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**COUNCIL DIRECTIVE**

**of 25 June 1974**

**on the approximation of the laws of the Member States relating to the field of vision and  
windscreen wipers for wheeled agricultural or forestry tractors**

**(74/347/EEC)**

(OJ L 191, 15.7.1974, p. 5)

Corrected by:

► **C1** Corrigendum, OJ L 226, 18.8.1976, p. 16 (74/347)

▼B**COUNCIL DIRECTIVE****of 25 June 1974****on the approximation of the laws of the Member States relating to the field of vision and windscreen wipers for wheeled agricultural or forestry tractors**

(74/347/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament <sup>(1)</sup>;Having regard to the Opinion of the Economic and Social Committee <sup>(2)</sup>;Whereas the technical requirements with which tractors must comply pursuant to national laws relate, *inter alia*, to the field of vision and windscreen wipers;Whereas these requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules in order, in particular, to allow the EEC type-approval procedure which was the subject of Council Directive No 74/150/EEC <sup>(3)</sup> of 4 March 1974 on the approximation of the laws of the Member States relating to the type-approval of wheeled agricultural or forestry tractors to be applied in respect of each type of tractor,

HAS ADOPTED THIS DIRECTIVE:

*Article 1*

1. 'Agricultural or forestry tractor' means any motor vehicle, fitted with wheels or ►C1 endless tracks ◀ and having at least two axles, the main function of which lies in its tractive power and which is specially designed to tow, push, carry or power certain tools, machinery or trailers intended for agricultural or forestry use. It may be equipped to carry a load and passengers.

2. This Directive shall apply only to tractors defined in the preceding paragraph which are fitted with pneumatic tyres and which have two axles and a maximum design speed of between 6 and 25 km/h.

*Article 2*

No Member State may refuse to grant EEC type-approval or national type-approval of a tractor on grounds relating to the field of vision or windscreen wipers if these satisfy the requirements set out in the Annex.

*Article 3*

No Member State may refuse the registration or prohibit the sale, entry into service or use of tractors on grounds relating to the field of vision or windscreen wipers if these satisfy the requirements set out in the Annex.

<sup>(1)</sup> OJ No 28, 17. 2. 1967, p. 462/67.

<sup>(2)</sup> OJ No 42, 7. 3. 1967, p. 620/67.

<sup>(3)</sup> OJ No L 84, 28. 3. 1974, p. 10.

**▼B***Article 4*

The amendments necessary for adapting to technical progress the requirements of the Annex shall be adopted in accordance with the procedure laid down in Article 13 of Directive No 74/150/EEC.

*Article 5*

1. Member States shall put into force the provisions necessary in order to comply with this Directive within 18 months of its notification and shall forthwith inform the Commission thereof.
2. Member States shall ensure that the texts of the main provisions of national law which they adopt in the field covered by this Directive are communicated to the Commission.

*Article 6*

This Directive is addressed to the Member States.

**▼B***ANNEX*

**FIELD OF VISION  
DEFINITIONS AND REQUIREMENTS**

## 1. DEFINITIONS

1.1. **Field of vision**

'Field of vision' means all forward and lateral directions in which the driver of the tractor can see.

1.2. **Reference point**

'Reference point' means the position, fixed by convention, of the tractor driver's eyes notionally located at a single point. The reference point is situated in the plane parallel to the longitudinal median plane of the tractor and passing through the centre of the seat, 700 mm vertically above the line of intersection of that plane and the surface of the seat and 270 mm in the direction of the pelvic support from the vertical plane passing through the front edge of the surface of the seat and perpendicular to the longitudinal median plane of the tractor (Figure 1). The reference point thus determined relates to the seat when unoccupied and fitted in the central position specified by the tractor manufacturer.

1.3. **Semi-circle of vision**

'Semi-circle of vision' means the semi-circle described by a radius of 12 m about a point situated in the horizontal plane of the road vertically below the reference point, in such a way that, when facing the direction of motion, the arc of the semi-circle lies in front of the tractor, while the diameter bounding the semi-circle is at right angles to the longitudinal axis of the tractor (Figure 2).

