SPECIFICATION

AIMING SCREENS
FOR TESTING
HEADLAMP AIM ON
CLASS I & II VEHICLES

Issue Date: 5 October 1999

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1. INTRODUCTION

This Specification details the constructional requirements for an Aiming Screen and other associated equipment to be used for testing headlamp aim during the statutory annual MOT test in accordance with the Motor Vehicle (Tests) Regulations 1981, as amended.

Note: The Aiming Screens described in this document are acceptable equipment for MOT testing of only Class I & II vehicles (motorcycles).

2. TECHNICAL REQUIREMENTS

This section describes the main assembly, the Aiming Screen markings, a means of aligning the motorcycle and a separate device to set the position of the headlamp with respect to the operational face of the Aiming Screen.

There is an option to use one of two sizes of Aiming Screen:

Version A	based on the existing 3.81 metres (12' 6") focal length, and
Version B	which is smaller, designed around a focal length of 2 metres.

2.1 Aiming Screen Assembly

a. The Aiming Screen shall consist of a rectangular chart of not less than the following size;

Version A	1500 mm wide by 1000 mm high
Version B	1100 mm wide by 650 mm high

made of a durable material which has enough inherent rigidity to maintain a completely flat surface. The operational face shall have a light coloured matt surface finish.

b. The Aiming Screen, which can be either on a wall or on a purpose made mobile facility, shall be mounted in a sturdy manner with no detectable rock or flexing when in use.

c. When assembled, the Aiming Screen shall be adjustable with tools to ensure that the 0% horizontal line on the Aiming Screen is truly horizontal and the operational face is truly vertical. When correctly adjusted the Aiming Screen shall be locked in the set position.

d. The Aiming Screen shall be easily adjustable in the vertical plane so that the centre of the Aiming Screen (the point where the 0% vertical and 0% horizontal lines cross) can be set to any height in the range 550 mm to 1150 mm above the vehicle standing area. When set to the required height, the Aiming Screen shall be capable of being temporarily locked in the set position.

e. A means shall be available to indicate the height of the centre of the Aiming Screen above the vehicle standing area. The indication shall be in red when the height is in the range 0 to 850 mm and in blue when the height is greater than 850 mm; the colours corresponding with the two sets of coloured lines on the Aiming Screen. Ideally, the height indication should be visible from the motorcycle riding position.

In addition, a suitable means shall be available for:

f. Measuring the height of the centre of the motorcycle headlamp above the vehicle standing area. The indication shall be in red when the height is in the range 0 to 850 mm and in blue when the height is greater than 850 mm; the colours corresponding with the two sets of coloured lines on the Aiming Screen. This measurement is used to set the height of the Aiming Screen.

Note: If preferred, this equipment can be used also to achieve the measurement of height required in 2.1(e) above.

g. Setting the position of the front of the headlamp;

Version A 3810 mm

Version B 2000 mm

away from the operational face of the Aiming Screen.

Note: In its simplest form, this requirement can be achieved with a line painted on the vehicle standing area parallel to and either 3810 mm or 2000 mm as appropriate from the face of the Aiming Screen.

h. Ensuring the longitudinal axis of the motorcycle is accurately aligned at right angles to the operational face of the Aiming Screen.

Note: In its simplest form, this requirement can be achieved with a line painted on the vehicle standing area at right angles to the centre of the Aiming Screen

2.2 Aiming Screen Markings

a. The Aiming Screen shall be marked with bandwidth lines coloured and spaced in accordance with the dimensions shown in Annex A. All numbers and text shown in Annex A, Page 1, shall appear on the Aiming Screen. All crucial dimensions are shown in Annex A, Pages 2 & 3.

b. The markings shall be positioned within a tolerance of +/- 0.5 mm.

c. Line thickness for defining the black 0% datum lines shall not exceed:

Version A 2 mm
Version B 1.5 mm

d. Line thickness for defining the black 2% and all other coloured bandwidths shall not exceed:

Version A 1.5 mm
Version B 1 mm

e. All markings shall be durable and waterproof.

f. If mass produced, the Aiming Screen shall be clearly and permanently marked in one corner with the logo of the Aiming Screen manufacturer.

3. CALIBRATION

A spirit level, which should not be less than 500 mm long, shall be available to ensure that the 0% horizontal line is level and the operational face of the Aiming Screen is vertical. To assist the assessment two pins should be set into the Aiming Screen on the 0% horizontal line on which the spirit level can be placed. The pins should be positioned to match the length of the spirit level provided.

4. OPERATING INSTRUCTIONS

Operating instructions will be supplied with each Aiming Screen and shall:

a. Be written in English.

b. Explain how to use the Aiming Screen and how to interpret the results.

c. Make reference to the need to follow the headlamp aim test procedure detailed in the latest version of the relevant MOT Inspection Manual when carrying out a statutory MOT test.

Note: A single sheet of A4 covering all the relevant points will meet the above requirement.