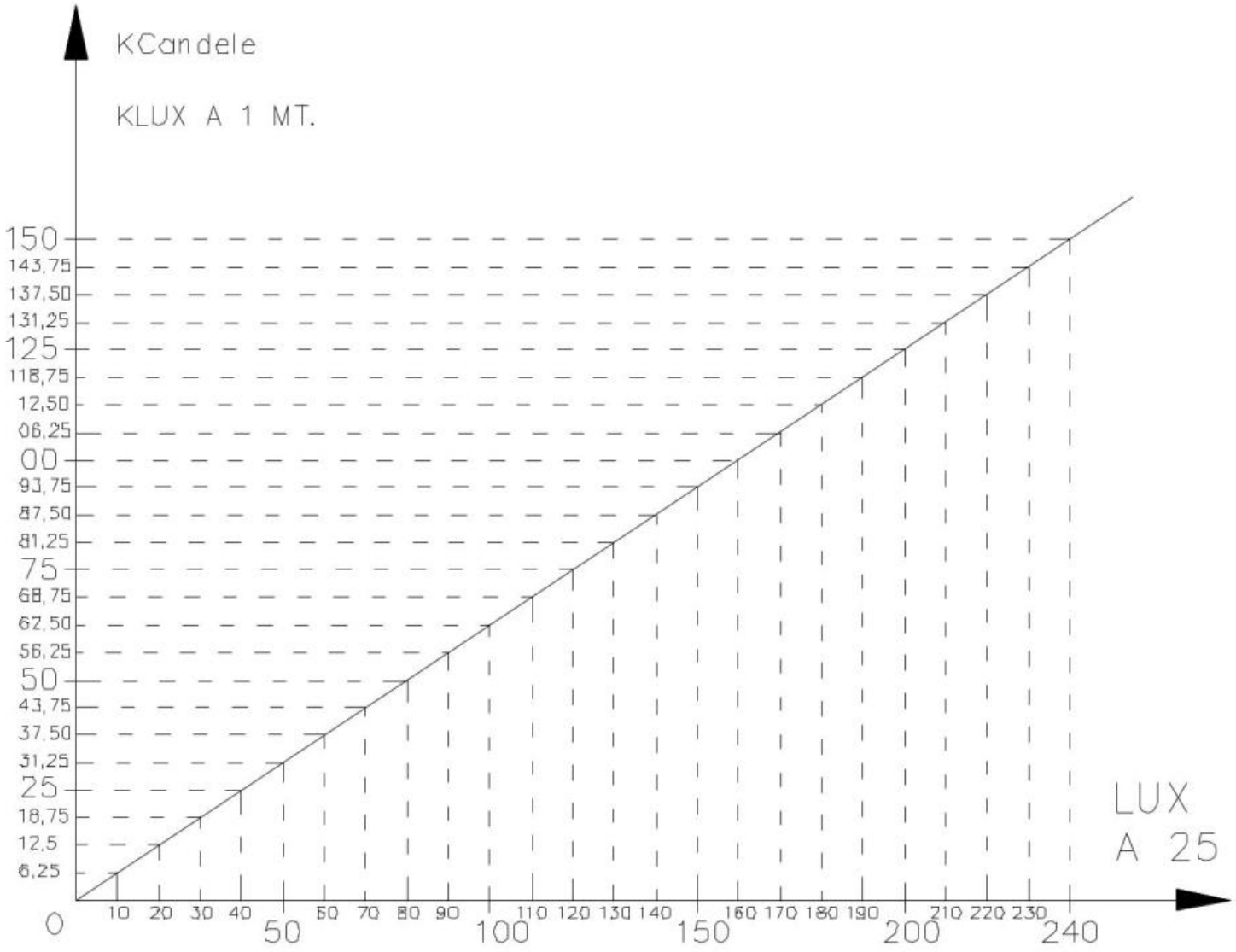
	**NOTE** The brightness values for headlamps combined with several integrated modules must be evaluated according to the vehicle manufacturer's specifications due to the **different** adjustment options. **Before checking the brightness values, carry out a visual check of the headlights.**