1.4. **Masking effect**

'Masking effect' means the chords of the sectors of the semi-circle of vision which cannot be seen owing to structural components, e.g., roof pillars.

1.5. **Sector of vision**

'Sector of vision' means that part of the field of vision bounded:

## 1.5.1. at the top,

by a horizontal plane passing through the reference point;

## 1.5.2. in the plane of the road,

by the zone lying outside the semi-circle of vision, and forming the continuation of the sector of the semi-circle of vision, the chord of which is 9.5 m long, perpendicular to the plane parallel to the longitudinal median plane of the tractor passing through the centre of the driver's seat and bisected by that plane.

1.6. **Swept area of the windscreen wipers**

'Swept area of the windscreen wipers' means the area of the outer surface of the windscreen swept by the windscreen wipers.

## 2. REQUIREMENTS

2.1. **General**

The tractor shall be constructed and equipped in such a way that, in road traffic and in farm and forest use, the driver has an adequate field of vision, under all the usual conditions pertaining to highway use and to work undertaken in fields and forests. The field of vision is considered adequate when the driver has, as far as possible, a view of part of each front wheel and when the following requirements are fulfilled.

**▼B****2.2. Checking of the field of vision****2.2.1. Procedure for determining masking effects**

2.2.1.1. The tractor must be placed on a horizontal surface as shown in Figure 2. On a horizontal support level with the reference point, there must be mounted two point sources of light 65 mm apart and symmetrically mounted about the reference point. The support must be rotatable at its centre point about a vertical axis passing through the reference point. For the purpose of measuring the masking effects, the support must be so aligned that the line joining the two light sources is perpendicular to the line joining the masking component and the reference point. The silhouette overlaps projected onto the semi-circle of vision by the masking component as a result of switching on the light sources alternately must be recorded in accordance with item 1.4 (Figure 3).

2.2.1.2. Masking effects must not exceed 600 mm.

2.2.1.3. Masking effects due to adjacent structural components over 80 mm in width must be positioned in such a way that the line joining the centres of the invisible chords of the sectors of the semi-circle of vision is not less than 2.50 m in length.

2.2.1.4. There may be no more than six masking effects in the semi-circle of vision and no more than two inside the sector of vision defined in item 1.5.

2.2.1.5. Masking effects exceeding 600 mm but not exceeding 1 200 mm are, however, permissible if the components causing them cannot be redesigned or relocated. There must be no more than two such masking effects and these must lie outside the sector of vision.

2.2.1.6. Blind spots caused by type-approved rear-view mirrors may be disregarded if the design of these mirrors is such that they cannot be installed in any other way.

**2.2.2. Mathematical determination of masking effects for binocular vision:**

2.2.2.1. as an alternative to the procedure set out in item 2.2.1, the acceptability of individual masking effects can be determined mathematically. The requirements of items 2.2.1.3, 2.2.1.4, 2.2.1.5 and 2.2.1.6 shall apply in respect of the size, distribution and number of the masking effects;

2.2.2.2. for binocular vision with an inter-ocular distance of 65 mm, the masking effect expressed in mm is given by the formula:

$$v = \frac{b-65}{a} \times 12\,000 + 65$$

in which:

a is the distance in millimetres between the component obstructing vision and the reference point measured along the visual radius joining the reference point, the centre of the component and the perimeter of the semi-circle of vision;

b is the width in millimetres of the component obstructing vision measured horizontally and perpendicular to the visual radius.

2.3. The test methods referred to under item 2.2 may be replaced by others if the latter can be shown to be equivalent.

2.4. Where, in the case of masking effects, Article 8 (3) of Directive No 74/150/EEC is to be applied, the procedure used shall be that given under item 2.2.2.

