

1.6 Headlamp Aim

Information

Headlamps fitted to motorcycles fall into two main groups, ie those which are intended to be set on main (driving) beam (diagram 2) and those on dipped beam (diagrams 1 & 3).

Some of the more prominent features which will aid identification are given below and on Pages 3, 4 and 5.

Machines with a single beam headlamp first used on or after 1 May 1995 so constructed to be incapable of exceeding 30mph/50kph on the level with an engine capacity not exceeding 50cc are only required to have a dipped beam, provided a rear position lamp, stop lamp and rear reflector are also fitted (see also information notes at 1.2 headlamps).

On machines without a battery or with an insufficiently charged battery it will be necessary to run the engine. If an automatic transmission is fitted the light output may be low but the hot spot can usually be identified.

Check that the tyres are not under-inflated.

A flat top dip beam pattern is not a reason for rejection.

An alternative headlamp dipped beam pattern (not being one of the examples) is acceptable providing all of the beam upper edge, including any "peak" is contained within the appropriate tolerance band.

Method of Inspection

A1. USING A RAIL MOUNTED HEADLAMP AIM TESTER

Locate the machine on the area designated as the 'standing area' for the headlamp test.

Clamp the front wheel or otherwise support the machine so that it is upright and in the straight ahead position.

With an assistant sitting on the machine in the normal riding position align the beam tester with the longitudinal axis of the motorcycle and align the centre of the collecting lens with the centre of the headlamp under test in accordance with the equipment manufacturer's instructions.

Switch the headlamp to the beam on which the headlamp is to be checked.

Follow the instructions given by the manufacturer for the particular headlamp aim equipment being used.

Method of Inspection**A2. USING AN AIMING SCREEN**

Place the machine on the standing area.
Position the machine or motorcycle part of a combination, with the headlamp lens the appropriate distance away from the aiming screen and its longitudinal centre line at right angles to the screen. Clamp the front wheel or otherwise support the machine so that it is upright and adequately supported. Align the screen vertical zero line with the motorcycle headlamp centre line.
With an assistant sitting on the machine in the normal riding position align the horizontal zero line with the horizontal axis of the headlamp using the headlamp height measuring equipment. Switch the headlamp to the beam on which it is to be checked.

Cont'd ↓

1.6 European 'E' Beam Headlamp (Checked on Dipped Beam)

Information

European type – Characteristics

(a) an asymmetric dipped beam pattern with:

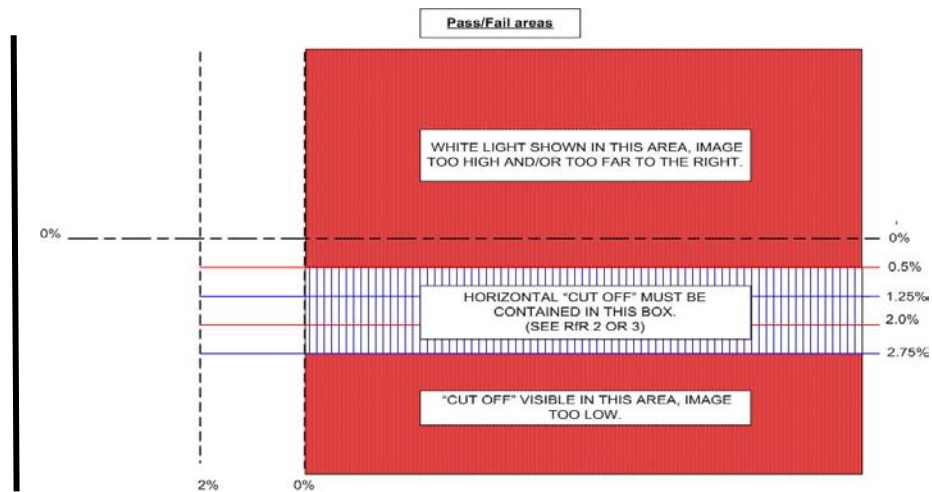
- a distinctive horizontal cut-off on the right, and
- a visible wedge of light above the horizontal (the 'Kick up') towards the left

(b) a lens may carry a European approval mark.

Masks or converter kits.