Failure to reach the above values can be caused by the following errors:

ERROR	*CAUSE*
The battery voltage decreases considerably	Low battery, faulty alternator

Considerable difference between battery and bulb voltage	Poor power connections, poor line or insufficient cross-section sizing, poor ground connections, faulty switch contacts, oxidized or rusted connectors on fuses
Spotlights are fogged up or corroded	Water inflation in the headlight due to anemetic properties caused by lens deformations, insufficient ventilation, mechanical damage and aging
Indefinable light/dark limit	Lamp holder broken, bulb not embedded in the holder (the connection has come loose)
Unable to adjust the headlight	Defective headlight adjustment, reflector has detached from adjustment screws (vibrations)
Weak reddish light in xenon headlights	Defective power supply or gas discharge lamp
Short ignition at the aircraft with xenon headlights	Insufficient power supply power, e.g. too small section of the power supply line

9.4 Klux/1m – Lux/25m Conversion Table



10 Controlling the Adjustment Device

Spin headlamp centrists are supplied pre-calibrated. If the device is misused in the workshop (e.g. if it is tipped over), the calibration may be lost. Therefore, depending on the frequency of use, it is advisable to have the device checked with the appropriate calibrator at regular intervals, for example by contacting your distributor.

10.1 Cleaning

It is good practice to protect the tool from dust when not in use. A cover for the optical camera is available on request. Periodically wipe with a damp cloth to remove any stains. The paint that covers the tool resists cleaning agents. Do not oil the column or use alcohol to clean it.

	**ATTENTION** **Do not leave the equipment in areas where there may be corrosive vapors, such as battery charging areas or painting areas.**

11 Supplemental Instructions

11.1 Decommissioning and disposal

According to Directive 2012/19/EU, the machine cannot be disposed of as municipal waste, but it is mandatory to deliver it to a specialized center for the separate collection and disposal of WEEE (Electrical and Electronic Environmental Waste), or it can be returned to the retailer in case of purchase of a new one. The law provides for penalties for those who release WEEE waste into the environment. WEEE waste, if released into the environment or used improperly, can release substances that are hazardous to the environment and human health.

11.2 Battery Disposal

The machine uses a 9V battery which is considered special waste and as such must be disposed of according to the regulations in force.

12 Spare Parts

12.1 General Provisions

When replacing spare parts, use only ORIGINAL SPARE PARTS.

The use of non-original spare parts involves the immediate suspension of the warranty, moreover the **manufacturer** declines any responsibility for the safety of the device in the event of accidents.

The **manufacturer** makes its technicians available to customers and at its plant to solve any problem regarding the use and maintenance of the device.

To order a spare part, it is advisable to use the form attached below, which must be completed in its entirety.

This is followed by a list specifying the number corresponding to the position occupied in the exploded views, the code and the description of the individual pieces.

Orders (which must be sent by email) should be addressed to:

Spin S.r.l.
Via Casalecchio, 35/G 47924 RiminiTel. 0541 730 777 / Fax. 0541 731315
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12.2 SPARE PARTS REQUEST FORM

On the next page you will find the tab to be used to order spare parts.