**2.5. Transparent area of the windscreen**

If the tractor is fitted with a windscreen, the transparent area thereof must be such that the requirements of item 2.2 are satisfied.

**2.6. Windscreen wipers**

2.6.1. Tractors fitted with windscreens must also be equipped with motor-driven windscreen wipers and the area swept by these wipers must ensure an unobstructed forward view corresponding to a chord of the semi-circle of vision at least 8 m long within the sector of vision.

2.6.2. The rate of operation of the windscreen wipers must be at least 20 cycles per minute.

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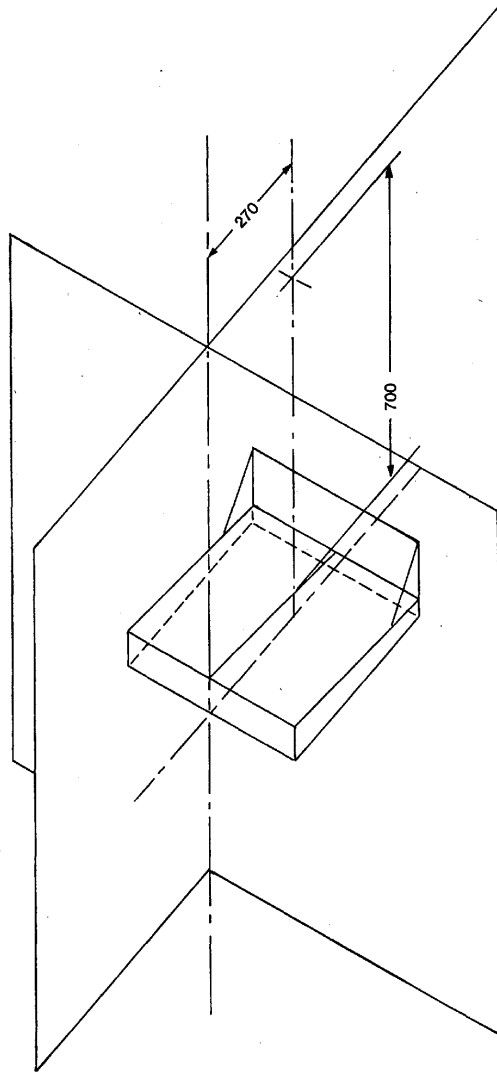


