

PROPOSAL FOR AMENDMENTS TO REGULATION No. 46.02
(Rear view mirrors)

A. PROPOSAL

1. In the 'Contents' page, after the entry for Annex 10, add the following:

'Annex 11 Determination of the ocular points for a seat with a fixed seat back angle.'

2. In Paragraph 12.1, after the first sentence, the following new sentence is inserted:

'In the case of a seat with fixed seat-back angle, the location of the ocular points shall be adjusted in accordance with the provisions of Annex 11 to this Regulation.'

3. In the table in Paragraph 15.2, in the cell for Class IV wide-angle mirrors for motor vehicles of category $N2 \leq 7,5$ t, the text is replaced by the following:

'Compulsory

For both sides if a Class V mirror can be fitted

Optional

For both sides together if not';

4. In the table in Paragraph 15.2, in the cell for Class V close-proximity mirrors for motor vehicles of category $N2 \leq 7,5$ t, the text is replaced by the following:

'Compulsory (see paragraphs 15.2.2.7 and 15.2.4.5.5.)

One on the passenger's side

Optional

One on the driver's side

(both must be fitted at least 2 m above the ground)

A tolerance of + 10 cm may be applied'.

5. After Annex 10, the following Annex 11 is added:

'Annex 11 Determination of the ocular points for a seat with a fixed seat-back angle

1. The position of the ocular points in relation to the R point shall be adjusted as indicated in the table below by X coordinates from the three-dimensional reference system. The table indicates the basic coordinates for a fixed seatback angle of 25 degrees. The three-dimensional reference system for the coordinates is as defined in Annex 8, Appendix 2 to this Regulation.

| <i>Seat back angle</i> | <i>Horizontal coordinates</i> |
|------------------------|-------------------------------|
| (in degrees) | ΔX |
| 25 | 68mm |

2. Further correction for fixed seat-back angles other than 25 degrees

The table below indicates the further corrections, from the ocular position with a fixed seat-back angle of 25 degrees, to be made to the X and Z coordinates of the ocular points when the design seat-back angle is not 25 degrees.

| Seat-back angle (in degrees) | Horizontal coordinates ΔX | Vertical coordinates ΔZ |
|---------------------------------|--------------------------------------|------------------------------------|
| 5 | 186mm | 28mm |
| 6 | 177mm | 27mm |
| 7 | 167mm | 27mm |
| 8 | 157mm | 27mm |
| 9 | 147mm | 26mm |
| 10 | 137mm | 25mm |
| 11 | 128mm | 24mm |
| 12 | 118mm | 23mm |
| 13 | 109mm | 22mm |
| 14 | 99mm | 21mm |
| 15 | 90mm | 20mm |
| 16 | 81mm | 18mm |
| 17 | 72mm | 17mm |
| 18 | 62mm | 15mm |
| 19 | 53mm | 13mm |
| 20 | 44mm | 11mm |
| 21 | 35mm | 9mm |
| 22 | 26mm | 7mm |
| 23 | 18mm | 5mm |
| 24 | 9mm | 3mm |
| 25 | 0mm | 0mm |
| 26 | 9mm | -3mm |
| 27 | 17mm | -5mm |
| 28 | 26mm | -8mm |
| 29 | 34mm | -11mm |
| 30 | 43mm | -14mm |
| 31 | 51mm | -18mm |
| 32 | 59mm | -21mm |
| 33 | 67mm | -24mm |
| 34 | 76mm | -28mm |
| 35 | 84mm | -32mm |
| 36 | 92mm | -35mm |
| 37 | 100mm | -39mm |
| 38 | 108mm | -43mm |
| 39 | 115mm | -48mm |
| 40 | 123mm | -52mm' |

B JUSTIFICATION

This document addresses two issues:

Items 1, 2 and 5 relate to a proposal to alter the position of the ocular (eye) point used to assess the mirror field of view depending on the actual vehicle seat back angle. This allows the field of view test to be carried out under conditions which are more representative of the position of the driver's eyes in an actual vehicle. This change is necessary as car designs have changed significantly since the regulation was originally developed, and many vehicles have a more reclined seating position. This means that the position of the ocular point used for assessing the field of view in the current regulation is no longer appropriate in all cases. The proposed change in the test procedure should cover all likely design seat back angles declared by the manufacturer. It should not introduce any additional burden on industry and may in some cases make it easier to obtain an approval.

Items 3 and 4 relate to a proposal to require class IV and class V mirrors to be fitted to goods vehicles in the 3.5-7.5 tonne category which have cabs of a similar height to vehicles in the >7.5 tonne category. Regulation 46.02 already requires these additional mirrors on vehicles over 7.5 tonnes, due to the additional blind spots caused by the height of the driver's cab, which can lead to a high risk of injury to pedestrians and cyclists in close proximity to the vehicle. However, the extra mirrors are not currently required on vehicles in the 3.5-7.5 tonne category, even though some of these have cabs of a similar height to the larger vehicles and therefore pose a similar risk. This proposal addresses this gap in the Regulation by requiring class IV and class V mirrors on vehicles in this weight category where it is possible to fit them at a height of at least 2m from the ground. An extra 10cm tolerance has been added to this height to help enable existing designs to meet this requirement.

It is intended that the implementation dates should be the same as the implementation dates for the 02 series of amendments, so no further transitional provisions are required.
