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COUNCIL DIRECTIVE

of 25 July 1978

on the approximation of the laws of the Member States relating to the driver's seat on wheeled agricultural or forestry tractors

(78/764/EEC)

(OJ L 255, 18.9.1978, p. 1)

Amended by:

		Official Journal		
		No	page	date
►**M1**	Council Directive 82/890/EEC of 17 December 1982	L 378	45	31.12.1982
►**M2**	Commission Directive 83/190/EEC 28 March 1983	L 109	13	26.4.1983
►**M3**	Council Directive 87/354/EEC of 25 June 1987	L 192	43	11.7.1987

Amended by:

►**A1**	Act of Accession of Greece	L 291	17	19.11.1979
►**A2**	Act of Accession of Spain and Portugal	L 302	23	15.11.1985

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COUNCIL DIRECTIVE

of 25 July 1978

on the approximation of the laws of the Member States relating to the driver's seat on wheeled agricultural or forestry tractors

(78/764/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 [1],

Having regard to the opinion of the Economic and Social Committee [2],

Whereas the technical requirements which tractors must satisfy pursuant to national laws relate *inter alia* to the driver's seat;

Whereas the 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 74/150/EEC 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 [3] to be introduced in respect of each type of tractor;

Whereas the rules relating to driver's seats cover not only the requirements for their installation on tractors but also the construction of the seats; whereas a harmonized component type-approval procedure makes it possible for each Member State to check compliance with the common construction and testing requirements and to inform the other Member States of its findings by sending a copy of the component type-approval certificate completed for each type of driver's seat; whereas the placing of an EEC component type-approval mark on all driver's seats manufactured in conformity with the approved type obviates any need for technical checks on those driver's seats in the other Member States,

HAS ADOPTED THIS DIRECTIVE:

Article 1

1. Each Member State shall grant EEC component type-approval for any type of driver's seat which satisfies the construction and testing requirements laid down in Annexes I and II.

2. The Member State which has granted EEC component type-approval shall take the measures required in order to verify, in so far as is necessary and if need be in cooperation with the competent authorities in the other Member States, that production models conform to the approved type. Such verification shall be limited to spot checks.

Article 2

Member States shall, for each type of driver's seat which they approve pursuant to Article 1, issue to the manufacturer or to his authorized representative, an EEC component type-approval mark conforming to the model shown in 3.5 of Annex II.

Member States shall take all appropriate measures to prevent the use of marks liable to create confusion between driver's seats which have been

(1) OJ No C 299, 12. 12. 1977, p. 61.
(2) OJ No C 84, 8. 4. 1978, p. 11.
(3) OJ No L 84, 28. 3. 1974, p. 10.

▼B

granted component type-approval pursuant to Article 1 and other devices.

Article 3

1. No Member State may prohibit the placing on the market of driver's seats on grounds relating to their construction if they bear the EEC component type-approval mark.

2. Nevertheless, a Member State may prohibit the placing on the market of driver's seats bearing the EEC component type-approval mark which consistently fail to conform to the approved type.

That State shall forthwith inform the other Member States and the Commission of the measures taken, specifying the reasons for its decision.

Article 4

The competent authorities of each Member State shall within one month send to the competent authorities of the other Member States a copy of the component type-approval certificates, an example of which is given in Annex III, completed for each type of driver's seat which they approve or refuse to approve.

Article 5

1. If the Member State which has granted EEC component type-approval finds that a number of driver's seats bearing the same EEC component type-approval mark do not conform to the type which it has approved, it shall take the necessary measures to ensure that production models conform to the approved type. The competent authorities of that State shall advise those of the other Member States of the measures taken, which may, if necessary, where there is serious and repeated failure to conform, extend to withdrawal of EEC component type-approval. The said authorities shall take the same measures if they are informed by the competent authorities of another Member State of such failure to conform.

2. The competent authorities of the Member States shall inform each other within one month of any withdrawal of EEC component type-approval, and of the reasons for such a measure.

Article 6

Any decision taken pursuant to the provisions adopted in implementation of this Directive to refuse or withdraw EEC component type-approval for a driver's seat or to prohibit its placing on the market or use, shall set out in detail the reasons on which it is based. Such decisions shall be notified to the party concerned, who shall at the same time be informed of the remedies available to him under the laws in force in the Member States and of the time limits allowed for the exercise of such remedies.

Article 7

No Member State may refuse to grant EEC type-approval or national type-approval for a tractor on grounds relating to its driver's seat if this bears the EEC component type-approval mark and is fitted in accordance with the requirements laid down in Annex IV.

Article 8

No Member State may refuse or prohibit the sale, registration, entry into service or use of any tractor on grounds relating to the driver's seat if this bears the EEC component type-approval mark and is fitted in accordance with the requirements set out in Annex IV.

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Article 9

1. For the purpose of this Directive, 'agricultural or forestry tractor' means any motor vehicle, fitted with wheels or endless tracks, 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.

▼M1

2. This Directive shall apply only to tractors defined in paragraph I which are equipped with pneumatic tyres and have at least two axles and a maximum design speed of between 6 and 30 km/h.

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Article 10

Any amendments necessary to adjust the requirements of the Annexes to this Directive to take account of technical progress shall be adopted in accordance with the procedure laid down in Article 13 of Directive 74/150/EEC.

Article 11

1. Member States shall bring 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 12

This Directive is addressed to the Member States.

▼B

ANNEX I

DEFINITIONS

1. **Driver's seat**

‘Driver's seat’ means that seat capable of accommodating one person only, provided for the use of the driver when driving the tractor.

2. **Seat surface**

‘Seat surface’ means the almost horizontal area of the seat which supports the driver when seated.

3. **Backrest**

‘Backrest’ means the almost vertical area of the seat supporting the driver's back when seated.

4. **Lateral seat supports**

‘Lateral seat supports’ means the devices or forms of the seat surface which prevent the driver from sliding sideways.

4.1. **Seat armrests**

‘Seat armrests’ means the devices on either side of the seat which support the driver's arms when he is seated.

5. **Seat reference point (S)**

‘Seat reference point (S)’ means the point of intersection in the median longitudinal plane of the seat between the tangential plane at the base of the padded backrest and a horizontal plane. This horizontal plane intersects the lower surface of the seat 150 mm in front of the seat reference point (S) (see Appendix 1 to Annex II).

6. **Depth of the seat surface**

‘Depth of the seat surface’ means the horizontal distance between the seat reference point (S) and the front edge of the seat surface.

7. **Width of the seat surface**

‘Width of the seat surface’ means the horizontal distance between the outside edges of the seat surface measured in a plane perpendicular to the median plane of the seat.

8. **Load adjustment range**

‘Load adjustment range’ means the range between the two loads corresponding to the mean positions in the suspension system curves plotted for the heaviest and lightest driver.

▼M2

9. **Suspension travel**

‘Suspension travel’ means the vertical distance between the highest position and the position at a given moment of a point situated on the seat surface 200 mm in front of the seat reference point in the median longitudinal plane.

▼B

10. **Vibration**

‘Vibration’ means the vertical movement up and down of the driver's seat.

11. **Vibration acceleration** ***(a)***

‘Vibration acceleration (a)’ means the second differential of the vibration displacement with respect to time.

▼B

12. **Rms value of the acceleration *(a_{eff})***

'Rms value of the acceleration (a_{eff})' means the square root of the mean square of the accelerations.