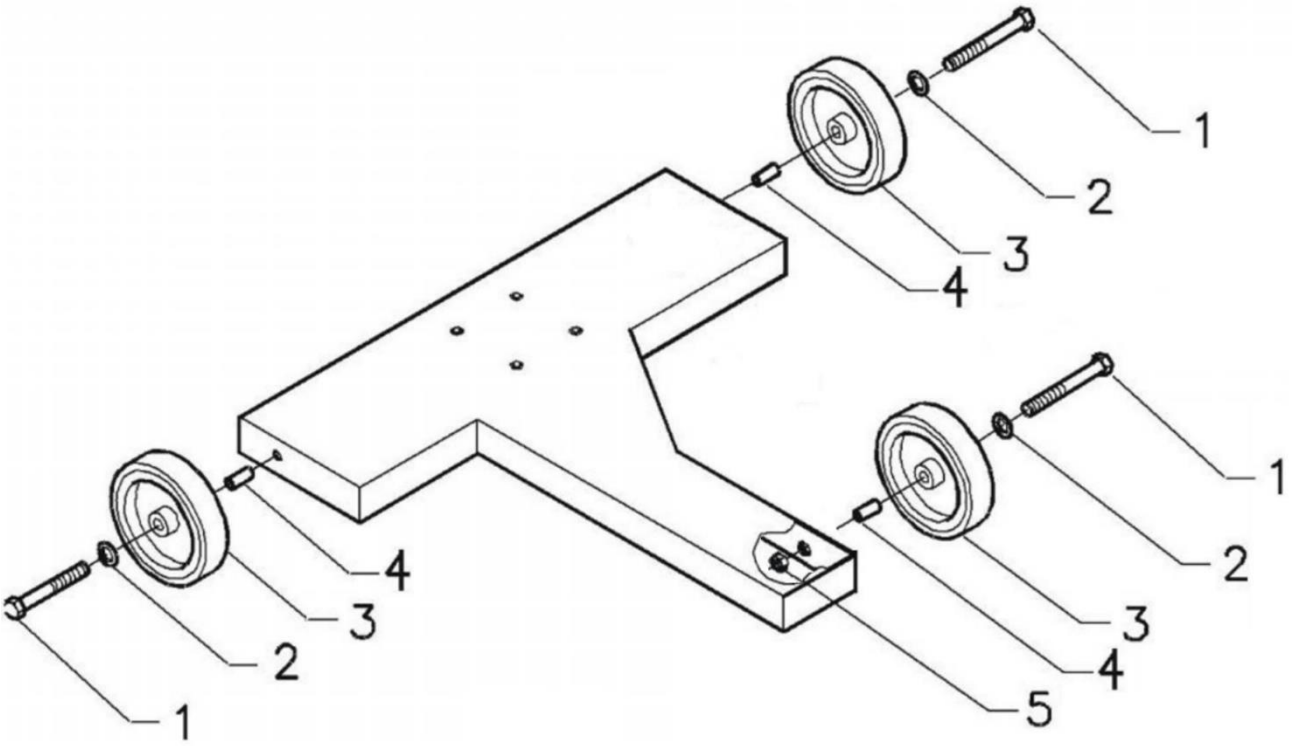
In the case of a request for spare parts or a request for a quote for spare parts, it is advisable to photocopy the form and fill it out in its entirety.

The detailed compilation is crucial to have a prompt response from the Technical Assistance Center **of the Manufacturer.**

	SPARE PARTS REQUEST FORM
CUSTOMER:	
MODEL:	**SERIAL NUMBER:**
YEAR OF MANUFACTURE:	
SHIPPING ADDRESS:	
TELEPHONE:	**FAX:**

