

# **HEADLIGHT BEAM TESTER**

**Model:**  
**2400/UKR/LV**  
**2400/UKR/HV**

## **INSTRUCTION MANUAL**

## **GENERAL REGULATIONS**

Read carefully the instructions in this manual, before using the headlight beam tester. Do not allow unqualified persons to use this device, this to prevent damage to the device. The work place should be dry, lighted and ventilated. Working areas should be equipped with an exhausts gas aspirator, since the headlights test must be effected with the engine on. Breathing carbon monoxide can seriously damage the human organism, sometimes with lethal results. Put the handbrake on. Do not use the device to direct sunlight, avoid sudden changes of temperature and vibrations, to avoid mistakes.

## **DESCRIPTION OF THE DEVICE**

Headlight beam tester (HBT): equipment for the control of car, motorcycle and heavygoods vehicle headlights.

Supplied with:

Turning column

Mirror-visor

Luxmeter

## **TECHNICAL CHARACTERISTICS:**

height: 177 cm.

width: 61 cm.

length: 61 cm.

## **MAXIMUM MEASUREMENT HEIGHT: 141 CM.**

minimum measurement height: 24 cm.

focal length: 500 mm.

## **PACKING**

The HBT is delivered in a recycled carton box.

## **HEADLIGHT BEAM TESTER ASSEMBLY**

Fix the column with 4 screws

Fix the optical box with the screw and the lever

Fix the mirror-visor with two screws.

The stand is calibrated and locked in the correct

Position at the moment of the test of the device.

## **COMPLEX SYSTEMS INCLUDING XENON AND BI-XENON HEADLIGHT SYSTEMS**

It is essential that this equipment is aligned exactly on the centre line of the dipped beam pocket.

If when carrying out a normal test/adjustment a clearly defined headlamp pattern cannot be seen, it will be necessary to move the vehicle closer to the test equipment.

It is essential that the vehicle headlamp and test equipment are as close together as possible

## **TESTING HEADLAMPS WITH COMPLEX LENS SYSTEMS.**

Complex headlamp systems are those that have more than one lamp behind a single lens.

It is essential that the headlamp aim test equipment is aligned exactly on the centre of the dipped beam pocket.

If when carrying out a normal test a clearly defined headlamp pattern cannot be seen, it will be necessary to move the vehicle closer to the test equipment.

It is essential that the car headlamp and test equipment are as close together as possible, otherwise the whole of the beam pattern may not be visible.

## **EUROPEAN TYPE HEADLAMP CHARACTERISTICS (NOTE:1)**

An asymmetric dipped beam, pattern with a distinctive horizontal cut-off on the right, and a 15 degree wedge of light above the horizontal (the "Kick up") towards the left.

A lens with one or more asymmetric stepped patterns molded in the glass.

A lens may carry:

European approval mark – a circle containing an "E" and a number, or

Rectangle containing an "e", and a number

The European approval mark should incorporate a single or double-headed arrow.

The dipped beam is denoted by either:

Capital letter "C" above a capital "E"

Capital letter "C" above an "e"

**NOTE:** Setting "E" Beam Headlamp aim

These dip-beam headlamps should be set to aim downwards the amount shown on a marking which is either close to the vehicle manufacturer's plate or the headlamp.

For vehicles without a marking, the downward aim should be set as follows:

1.3%, if the headlamp centre is not more than 850 mm. from the ground

2.0%, if the headlamp centre is more than 850 mm. from the ground

### **Reason for rejection**

The beam image "Kick-up" is to the offside.

For headlamps with centre not more than 850 mm. from the ground, the beam image horizontal cut-off is not between the horizontal 0.5% and 2% lines, i.e. the red tolerance band.

## BRITISH AMERICAN TYPE, (CHECKED ON MAIN BEAM)- CHARACTERISTICS: (NOTE:1)

Headlamps tested on main beam have a symmetrical main beam pattern with a central area of maximum intensity (hot spot).

This type of lamp generally has a circular lens

### Reason for rejection

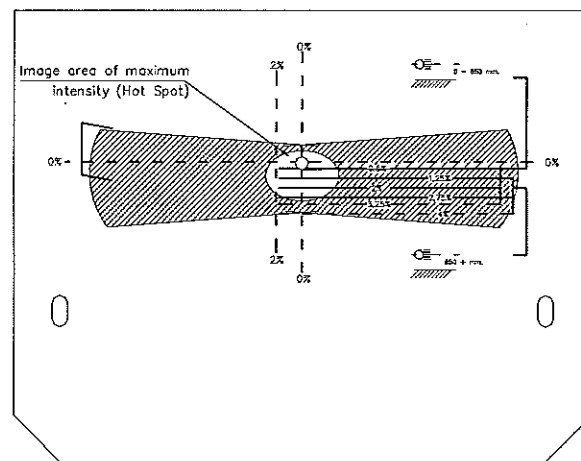
The "hot spot" centre is above the horizontal 0% line.

The "hot spot" centre is to the right of the vertical 0% line, or to the left of the vertical 2% line.

For headlamps whose centre is not more than 850 mm. from the ground, the "hot spot" centre is below the horizontal 2% line.

For headlamps whose centre is more than 850 mm. from the ground, the "hot spot" centre is below the horizontal 2,75 line.

(NOTE:1) The above information is based on the criteria published in the MOT Inspection Manual which is an HMSO publication and is available from most bookshops. Always refer to the current edition for any amendments or changes to current legislation.



## **CALIBRATION**

We suggest the unit is periodically checked for calibration in situ. If the unit is covered by a service agreement with the MOT package installer, they will carry this out on your behalf. Should you wish to regularly check the calibration yourself, we recommend you purchase an Alignment Device from your local dealer. Full instructions are provided with the re-calibration tool.

## **OTHER REGULATIONS AND CALIBRATIONS**

The machine is equipped with a spirit level located on the base of the optical box and visible through the transparent panel, with headlights on. If necessary, to level the box open the clutch lever located on the side of the box itself and move the box until perfectly level, then re-close the clutch lever. This operation may prove necessary whenever the equipment is mounted on a different work surface.

Correct use of the machine permits long periods of use without significant maintenance.

Eventual calibration of the panel and luxmeter must be carried out on our premises, sending just the optical box that can be easily dismounted by removing the screws.

## **CLEANING**

It is good practice to protect the instrument from dust when not in use. A plastic cover for the optical box is available on request.

Occasionally clean with a damp cloth and remove any stains. Paintwork is detergent resistant. Do not oil the column, or use alcohol for stain removal.

Do not leave the machine in areas where corrosive vapor is present, for example in battery charging or painting areas.

## **DEMOLITION AND DISPOSAL**

The machine is composed of:

Glass (lens)

Plastic (wheels, Plexiglas cover, handles and other small details)

Copper (wiring and luxmeter coils)

Steel (structure and mechanics) up to 80%

Paper and cardboard (instruction manual, packaging)

The machine is constructed principally of steel. For disposal of this material, local authority regulations must be observed.