▼M2

▼B

►M2 13. ◄ **Weighted vibration acceleration (a_w)**

'Weighted vibration acceleration (a_w)' means the weighted vibration acceleration determined with the help of a weighting filter in accordance with 2.5.3.3.5.2 of Annex II.

▼M2

a_{wS} = rms value of the weighted seat vibration acceleration measured during a bench test or a standard roadway test;

a_{wB} = rms value of the weighted vibration acceleration measured at the seat attachment during a bench test;

a_{wB}^* = reference rms value of the weighted vibration acceleration measured at the seat attachment;

a_{wS}^* = corrected rms value of the weighted seat vibration acceleration measured during a bench test;

a_{wF}^* = rms value of the weighted vibration acceleration measured at the seat attachment during a standard roadway test.

▼B

►M2 14. ◄ **Vibration ratio**

'Vibration ratio' means the ratio of the weighted vibration acceleration measured on the driver's seat to that measured at the seat attachment in accordance with 2.5.3.3.2 of Annex II.

►M2 15. ◄ **Vibration class**

'Vibration class' means the class or group of tractors which show the same vibration characteristics.

▼M2

16. **Category A tractor**

'Category A tractor' means a tractor which can be assigned to a given vibration class by reason of similar design features.

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►M2 16.1. ◄ The characteristics of these tractors are as follows:

Number of axles: two.

Load distribution:

— front axle: 30 to 45 % of unladen weight of the tractor,

— rear axle: 70 to 55 % of unladen weight of the tractor.

Tyres: front smaller than rear (ratio of tyre radii ≤ 4: 5).

Track width: smallest adjustable track width greater than 1 150 mm.

Suspension: rear axle unsprung.

Horizontal position of seat: between rear axle and centre of gravity of tractor.

►M2 16.2. ◄ Category A tractors are subdivided into two classes:

Class I: 1 400 to 3 600 kg unladen mass.

Class II: more than 3 600 to 5 000 kg unladen mass.

▼M2

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17. **Category B tractor**

'Category B tractor' means a tractor which cannot be assigned to a vibration class in Category A.

▼B

►M2 18. ◄ **Seats of the same type**

'Seats of the same type' means seats which do not differ in any essential respects; the only aspects in which the seats may differ being as follows:

▼B

►M2 18.1. ◄ dimensions;

►M2 18.2. ◄ position and inclination of the backrest;

►M2 18.3. ◄ inclination of the seat surface;

►M2 18.4. ◄ longitudinal and vertical adjustment of the seat.

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ANNEX II

CONSTRUCTION AND TESTING REQUIREMENTS — EEC COMPONENT TYPE-APPROVAL AND MARKING REQUIREMENTS

1. GENERAL REQUIREMENTS

1.1. The driver's seat must be designed to ensure a comfortable position for the driver when controlling and manoeuvring the tractor, and to afford him the utmost protection as regards health and safety.

1.2. The seat must be adjustable in the longitudinal direction and in the height without the use of a tool.

1.3. The seat must be designed to reduce shocks and vibration. It must therefore be well sprung, have good vibration absorption and provide adequate support at the rear and sides.

The lateral support is considered adequate if the seat is designed to prevent the driver's body from slipping sideways.

1.3.1. The seat must be adjustable for persons of different mass. Any adjustment necessary in order to comply with this requirement, must be carried out without the use of tools.

1.4. The seat surface, the backrest, the lateral supports and, where fitted, the removable, folding or fixed armrests, must be padded.

1.5. The seat reference point (S) must be calculated in the manner specified in Appendix 1 to Annex II.

1.6. Save as otherwise provided, the measurements and tolerances must comply with the following requirements:

1.6.1. the measurements given must be expressed in whole units, if necessary rounded off to the nearest whole number of units;

1.6.2. the instruments used for making measurements must enable the measured value to be rounded off to the nearest whole unit and must be accurate within the following tolerance limits:

— for length: ± 0·5%,

— for angle measurements: ± 1°,

— for determination of the mass of the tractor: ±20 kg,

— for measurement of tyre pressure: ►M2 ± 0,1 bar ◄;

1.6.3. for all data relating to dimensions, a tolerance of ± 5% is allowed.

1.7. The seat must undergo the following tests, carried out on the same seat and in the order indicated below:

1.7.1. determination of the suspension characteristics and the range of adjustment to the driver's mass;

1.7.2. determination of lateral stability;

▼M2

1.7.3. Determination of vertical vibration characteristics.

1.7.4. Determination of the damping characteristics in the resonance range.

▼B

1.8. If the seat is manufactured so that it can revolve about a vertical axis then tests are carried out with the seat facing the forward position, ►M2 ——————— ◄ locked in a position parallel with the median longitudinal plane of the tractor.

1.9. The seat undergoing the above tests must possess the same characteristics with respect to construction and fittings as the seats in series production.

1.10. Before the tests are carried out, the seat must have been run in by the manufacturer.

1.11. A test report, which confirms that the seat has completed all the specified tests without damage and which includes details of the seat vibration characteristics, must be prepared by the test laboratory.

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1.12. Seats tested for Class I tractors are suitable only for tractors of that class, whereas seats tested for Class II tractors are suitable for Class I or Class II tractors.

2. SPECIAL REQUIREMENTS

2.1. **Seat surface dimensions**

2.1.1. The depth of the seat surface, measured parallel to and at a distance of 150 mm from the median longitudinal plane of the seat, must be 400 ± 50 mm (see figure below).

2.1.2. The width of the seat surface, measured perpendicular to the median plane of the seat, 150 mm in front of the seat reference point (S) and at not more than 80 mm above that point, must be at least 450 mm (see figure below).

▼M2

2.1.3. The depth and width of the surface of seats intended for tractors in which the minimum rear-wheel track width does not exceed 1 150 mm may be reduced to not less than 300 and 400 mm respectively if the design of the tractor prevents compliance with the requirements of Items 2.1.1 and 2.1.2.

▼B

2.2. **Position and inclination of the backrest**

2.2.1. The upper edge of the backrest of the seat must be at least 260 mm above the seat reference point (S) (see figure below).

2.2.2. The backrest must have an inclination of 10 ± 5º (see figure below).

2.3. **Inclination of the seat surface**

2.3.1. The inclination towards the rear (see angle α in the figure below) of the surface of the loaded cushion must be 3 to 12º in relation to the horizontal, measured with the loading device in accordance with Appendix 1.