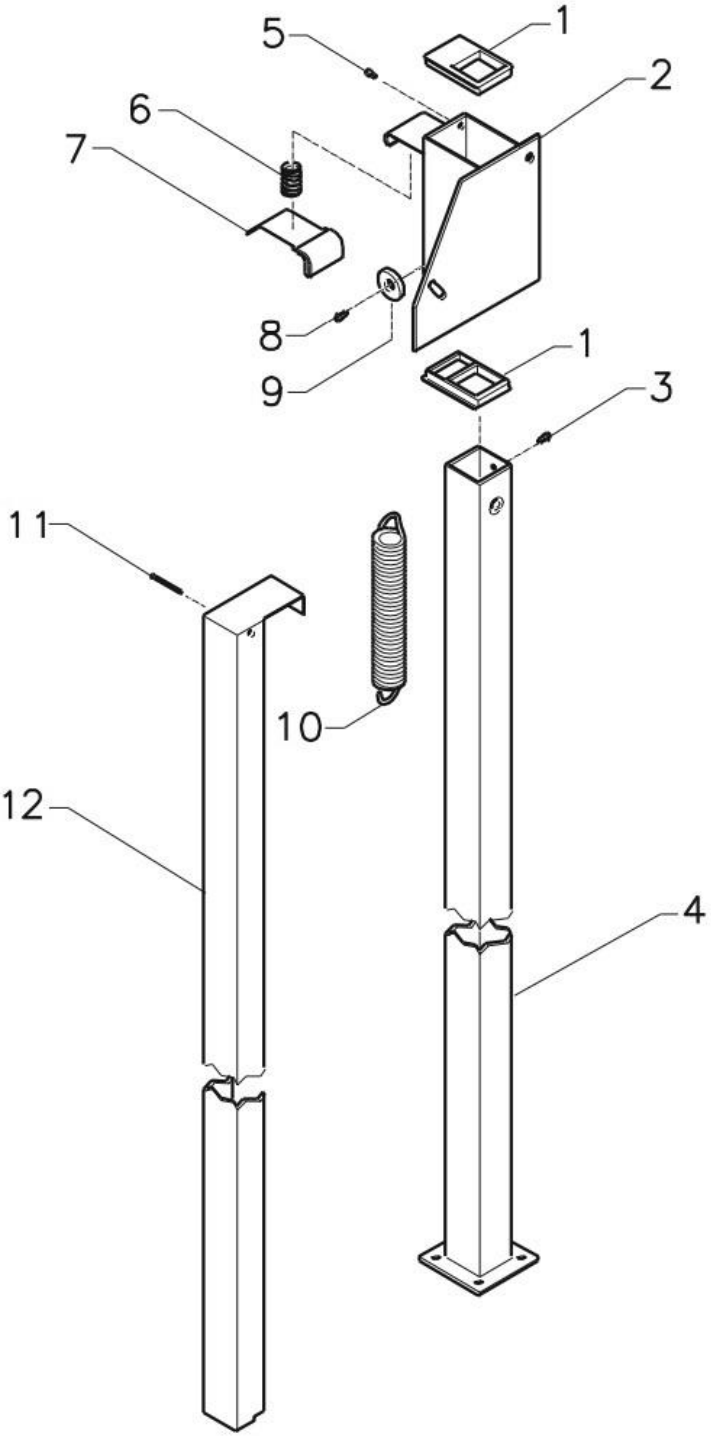
DRAWING NO.	POS	CODE - DESCRIPTION	QUANTITY

