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Two-wheeled motorcycles — Positioning of lighting and light-signalling devices

Motocycles à deux roues — Positions des dispositifs d'éclairage et de signalisation lumineuse

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Foreword

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ISO 11460 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 22, *Motorcycles*.

This second edition cancels and replaces the first edition (ISO 11460:1993), which has been technically revised.

Two-wheeled motorcycles — Positioning of lighting and light-signalling devices

1 Scope

This International Standard specifies the requirements for the positioning of lighting and light-signalling devices when fitted to a two-wheeled motorcycle as defined in ISO 3833. It does not specify the installation of any of these devices.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3833, *Road vehicles — Types — Terms and definitions*

ISO 6726, *Mopeds and motorcycles with two wheels — Masses — Vocabulary*

ISO 7227:1987, *Road vehicles — Lighting and light signalling devices — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6726, ISO 7227:1987 and the following apply.

3.1
transverse plane
vertical plane perpendicular to the median longitudinal plane of the vehicle

3.2
front position lamp
lamp used to indicate the presence of the vehicle when it is viewed from the front

NOTE This definition differs from that in ISO 7227:1987, 3.17.

3.3
rear position lamp
lamp used to indicate the presence of the vehicle when it is viewed from the rear

NOTE This definition differs from that in ISO 7227:1987, 3.21.

3.4
hazard warning lamp
light signal obtained by simultaneous operation of all the vehicle's direction indicator lamps

NOTE This definition differs from that in ISO 7227:1987, 3.31.

3.5
separation distance
distance separating two lamps facing in the same direction, between the orthogonal projections in a plane perpendicular to the reference axes of the outlines of the two illuminating surfaces

NOTE For the full terms and definitions of the illuminating surfaces concerned, see ISO 7227:1987, 3.35 and 3.36.

4 General requirements

4.1 For all light-signalling devices, including those mounted on the side, the reference axis of the lamp when fitted to the vehicle shall be parallel to the bearing plane of the vehicle on the road. In addition, it shall be perpendicular to the longitudinal median plane of the vehicle in the case of side reflex-reflecting devices, and parallel to that plane in the case of all other devices.

A tolerance of ± 3° is allowed in each direction.

In addition, if specifications for fitting are provided by the manufacturer, they shall be met.

4.2 In the absence of specific instructions, the height and orientation of the lamp shall be verified with the vehicle unladen and placed on a flat horizontal surface, with its median longitudinal plane vertical and the handlebars in the position corresponding to straight ahead.

4.3 In the absence of specific instructions,

a) single lamps or reflectors shall be mounted such that their centre of reference lies in the median longitudinal plane of the vehicle;

b) lamps constituting a pair and having the same function shall

1) be mounted symmetrically in relation to the median longitudinal plane,

2) be symmetrical to one another in relation to the median longitudinal plane.

4.4 In the absence of specific instructions, lamps having different functions may be independent, or grouped, combined or incorporated in one device, on condition that each such lamp satisfies the individual requirements applicable to it.

4.5 The maximum height above ground shall be measured from the highest point and the minimum height from the lowest point of the illuminating surface.

4.6 This International Standard defines the positions of the following lighting and light-signalling devices:

— driving/main-beam headlamp (see 5.1);

— passing/dipped-beam headlamp (see 5.2);

— front position lamp (see 5.3);

— side reflex-reflecting device (see 5.4);

— rear reflex-reflecting device (see 5.5);

— direction indicator lamp (see 5.6);

— stop lamp (see 5.7);

— rear position lamp (see 5.8);

— rear registration-plate lamp (see 5.9);

— hazard warning lamp (see 5.10);

— front fog lamp (see 5.11);

— rear fog lamp (see 5.12).

4.7 If fitted, the positioning of each of the lighting and light-signalling devices given in 4.6 shall be effected in conformity with the relevant requirements in Clause 5.

5 Specific requirements

5.1 Driving/main-beam headlamp

5.1.1 Position

5.1.1.1 A driving/main-beam headlamp may be either independent or reciprocally incorporated with another front headlamp.

5.1.1.2 In the case of a motorcycle equipped with an independent driving/main-beam headlamp, it may be fitted either above, below or on either side of another front lamp.

If these lamps are one above the other, the reference centre of the driving/main-beam headlamp shall be located in the median longitudinal plane of the vehicle.

If these lamps are side by side, their reference centres shall be symmetrical in relation to the median longitudinal plane of the vehicle.

5.1.1.3 In the case of a motorcycle equipped with a driving/main-beam headlamp that is reciprocally incorporated with another front lamp, it shall be fitted in such a way that its reference centre lies in the median longitudinal plane of the vehicle.

However, when the vehicle is also fitted with an independent passing/dipped-beam headlamp or a passing/dipped-beam headlamp that is reciprocally incorporated with a front position lamp alongside the driving/main-beam headlamp, their reference centres shall be symmetrical in relation to the median longitudinal plane of the vehicle.