2.4. **Seat adjustment** (see figure below)

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2.4.1. The seat must be adjustable in the longitudinal direction over a minimum distance of:

— 150 mm for tractors with a minimum rear-wheel track width of more than 1 150 mm,

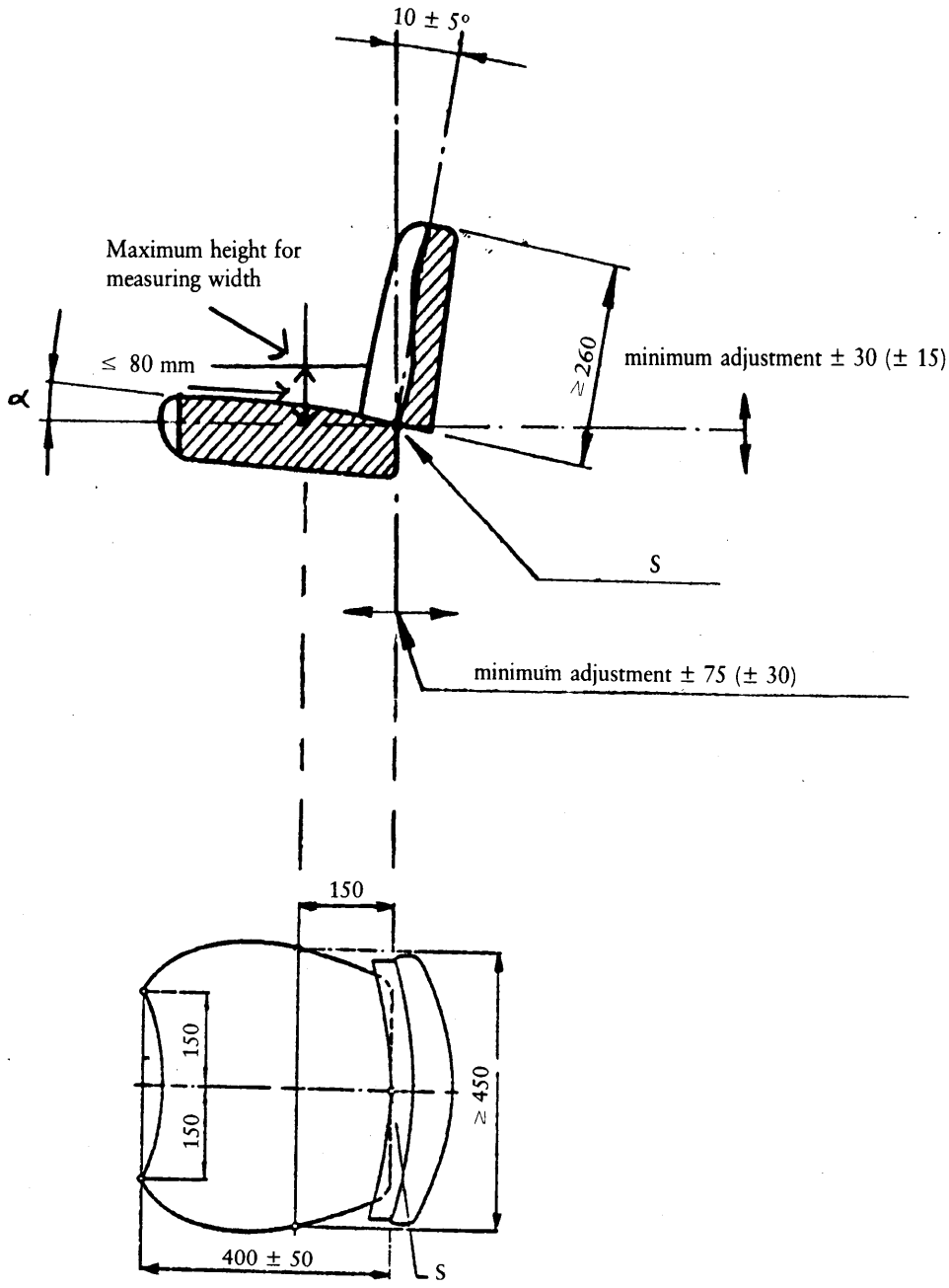
— 60 mm for tractors with a minimum rear-wheel track width of 1 150 mm or less.

2.4.2. The seat must be adjustable in the vertical direction over a minimum distance of:

— 60 mm for tractors with a minimum rear-wheel track width of more than 1 150 mm,

— 30 mm for tractors with a minimum rear-wheel track width of 1 150 mm or less.

▼B



(Dimensions in millimetres)

2.5. **Seat tests**

▼M2

2.5.1. *Determination of the suspension characteristics and the range of adjustment to the driver's mass*

2.5.1.1. The suspension characteristics are determined by a static test. The range of adjustment to the driver's mass is calculated from the suspension characteristics. These calculations are not necessary in the case of seats that cannot be manually adjusted to the driver's mass.

▼B

2.5.1.2. The seat is mounted on a test stand or on a tractor and a load applied to it, either directly or by means of a special device; this load must not differ by more than 5 N from the nominal load. ►M2 The measuring error for the suspension travel shall not exceed ± 1 mm. ◄ The load must be applied in accordance with the procedure laid down in section 3 of Appendix 1.

▼M2

2.5.1.3. A complete characteristic curve representing the deflection of the suspension system must be plotted from zero load to maximum load, and back to zero. The load graduations at which the suspension travel is measured must not exceed 100 N; at least eight measurement points must be plotted at approximately equal intervals in the suspension travel. The point taken as the maximum load should be either that at which no further suspension travel can be measured, or a load of 1 500 N. After each application or removal of the load, the suspension travel must be measured 200 mm in front of the seat reference point in the median longitudinal plane of the seat surface. After application or removal of the load, the seat must be allowed to return to its at-rest position.

2.5.1.4. In the case of seats with a mass adjustment scale, the characteristic curves representing the deflection of the suspension system are plotted at mass adjustments for drivers having a mass of 50 and 120 kg. In the case of seats without a mass adjustment scale and with adjustment stops, measurements are taken at the lowest and the highest mass adjustment. In the case of seats without a mass adjustment scale or adjustment stops, the adjustment must be so selected that:

2.5.1.4.1. for the lower mass adjustment limit, the seat just returns to the top of the suspension travel when the load is removed, and

2.5.1.4.2. for the upper mass adjustment limit, the load of 1 500 N depresses the seat to the lowest limit of the suspension travel.

▼B

2.5.1.5. The mean position of the suspension system is the position which the seat assumes when it is depressed by half the full travel of the suspension system.

2.5.1.6. Since the characteristic curves of the suspension system are generally hysteresis loops, the load must be determined by drawing a centre line through the loop (see section 8 of Annex I, and sections A and B of Appendix 2 to Annex II).

▼M2

2.5.1.7. To determine the limits of the adjustment range as a function of the driver's mass, the vertical forces determined in accordance with Item 2.5.1.6 for points A and B (see Appendix 2 to this Annex) must be multiplied by the scale factor 0,13 kg/N.

2.5.2. *Determination of lateral stability*

2.5.2.1. The seat must be set for the upper limit of the weight adjustment and connected to the test stand or to the tractor in such a way that its base plate rests on a rigid plate (test stand) not smaller than the base plate itself.

▼B

2.5.2.2. A test load of 1 000 N is applied to the surface or cushion of the seat. The point of application must lie 200 mm in front of the seat reference point (S) and alternately on the two sides 150 mm from the plane of symmetry through the seat.

2.5.2.3. During application of the load, the variation in the lateral angle of inclination of the seat surface is measured in the end settings for horizontal and vertical seat adjustment. The permanent deformation close to the point of application of the load is not to be taken into consideration.

▼M2

2.5.3. *Determination of the vertical vibration characteristics*

▼B

The seat vibration is determined by tests on a test stand and/or a standard roadway depending on whether the seat is intended for a class (or classes) of Category A tractor or for a Category B tractor.

2.5.3.1. Testing on the test stand

▼M2

2.5.3.1.1. The test stand must simulate the vertical vibrations at the point of attachment of the driver's seat. The vibrations are generated by means of an electro-hydraulic device. The set values to be used are

▼M2

either those specified in Appendices 4 and 5 to Annex II for the class of tractor in question or the double-integrated acceleration signals recorded at the seat attachment of a Category B tractor moving at a speed of 12 ± 0,5 km/h on a standard roadway as defined in Item 2.5.3.2.1. To generate the vibrations, an uninterrupted double run of the set values must be used.