Right hand dip headlights can be temporarily altered for use in the UK by fitting masks or converter kits which remove the beam "kick up" to the right. A headlamp altered in this way is not a reason for rejection, if;

- A. the headlamp aim is not rejected for the reasons listed in the Reason for Rejection column (except that the top of the beam image will be a straight line).
- B. the light output is not duly reduced.
- C. the mask or converter is securely attached.



1. Align the headlamp aim testing equipment to the vehicle in accordance with the manufacturer's instructions.

Reason for Rejection

- B1. The beam image contains a "Kick up" that is not visible on the screen.
2. For headlamps with centres **not more than** 850mm from the ground the beam image horizontal cut-off is not between the horizontal 0.5% and 2.75% lines.
3. For headlamps with centres **more than** 850 mm from the ground, the beam image horizontal cut-off is not between the horizontal 1.25% and 2.75% lines.
4. White light shows in the zone formed by the 0% vertical and 0.5% horizontal lines.

Information

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 the following characteristics:

- a. a circular lens which may be marked with a figure 1 followed by an arrow indicating the direction of dip;
- b. likely to be of sealed beam construction.

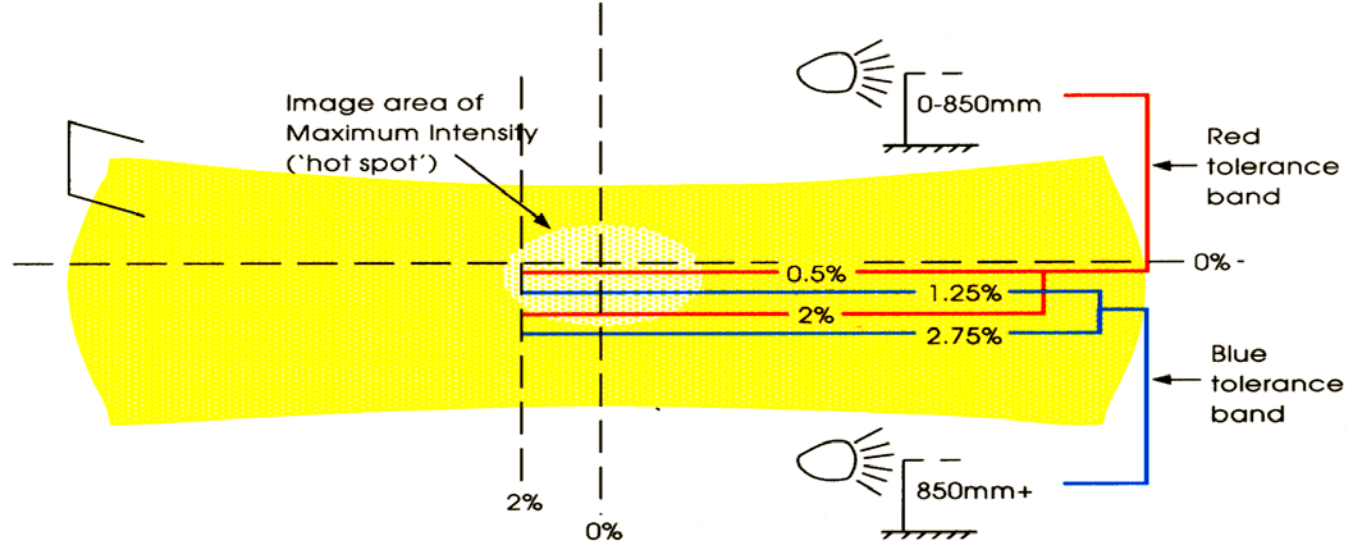


Diagram 2

Main beam image.

1. Align the headlamp aim testing equipment to the vehicle in accordance with the manufacturer's instructions.

Reason for Rejection

- C1. the 'hot spot' centre is above the horizontal 0% line.
2. the 'hot spot' centre is to the right of the vertical 0% line, or to the left of the vertical 2% line.
3. for headlamps whose centre is **not more than** 850 mm from the ground the 'hot spot' centre is below the horizontal 2% line.
4. for headlamps whose centre is **more than** 850 mm from the ground, the 'hot spot' centre is below the horizontal 2.75% line.
5. when dipped the brightest part of the image does not move downwards.