12.3 Exploded view Wheeled base (0HBP211HB00)



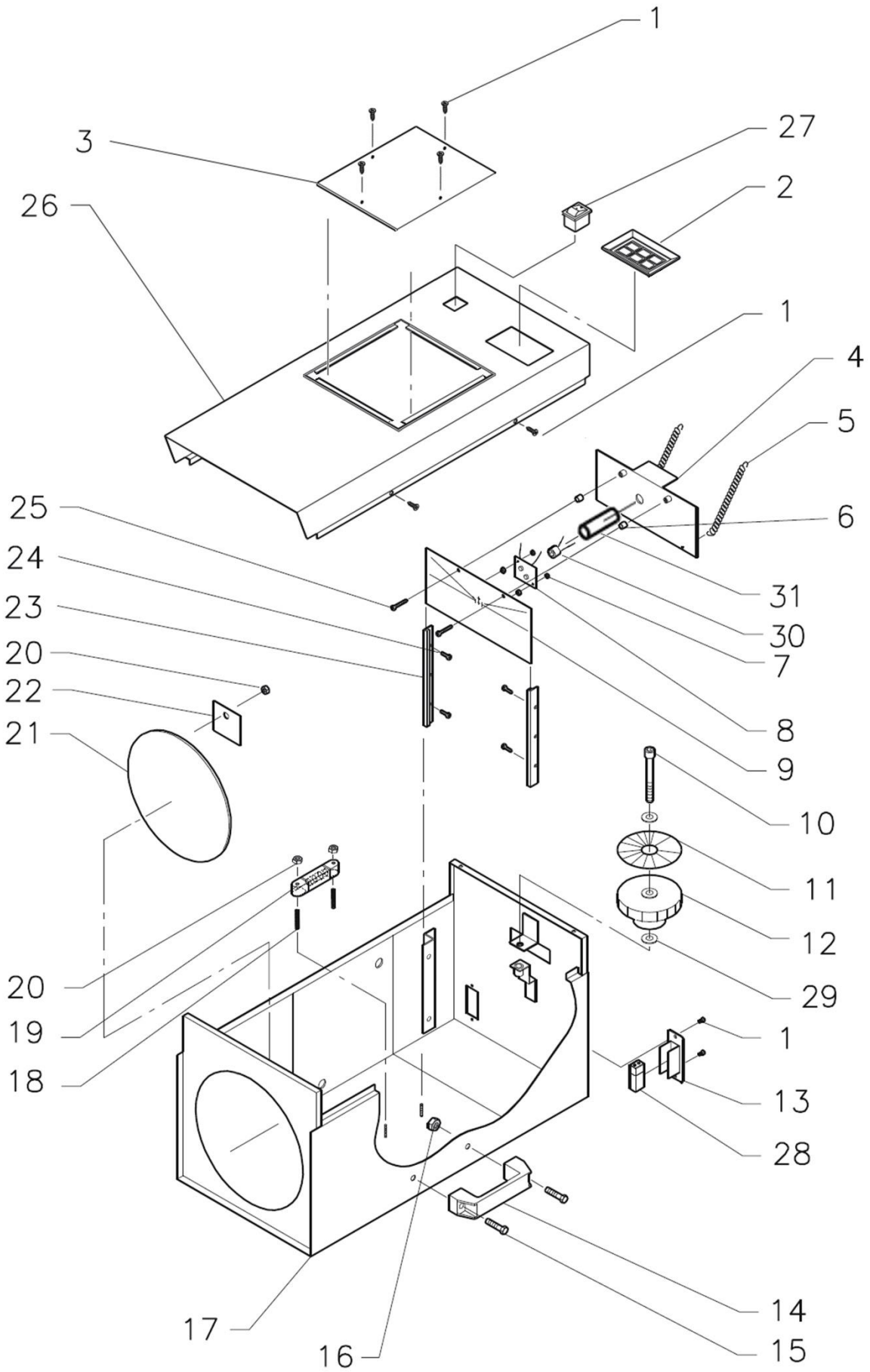
POS.	CODE	DESCRIPTION	Q. TA
1	VM8x65	M8x65 screw	3
2	R8x24	Washer 8x24	3
3	0RT0007HB00	Wheel Ø 150 standard	3
4	0RT0008HB00	Wheel bushing	3
5	DM8A	M8 self-locking nut	1

12.4 Column Exploded View (0HBC004HB00)



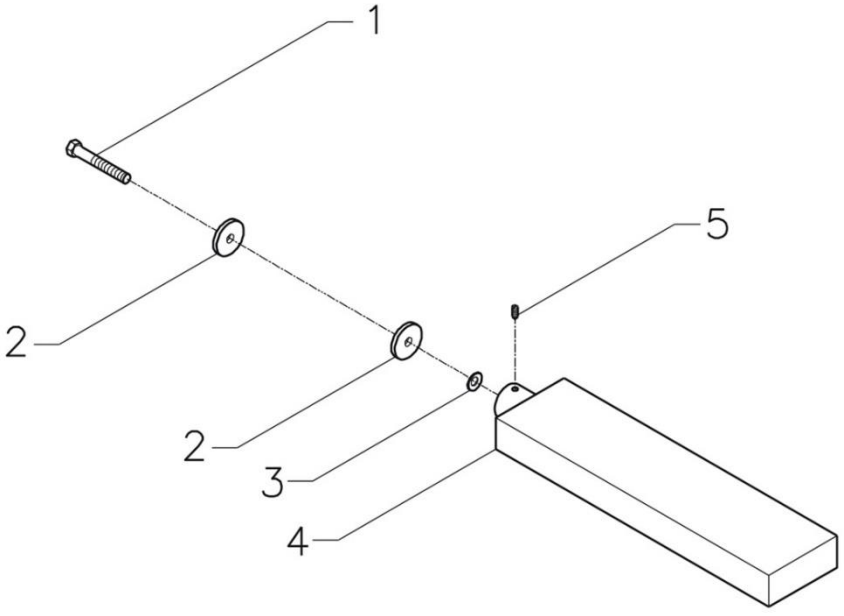
POS.	CODE	DESCRIPTION	Q. TA
1	0HB0146HB00	Column guide frame	2
2	CHB0243HB00	Painted sliding sheet	1
3	VM6x16	M6x16 screw	1
4	YVHB0109HB00	Painted H1660 headlamp center pole	1
5	VA5x18	Self-tapping screw 5x18 wide head	4
6	0HB0128HB00	Slide gun spring	1
7	0HB0305HB00	Complete brake lever	1
8	VM5x5	M5x5 screw	1
9	R6x24	Washer 6x24	1
10	0HB0127HB00	Headlight centrer casing spring	1
11	VM6x45	M6x45 Screw	1
12	YSHB0241HB00	Screen-printed pole casing	1