The transition from the end of the sequence of acceleration signals recorded on the standard roadway in the first run to the start of the second run must be smooth and jolt-free. The measurements must not be made during the first run of the set values or of the acceleration signals. More values than the 700 laid down in Appendices 4 and 5 to Annex II may be used if these values were calculated, for example, with a cubic Spline function from the original 700 values.

▼B

2.5.3.1.2. Besides an attachment for the test seat, the platform must contain a steering wheel and footrest. Its configuration must be as shown in Appendix 6.

▼M2

2.5.3.1.3. The test stand must have a high degree of flexural and torsional rigidity and its bearings and guides must have no more than the technically necessary clearance. If the platform is carried on an oscillating arm, the dimension R must be not less than 2 000 mm (see Appendix 6). The magnitude of the vibration ratio at frequencies between 0,5 and 5,0 Hz shall be within the range 1,00 ± 0,05, measured at intervals not exceeding 0,5 Hz. The phase shift shall not vary by more than 20º throughout the same frequency range.

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2.5.3.2. Testing on a standard roadway

▼M2

2.5.3.2.1. The roadway consists of two parallel strips spaced according to the wheel track of the tractor. Both strips must be made of a rigid material, such as wood or concrete, and be formed either of blocks set in a base structure or of a continuous smooth surface. The longitudinal profile of each track strip is defined by the ordinates of elevation in relation to a base level; these ordinates are shown in the tables in Appendix 3. With regard to the roadway, the elevation is defined at intervals of 16 cm along each strip.

The roadway must be firmly set in the ground and the distance between the strips must deviate only slightly over its entire length; the tractor's wheels must be fully supported at all times. Where the strips are formed of blocks, these must be 6 to 8 cm thick, with a distance of 16 cm between the centres of the blocks. The length of the standard roadway shall be 100 m.

The measurements must begin as soon as the axis of the rear axle of the tractor is perpendicular to point D = 0 on the roadway, and end as soon as the axis of the front axle of the tractor is perpendicular to point D = 100 of the test roadway (see the table in Appendix 3 to this Annex).

2.5.3.2.2. Measurements shall be taken at a speed of 12 ± 0,5 km/h.

The prescribed speed must be maintained without the use of brakes. The vibrations must be measured on the seat and at the point where the seat is attached to the tractor, with a light and a heavy driver.

The speed of 12 km/h must be reached after a run-up track has been traversed. The surface of this run-up track must be flat and must join the standard roadway without any change in level.

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2.5.3.2.3. The seat must be set for the driver's mass in accordance with the manufacturer's instructions.

2.5.3.2.4. The tractor must be fitted with a protective frame and/or cab unless of a type for which this equipment is not required. It must not carry any ancillary equipment. Moreover, there must be no ballast on the wheels or framework, and no fluid in the tyres.

2.5.3.2.5. The tyres used during the test must have the standard dimensions and ply-rating, as specified in the manufacturer's instructions. The depth of the tread must not be less than 65 % of the depth of a new tread.

▼B

2.5.3.2.6. The side-walls of the tyres must not be damaged. The pressure of the tyre must correspond to the arithmetical mean of the reference pressures recommended by the tyre manufacturer. The wheel track must correspond to that used under normal working conditions for the tractor model on which the seat is fitted.

2.5.3.2.7. The measurements at the point of seat attachment and on the seat itself must be made during the same run.

For measuring and recording the vibrations, an accelerometer, a measuring amplifier and a magnetic tape recorder or direct-reading vibration meter shall be used. The specifications for these instruments are as laid down in 2.5.3.3.2 to 2.5.3.3.6.

2.5.3.3. Specifications for tests on roadway and test stand

▼M2

2.5.3.3.1. Driver's mass

The tests must be carried out with two drivers: one with a total mass of 59 ± 1 kg, of which not more than 5 kg may be carried in a weighting belt around the body; the other with a mass of 98 ± 5 kg with a maximum mass of 8 kg in the weighting belt.

2.5.3.3.2. Position of the accelerometer

To measure the vibrations transmitted to the driver, an accelerometer is fixed on a flat plate with a diameter of 250 ± 50 mm, the central part of which must be rigid up to a diameter of 75 mm and must include a rigid device to protect the accelerometer. This plate must be placed in the middle of the seat surface between the seat and the driver and have a non-slip surface.

To measure the vibrations at the seat attachment, an accelerometer must be fixed near to this attachment at a point not more than 100 mm from the median longitudinal plane of the tractor and not outside the vertical projection of the seat surface on the tractor.

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2.5.3.3.3. Measurement of vibration acceleration

The accelerometer and the associated amplifying and transmitting equipment must respond to vibrations with an r.m.s. value of 0·05 m/s^2, and be capable of measuring vibrations with an r.m.s. value of 5 m/s^2 and a crest factor (ratio of peak to r.m.s. value) of 3 without distortion and with a maximum error of ± 2·5 % over the range 1 to 80 ►M2 Hz ◄.

2.5.3.3.4. Magnetic tape recorder

If a tape recorder is used, it must have a maximum reproduction error of ± 3·5 % in a frequency range of 1 to 80 Hz, including change of tape speed during replay for analysis.

2.5.3.3.5. Vibration meter

2.5.3.3.5.1. Vibrations of more than 10 Hz may be disregarded. It is therefore permissible to connect upstream of the measuring instrument a low-pass filter with a cut-out frequency of about 10 Hz and an attenuation of 12 dB per octave.

2.5.3.3.5.2. This instrument must incorporate an electronic weighting filter between the sensor and the integrator device. The filter must correspond to the curve shown in Appendix 8 and the margin of error must be ± 0·5 dB in the 2 to 4 Hz frequency band and ± 2 dB for the other frequencies.

2.5.3.3.5.3. The electronic measuring device must be capable of indicating either:

— the integral (I) of the square of the weighted vibration acceleration (a_w) for a test time (T)

$$I = \int_o^T (a_w)^2 \, dt$$

— or the square root of that integral

— or directly the r.m.s. value of the weighted vibration acceleration (a_{weff})

▼B

$$a_{w_{eff}} = \sqrt{I/T} = \frac{\sqrt{I}}{\sqrt{T}}$$

▼M2

The inaccuracy of the entire system for measuring the rms value of the acceleration must not exceed ± 5% of the measured value.

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2.5.3.3.6. Calibration

All instruments must be regularly calibrated.

2.5.3.3.7. Evaluation of vibration tests

▼M2

2.5.3.3.7.1. During each test, the weighted vibration acceleration for the whole test time must be determined with the vibration meter specified in Item 2.5.3.3.5.

2.5.3.3.7.2. The test report must give the arithmetic mean value of the rms values of the weighted seat vibration acceleration (a_{wS}) for both the light driver and the heavy driver. The test report must also give the ratio of the arithmetic mean of the rms values of the weighted vibration acceleration measured on the seat (a_{wS}) to the arithmetic mean of the rms values of the weighted vibration acceleration measured at the seat attachment (a_{wB}). This ratio shall be given to two decimal places.

2.5.3.3.7.3. The ambient temperature during the vibration test must be measured and shown in the report.

2.5.4. *Vibration test for tractor seats in accordance with their intended use*

▼B

2.5.4.1. A seat intended for use on a class (or classes) of Category A tractors must be tested on a vibration stand using the appropriate set value signals.