Figure 1

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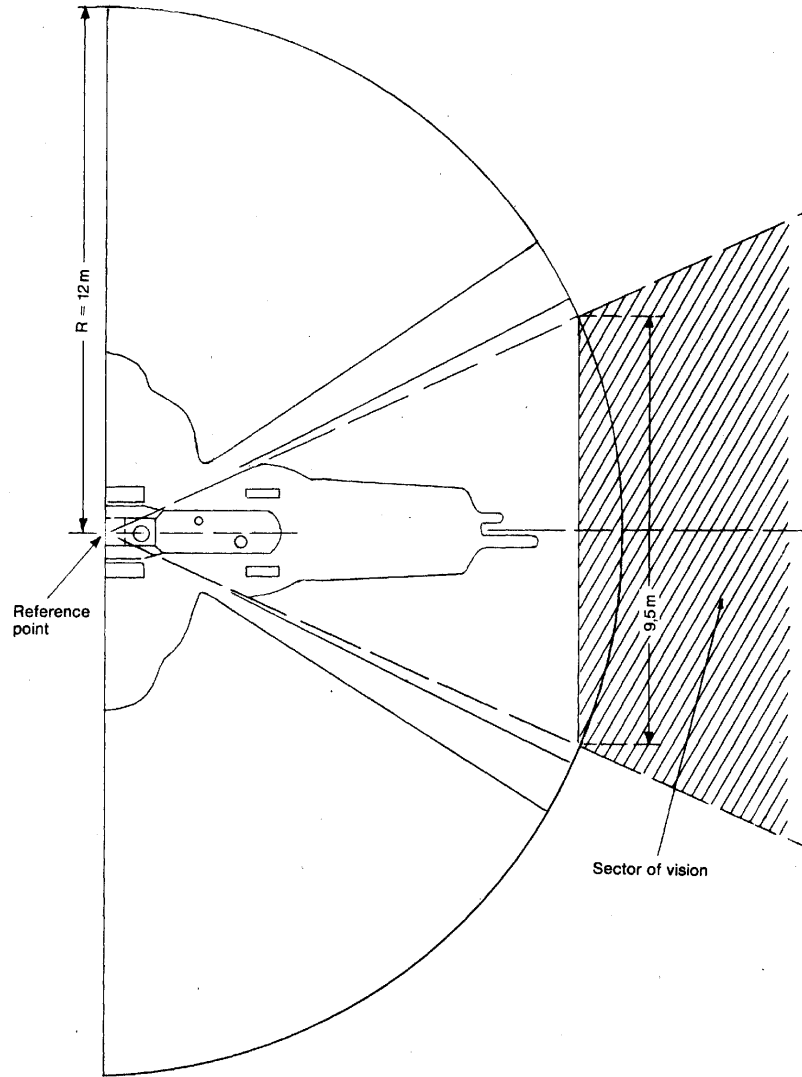
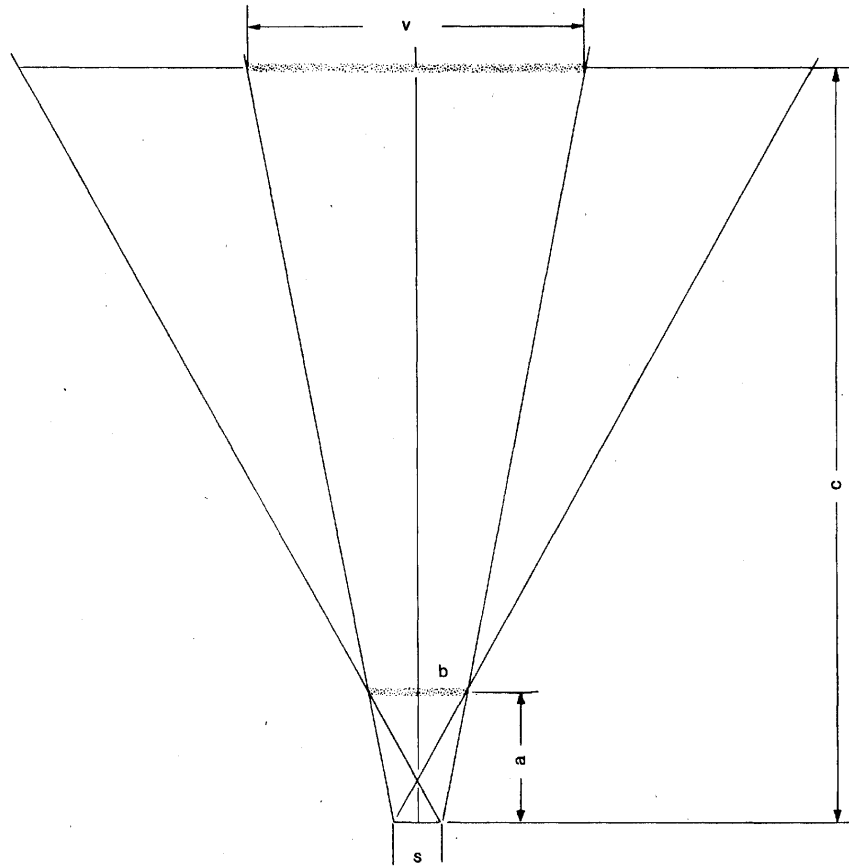


Figure 2

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$$\frac{\frac{v}{2} - \frac{s}{2}}{c} = \frac{\frac{b}{2} - \frac{s}{2}}{a}$$

$$v = \frac{b - 65}{a} \cdot 12000 + 65$$

Figure 3