12.5 Exploded view of optical camera (0HBS007HB00)



POS.	CODE	DESCRIPTION	Q. TA
1	VA3.5x10	Self-tapping screw 3.5x10	10
2	EHB0104HB00	Digital lux meter	1
3	0HB0101HB00	Standard smoked plexiglass windshield	1
4	ZHB0282HB00	Laser Dashboard Mount	1
5	0HB0130HB00	Dashboard sliding spring	2
6	DIST4x10	Spacer 4x6x10	4
7	DM3	M3 Nut	2
8	DM4	M4 Nut	2
9	YSHB0203HB00	Screen-printed dashboard	1
10	VM10x65	Screw M10X65	1
11	0AD0056HB00	Dashboard adjustment wheel sticker	1
12	0HB0141HB00	Wheel for dashboard adjustment	1
13	YVHB0300LHB0	Laser-ready battery holder	1
14	0HB0138HB00	Optical box handle	1
15	VM8x16	M8x16 screw	2
16	DM8	M8 nut	2
17	YVHB0207HB00	Standard optical box	1
18	0HB0129HB00	Optical box level spring	2
19	0HB0140HB00	Light box level	1
20	DM4A	M4 self-locking nut	3
21	0HB0120HB00	Plexiglass optical lens	1
22	ZHB0248HB00	Lens holder plate	1
23	0HB0102HB00	Dashboard slide guide	1
24	VM4x10	M4x10 screw	4
25	VM4x25	M4x25 screw	2
26	YVHB0206HB00	Standard cover	1
27	EHB0105HB00	Screen-printed toggle button ABB-ANABB	1
28	EHB0229HB00	9V battery	1
29	R10x20	Washer 10x20	2
30	EHB0165HB00	Red dot laser module (only if provided)	1
31	0HB0217HB00	Laser module bushing (only if provided)	1

12.6 Exploded view mirror (0HBV001HB00)



POS.	CODE	DESCRIPTION	Q. TA
1	0HB0148HB00	10x70 handwheel for mirror viewer	1
2	R10x30	Washer 10x30	2
3	MT10x20	Disc spring 10x20	1
4	0HB0119HB00	Plastic viewer without mirror	1
5	GM6x6	M6x6 Grub Screw	1
6	0HB0154HB00	Screen-printed glass mirror (not visible)	1

12 CE Declaration of Conformity

DECLARATION OF CONFORMITY

CE

Spin S.r.l.
Via Casalecchio, 35/G 47924 Rimini
Tel. 0541 730 777 / Fax. 0541 731315
(Manufacturer with whom the Technical File is set up and kept)

DECLARES UNDER HIS/HER OWN RESPONSIBILITY THAT THE NEW MACHINE:

HL26DL1-L2	**NR. FRESHMAN:**	**YEAR OF CONSTRUCTION:**

IT COMPLIES WITH THE FOLLOWING DIRECTIVES:

Machinery Directive 2006/42/EC and subsequent
EN S 50081-1 Law 89/336/EC electromagnetic compatibility and subsequent
European Directives 89/392/EC type A and low voltage 2006/95/EC
ISO 10604 Standards

Rimini, lì_____

The Legal Representative
Marco L.

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