2.5.4.2. A seat intended for use on a type of Category B tractor must be tested on a standard roadway with a tractor of that type. However, a simulation test may also be carried out using a set value signal corresponding to the acceleration curve which was determined during the standard roadway test with the type of tractor for which the seat is intended.

2.5.4.3. A seat intended for use only on a particular type of Category A tractor may also be tested in accordance with the requirements of 2.5.4.2. In this case, component type-approval will be granted only for the type of tractor for which the test seat is intended.

▼M2

2.5.5. *Procedure used for determining the weighted vibration acceleration of seats intended for Category A tractors*

2.5.5.1. The test on the vibration test stand shall be carried out in accordance with Item 2.5.3.1. the value a_{wB} actually occurring at the seat attachment during measurement must be determined. In the case of deviations from the reference value:

a_{wB}^{*} = 2,05 m/s² for Category A tractors in Class I;

a_{wB}^{*} = 1,7 m/s² for Category A tractors in Class II.

The acceleration a_{wS} measured at the driver's seat must be corrected in accordance with the following equation:

$$a_{wS}^{*} = a_{wS} \frac{a_{wB}^{*}}{a_{wB}}$$

2.5.5.2. For each of the two drivers referred to in Item 2.5.3.3.1, the weighted vibration acceleration must be measured at the seat over a period of 28 seconds. The measurement must begin at the set-value signal corresponding to t = 0 seconds and end at the set-value signal t = 28 seconds (see Appendices 4 and 5 to this Annex). At

▼**M2**

least two test runs must be carried out. The measured values must not deviate from the arithmetic mean by more than ± 5 %. Each complete sequence of set points must be reproduced in a time of 28 ± 0,5 sec.

2.5.6. *Procedure used for determining the weighted vibration acceleration of seats intended for Category B tractors*

2.5.6.1. In accordance with the requirements of Item 2.5.4.2, the seat vibration tests are not applicable to a class of tractors, but only to each tractor type for which the seat is intended.

2.5.6.2. The standard roadway test must be carried out in accordance with the requirements of Items 2.5.3.2 and 2.5.3.3. The vibration acceleration measured on the driver's seat (a_{wS}) need not be corrected. At least two test runs must be carried out on the standard roadway. The measured values must not deviate from the arithmetic mean by more than ± 10%.

2.5.6.3. If a bench test is conducted, it must be carried out in association with a standard roadway test pursuant to the requirements of Items 2.5.3.1 and 2.5.3.3.

2.5.6.4. The vibration test stand shall be adjusted in such a way that the rms value of the weighted vibration acceleration recorded at the seat attachment (a_{wB}) deviates by less than ± 5 % from the rms value of the weighted vibration acceleration at the seat attachment recorded on the standard roadway (a^*_{wF}).

In the event of deviations from the value (a^*_{wF}) measured at the seat attachment during the test run, the weighted vibration acceleration recorded at the driver's seat during the test on the test stand must be corrected as follows:

$$a^*_{wS} = a_{wS} \frac{a^*_{wF}}{a_{wB}}.$$

Each of the tests on the test stand must be carried out twice. The measured values must not deviate from the arithmetic mean by more than ± 5%.

2.5.7. *Test for determining the damping characteristics in the resonance range*

2.5.7.1. This test is carried out on the test stand as specified in Item 2.5.3.1. However, account must be taken of the following:

2.5.7.2. Instead of the set values specified in the second paragraph of Item 2.5.3.1.1 (see Appendices 4 and 5 to this Annex), sinusoidal oscillations of ± 15 mm amplitude with a frequency of 0,5 to 2 Hz are generated. The frequency range is to be run through with a constant rate of frequency change in not less than 60 seconds or at intervals no greater than 0,05 Hz with increasing frequency, and in an identical manner with decreasing frequency. During this measurement, it is permissible to filter the signals emitted by the accelerometers through a bandpass filter with cut-off frequencies of 0,5 and 2,0 Hz.

2.5.7.3. The seat is to be loaded with a ballast of 40 kg in the first test and with a mass of 80 kg in the second test; the ballast is to be applied on the device illustrated in Figure 1 of Appendix 1, with the same line of action of the force as when determining the seat reference point.

2.5.7.4. The ratio of the rms values of the vibration acceleration on the seat surface a_{wS} to those at the seat attachment a_{wB}:

$$V = \frac{a_{wS}}{a_{wB}}$$

is to be determined in the frequency range from 0,5 to 2,0 Hz at intervals no greater than 0,05 Hz.

▼M2

2.5.7.5. The ratio measured must be given in the test report to two decimal places.

▼B

3. EEC COMPONENT TYPE-APPROVAL AND MARKING REQUIREMENTS

3.1. **Conditions necessary for EEC component type-approval of a seat**

To be granted EEC component type-approval, a seat must, in addition to fulfilling the requirements set out above, satisfy the following conditions:

3.1.1. the range of adjustment as a function of the driver's mass must extend from at least 50 to 120 kg;

3.1.2. the change in the angle of inclination measured during the lateral stability test must not exceed 5º;

3.1.3. neither of the two values described in 2.5.3.3.7.2 must exceed 1·25 m/s^2.

▼M2

3.1.4. The ratio referred to in Items 2.5.7.4 and 2.5.7.5 shall not exceed the value of 2.

▼B

3.2. **Application for EEC component type-approval**

3.2.1. The application for EEC component type-approval must be submitted by the owner of the trade name or mark or by his authorized representative.

3.2.2. For each type of driver's seat, the application must be accompanied by:

3.2.2.1. a brief technical description, stating in particular the type of tractor or tractors for which it is intended;

3.2.2.2. drawings in triplicate, sufficiently detailed to permit identification of the type of seat and showing in particular its dimensions, its weight, its suspension system and its means of attachment;

3.2.2.3. at least one seat;

3.2.2.4. one tractor (if necessary) representative of the type of tractor for which the seat is intended.

3.3. **Inscriptions**

3.3.1. The seat submitted for EEC component type-approval must bear the applicant's trade name or mark, clearly and indelibly inscribed.

3.3.2. On each seat there must be a space large enough for the EEC component type-approval mark; this space must be shown on the drawings referred to in 3.2.2.2.

3.4. **EEC component type-approval**

3.4.1. If the seat submitted in accordance with 3.2 complies with the requirements of 3.1 and 3.3, EEC component type-approval is granted and a component type-approval number allocated.

3.4.2. This number must not be allocated to any other type of seat.

3.5. **Marking**

3.5.1. Every seat conforming to a type approved in pursuance of this Directive must bear an EEC component type-approval mark.

3.5.2. This mark must consist of:

3.5.2.1. a rectangle surrounding the lower-case letter ‘e’ followed by the distinguishing number or letters of the Member State which has granted the component type-approval:

▼A2

1 for Germany

▼A2

2 for France

3 for Italy

4 for the Netherlands

6 for Belgium

9 for Spain

11 for the United Kingdom

13 for Luxembourg

DK for Denmark

▼M3

EL for Greece

▼A2

IRL for Ireland

P for Portugal

▼B

3.5.2.2. the EEC component type-approval number which corresponds to the number of the EEC component type-approval certificate issued for the type of seat, below and close to the rectangle; and

3.5.2.3. the indication, above and close to the rectangle, of the type of Category A tractor for which the seat is intended. This is to be shown as follows:

— for Category A tractors in Class I: I.