5.1.1.4 In the case of a motorcycle equipped with two driving/main-beam headlamps of which either one or both are reciprocally incorporated with another front lamp, they shall be fitted in such a way that their reference centres are symmetrical in relation to the median longitudinal plane of the vehicle.

5.1.1.5 In all cases, the separation distance between any two headlamps shall be not more than 200 mm.

5.1.1.6 The height of a driving/main-beam headlamp shall be not less than 500 mm nor more than 1 300 mm above the ground.

5.1.2 Orientation

The driving/main-beam headlamp(s) shall face forward. The lamp(s) may move with the steering angle.

5.2 Passing/dipped-beam headlamp

5.2.1 Position

5.2.1.1 A passing/dipped-beam headlamp may be either independent or reciprocally incorporated with another front lamp.

5.2.1.2 In the case of a motorcycle equipped with an independent passing/dipped-beam headlamp, it may be fitted either above, below or on either side of another front lamp.

If these lamps are one above the other, the reference centre of the passing/dipped-beam headlamp shall be located in the median longitudinal plane of the vehicle.

If these lamps are side by side, their reference centres shall be symmetrical in relation to the median longitudinal plane of the vehicle.

5.2.1.3 In the case of a motorcycle equipped with a passing/dipped-beam headlamp that is reciprocally incorporated with another front lamp, it shall be fitted in such a way that its reference centre lies in the median longitudinal plane of the vehicle.

However, when the vehicle is also fitted with an independent driving/main-beam headlamp or a driving/main-beam headlamp that is reciprocally incorporated with a front position lamp alongside the passing/dipped-beam headlamp, their reference centres shall be symmetrical in relation to the median longitudinal plane of the vehicle.

5.2.1.4 In the case of a motorcycle equipped with two passing/dipped-beam headlamps of which either one or both are reciprocally incorporated with another front lamp, they shall be fitted in such a way that their reference centres are symmetrical in relation to the median longitudinal plane of the vehicle.

5.2.1.5 The height of a passing/dipped-beam headlamp shall be not less than 500 mm nor more than 1 200 mm above the ground.

5.2.1.6 In all cases, the separation distance between any two headlamps shall be not more than 200 mm.

5.2.2 Orientation

The passing/dipped-beam headlamp(s) shall face forward. The lamp(s) may move with the steering angle.

5.3 Front position lamp

5.3.1 Position

5.3.1.1 A front position lamp may be either independent or reciprocally incorporated with another front lamp.

5.3.1.2 In the case of a motorcycle equipped with an independent front position lamp, it may be fitted either above, below or on either side of another front lamp.

If these lamps are one above the other, the reference centre of the front position lamp shall be located in the median longitudinal plane of the vehicle.

If these lamps are side by side, their reference centres shall be symmetrical in relation to the median longitudinal plane of the vehicle.

5.3.1.3 In the case of a motorcycle equipped with a front position lamp that is reciprocally incorporated with another front lamp, it shall be fitted in such a way that its reference centre lies in the median longitudinal plane of the vehicle.

However, when the vehicle is also fitted with another front lamp alongside the front position lamp, their reference centres shall be symmetrical in relation to the median longitudinal plane of the vehicle.

5.3.1.4 In the case of a motorcycle equipped with two front position lamps of which either one or both are reciprocally incorporated with another front lamp, they shall be fitted in such a way that their reference centres are symmetrical in relation to the median longitudinal plane of the vehicle.

5.3.1.5 The height of a front position lamp shall be not less than 350 mm nor more than 1 200 mm above the ground.

5.3.2 Orientation

The front position lamp(s) shall face forward. The lamp(s) may move with the steering angle.

5.4 Side reflex-reflecting device

5.4.1 Position

5.4.1.1 For width, there is no special requirement.

5.4.1.2 The height of a side reflex-reflecting device shall be not less than 300 mm nor more than 900 mm above the ground.

5.4.1.3 In length, the side reflex-reflecting device should be placed such that under normal conditions it will not be masked by the driver or passenger, or their clothing.

5.4.2 Orientation

The reference axis of the side reflex-reflecting devices shall be perpendicular to the vehicle's median longitudinal plane and directed outwards. It may move with the steering angle.

5.5 Rear reflex-reflecting device

5.5.1 Position

5.5.1.1 In the case of a motorcycle equipped with a rear reflex-reflecting device, its reference centre shall be in the median longitudinal plane of the vehicle.

5.5.1.2 In the case of a motorcycle equipped with two rear reflex-reflecting devices, they shall be fitted in such a way that their reference centres are symmetrical in relation to the median longitudinal plane of the vehicle.

5.5.1.3 The height of a rear reflex-reflecting device shall be not less than 250 mm nor more than 900 mm above the ground.

5.5.2 Orientation

The rear reflex-reflecting device shall face rearward.

5.6 Direction indicator lamp

5.6.1 Position

5.6.1.1 In width, direction indicator lamps shall meet the requirements in 5.6.1.1.1 and 5.6.1.1.2, as appropriate.