— for Category A tractors in Classes I and II: I and II.

If no indication is given above the rectangle, the seat is intended for a Category B tractor.

3.5.3. The EEC component type-approval mark must be affixed to the seat in such a way that it is indelible and clearly legible even when the seat is mounted on the tractor.

3.5.4. An example of the component type-approval mark is given in Appendix 11.

3.5.5. The dimensions of the various parts of this mark must not be smaller than the minimum dimensions specified for marking as illustrated in Appendix 11.

▼B

Appendix 1

Method of determining the seat reference point (S)

1. DEFINITION OF THE REFERENCE POINT (S)

'Seat reference point' (S) means the point of intersection in the median longitudinal plane of the seat between the tangential plane at the base of the padded backrest and a horizontal plane. This horizontal plane intersects the lower surface of the seat 150 mm in front of the seat reference point (S).

2. DEVICE FOR DETERMINING THE SEAT REFERENCE POINT (S)

The device illustrated in Figure 1 consists of a seat pan board and backrest boards. The lower backrest boards must be hinged in the region of the ischium humps (A) and the loin (B), the hinge (B) being adjustable in height.

3. METHOD OF DETERMINING THE SEAT REFERENCE POINT (S)

The seat reference point (S) must be obtained by using the device illustrated in Figures 1 and 2, which simulates loading by a human occupant. The device must be positioned on the seat. It must then be loaded with a force of 550 N at a point 50 mm in front of hinge (A) and two parts of the backrest lightly pressed tangentially against the padded backrest.

If it is not possible to determine definite tangents to each area of the padded backrest (below and above the lumbar region) the following procedure must be adopted:

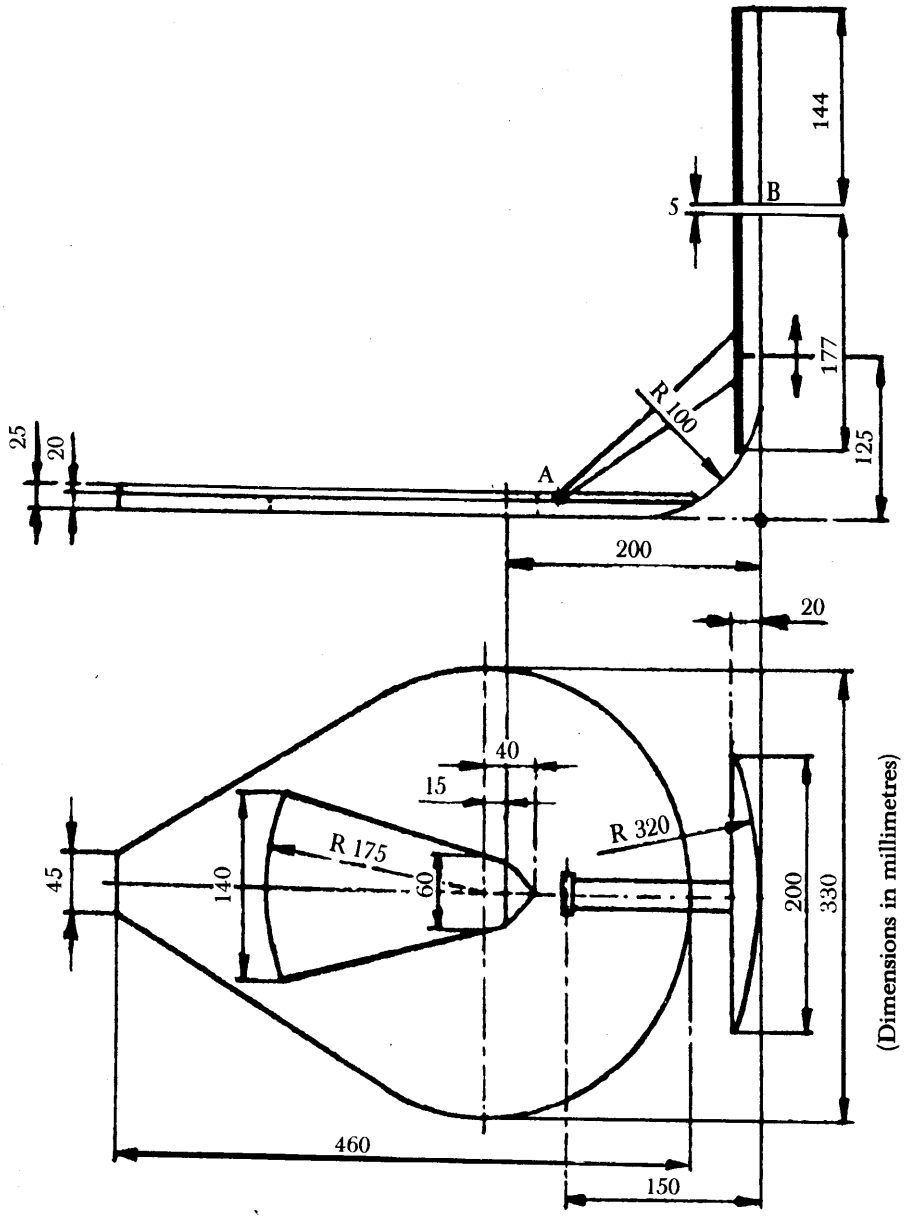
(a) where there is no possibility of defining the tangent to the lowest possible area, the lower part of the backrest board in a vertical position must be lightly pressed against the padded backrest;

(b) where there is no possibility of defining the tangent to the highest possible area, if the lower part of the backrest board is vertical, the hinge must be fixed at a height of 230 mm above the seat reference point (S). The two parts of the backrest board in a vertical position must then be lightly pressed tangentially against the padded backrest.

▼B

Figure 1

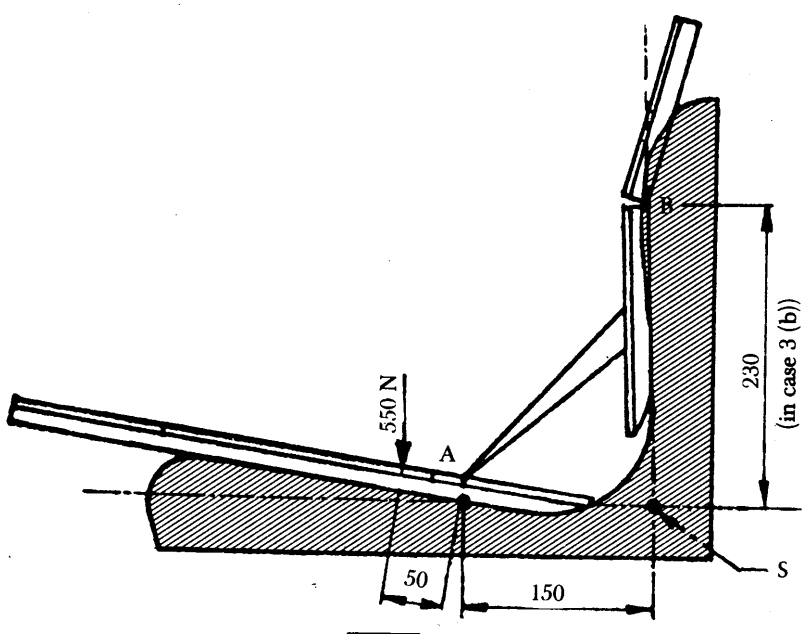
Device for determining the seat reference point (S)



▼B

Figure 2

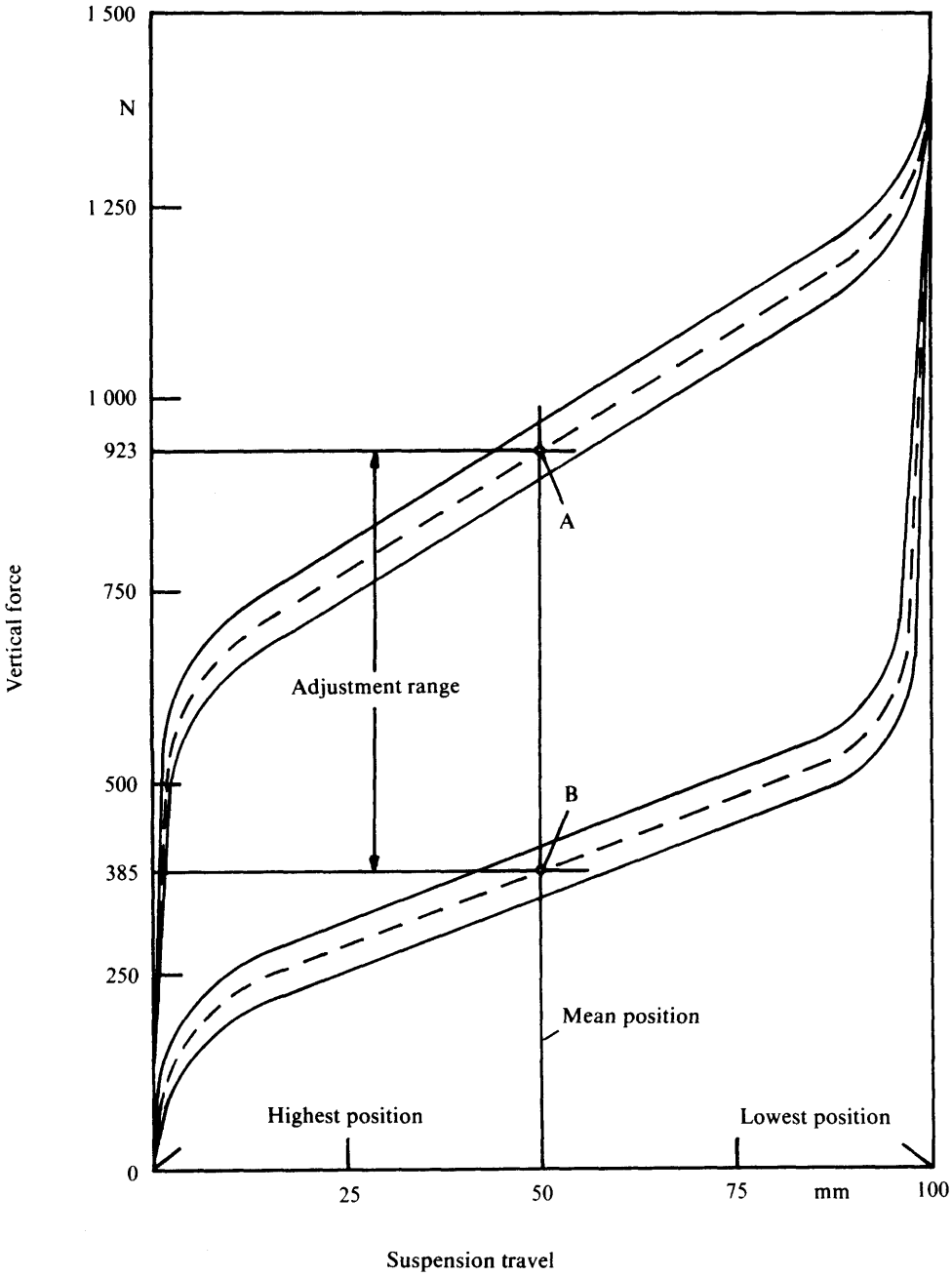
Device in position



▼M2

Appendix 2

Determination of the characteristic curves of the suspension system and the load adjustment range
(Item 2.5.1)



▼B

Appendix 3

Test on standard roadway

Table of elevation ordinates in relation to ►M2 a ◄ basic level defining the surface of each strip of the roadway (2.5.3.2.1)

▼M2

D = distance from the beginning of the standard roadway (in metres)

▼B

L = ordinate of the left-hand strip (mm)

R = ordinate of the right-hand strip (mm)

D	L	R
0	115	140
0·16	110	125
0·32	110	140
0·48	115	135
0·64	120	135
0·80	120	125
0·96	125	135
1·12	120	125
1·28	120	115
1·44	115	110
1·60	110	100
1·76	110	110
1·92	110	110
2·08	115	115
2·24	110	110
2·40	100	110
2·56	100	100
2·72	95	110
2·88	95	95
3·04	90	95
3·20	90	100
3·36	85	100
3·52	90	100
3·68	90	115
3·84	95	110
4·00	90	110
4·16	90	95
4·32	95	100
4·48	100	100
4·64	100	90
4·90	90	90
4·96	90	90
5·12	95	90
5·28	95	70
5·44	95	65
5·60	90	50
5·76	95	50
5·92	85	50
6·08	85	55
6·24	75	55
6·40	75	55
6·56	70	65
6·72	75	75
6·88	65	75
7·04	65	85
7·20	65	90
7·36	75	95
7·52	75	100
7·68	95	95
7·84	115	110

▼B

D	L	R
8·00	115	100
8·16	125	110
8·32	110	100
8·48	110	100
8·64	110	95
8·80	110	95
8·96	110	95
9·12	110	100
9·28	125	90
9·44	120	100
9·60	135	95
9·76	120	95
9·92	120	95
10·08	120	95
10·24	115	85
10·40	115	90
10·56	115	85
10·72	115	90
10·88	120	90
11·04	110	75
11·20	110	75
11·36	100	85
11·52	110	85
11·68	95	90
11·84	95	90
12·00	95	85
12·16	100	95
12·32	100	90
12·48	95	85
12·64	95	85
12·80	95	90
12·96	85	90
13·12	85	85
13·28	75	90
13·44	75	95
13·60	75	90
13·76	70	75
13·92	70	90
14·08	70	100
14·24	70	110
14·40	65	95
14·56	65	100
14·72	65	90
14·88	65	90
15·04	65	85
15·20	55	85
15·36	65	85
15·52	65	85
15·68	55	75
15·84	55	85
16·00	65	75
16·16	55	85
16·32	50	75
16·48	55	75
16·64	65	75
16·80	65	75
16·96	65	85
17·12	65	70
17·28	65	65
17·44	65	75
17·60	65	75
17·76	50	75
17·92	55	85
18·08	55	85
18·24	65	85

▼B

D	L	R
18·40	70	75
18·56	75	75
18·72	95	75
18·88	90	75
19·04	90	70
19·20	95	70
19·36	85	70
19·52	85	75
19·68	75	85
19·84	85	85
20·00	75	90
20·16	85	85
20·32	75	70
20·48	70	75
20·64	65	75
20·80	70	75
20·96	65	75
21·12	70	75
21·28	70	85
21·44	70	85
21·60	70	90
21·76	75	95
21·92	75	95
22·08	75	90
22·24	85	90
22·40	85	95
22·58	90	85
22·72	90	85
22·88	95	85
23·04	95	85
23·20	100	85
23·36	100	75
23·52	110	85
23·68	110	85
23·84	110	85
24·00	100	75
24·16	100	75
24·32	95	70
24·48	100	70
24·64	100	70
24·80	115	75
24·96	110	75
25·12	110	85
25·28	100	75
25·44	110	95
25·60	100	95
25·76	115	100
25·92	115	100
26·08	110	95
26·24	115	95
26·40	110	95
26·56	100	95
26·72	100	95
26·88	100	100
27·04	100	95
27·20	100	95
27·36	110	90
27·52	115	90
27·68	115	85
27·84	110	90
28·00	110	85
28·16	110	85
28·32	100	85
28·48	100	90
28·64	90	85

▼B

D	L	R
28·80	90	75
28·96	75	90
29·12	75	75
29·28	75	75
29·44	70	75
29·60	75	75
29·76	75	85
29·92	85	75
30·08	75	75
30·24	85	75
30·40	75	75
30·56	70	75
30·72	75	75
30·88	85	75
31·04	90	75
31·20	90	85
31·36	100	75
31·52	100	75
31·68	120	85
31·84	115	75
32·00	120	85
32·16	120	85
32·32	135	90
32·48	145	95
32·64	160	95
32·80	165	90
32·96	155	90
33·12	145	90
33·28	140	95
33·44	140	85
33·60	140	85
33·76	125	75
33·92	125	75
34·08	115	85
34·24	120	75
34·40	125	75
34·56	115	85
34·72	115	75
34·88	115	90
35·04	115	100
35·20	120	100
35·36	120	100
35·52	135	95
35·68	135	95
35·84	135	95
36·00	135	90
36·16	120	75
36·32	115	75
36·48	110	70
36·64	100	65
36·80	110	55
36·96	115	55
37·12	100	50
37·28	115	50
37·44	110	50
37·60	100	65
37·76	90	55
37·92	95	55
38·08	90	35
38·24	90	35
38·40	110	35
38·56	100	35
38·72	115	35
38·88	100	35
39·04	100	35

▼B

D	L	R
39·20	110	30
39·36	110	45
39·52	110	50
39·68	100	55
39·84	110	50
40·00	90	55
40·16	85	55
40·32	90	65
40·48	90	65
40·64	90	70
40·80	95	75
40·96	95	75
41·12	95	75
41·28	90	90
41·44	90	95
41·60	85	95
41·76	85	100
41·92	90	100
42·08	90	95
42·24	85	100
42·40	85	110
42·56	95	110
42·72	95	115
42·88	95	115
43·04	100	100
43·20	100	95
43·36	100	95
43·52	100	90
43·68	110	95
43·84	100	100
44·00	110	90
44·16	100	85
44·32	110	90
44·48	110	85
44·64	100	85
44·80	100	90
44·96	95	90
45·12	90	95
45·28	90	100
45·44	95	100
45·60	90	90
45·76	85	90
45·92	75	90
46·08	85	90
46·24	75	90
46·40	75	90
46·54	75	90
46·72	85	90
46·88	85	85
47·04	90	85
47·20	75	85
47·36	65	75
47·52	70	70
47·68	70	75
47·84	70	75
48·00	75	85
48·16	90	95
48·32	95	95
48·48	100	120
48·64	110	100
48·30	115	100
48·96	115	115
49·12	120	115
49·28	120	110
49·44	115	95

▼B

D	L	R
49·60	115	90
49·76	115	90
49·92	110	95
50·08	110	100
50·24	100	110
50·40	100	120
50·56	95	120
50·72	95	115
50·88	95	120
51·04	95	120
51·20	90	135
51·36	95	125
51·52	95	120
51·68	100	120
51·84	100	120
52·00	100	120
52·16	100	125
52·32	110	125
52·48	110	125
52·64	100	125
52·80	100	120
52·96	100	120
53·12	110	115
53·28	100	110
53·44	110	110
53·60	95	110
53·76	95	110
53·92	100	110
54·08	95	100
54·24	100	100
54·40	100	100
54·56	100	100
54·72	95	100
54·88	100	100
55·04	100	115
55·20	110	115
55·36	100	110
55·52	110	100
55·68	100	110
55·84	100	110
56·00	100	110
56·16	95	115
56·32	90	110
56·48	95	110
56·64	95	110
56·80	90	100
56·96	100	100
57·12	100	95
57·28	95	100
57·44	100	100
57·60	95	115
57·76	85	110
57·92	90	115
58·08	90	110
58·24	90	100
58·40	85	95
58·56	90	95
58·72	85	90
58·88	90	90
59·04	90	95
59·20	90	115
59·36	90	115
59·52	90	115
59·68	85	110
59·84	75	110

▼B

D	L	R
60·00	90	115
60·16	90	120
60·32	90	120
60·48	90	120
60·64	95	120
60·80	95	120
60·96	90	120
61·12	90	115
61·28	95	110
61·44	95	110
61·60	100	100
61·76	110	100
61·92	100	100
62·08	100	100
62·24	95	100
62·40	95	100
62·56	95	100
62·72	90	100
62·88	90	100
63·04	90	100
63·20	90	90
63·36	90	90
63·52	85	90
63·68	85	90
63·84	75	85
64·00	75	85
64·16	75	75
64·32	75	75
64·48	70	75
64·64	70	70
64·80	70	55
64·96	70	45
65·12	65	55
65·28	65	55
65·44	65	65
65·60	55	70
65·76	55	75
65·92	55	75
66·08	55	75
66·24	55	85
66·46	55	85
66·56	65	90
66·72	70	90
66·88	70	110
67·04	65	100
67·20	55	100
67·36	65	100
67·52	50	100
67·68	50	85
67·84	50	90
68·00	50	100
68·16	55	100
68·32	55	95
68·48	65	90
68·64	50	85
68·80	50	70
68·96	50	70
69·12	50	65
69·28	50	55
69·44	45	50
69·60	35	50
69·76	35	55
69·92	35	65
70·08	35	65
70·24	35	65

▼B

D	L	R
70·40	35	55
70·58	45	55
70·72	50	55
70·88	50	50
71·04	50	45
71·20	50	45
71·36	50	50
71·52	45	45
71·68	45	55
71·84	55	65
72·00	55	65
72·16	70	65
72·32	70	75
72·48	75	85
72·64	75	85
72·80	75	90
72·96	85	95
73·12	90	100
73·28	90	110
73·44	90	115
73·60	90	120
73·76	90	115
73·92	90	115
74·08	110	115
74·24	100	100
74·40	100	110
74·56	100	110
74·72	95	115
74·88	95	120
75·04	95	125
75·20	95	135
75·36	100	135
75·52	100	140
75·68	100	140
75·84	100	140
76·00	110	135
76·16	100	125
76·32	100	125
76·48	100	125
76·64	110	125
76·80	115	125
76·96	120	125
77·12	120	125
77·28	120	135
77·44	110	125
77·60	100	125
77·76	120	135
77·92	120	125
78·03	120	125
78·24	115	125
78·40	115	120
78·56	115	120
78·72	110	120
78·88	100	120
79·04	100	120
79·20	95	120
79·36	95	120
79·52	95	125
79·68	95	125
79·84	100	120
80·00	95	125
80·16	95	125
80·32	95	125
80·48	100	120
80·64	100	125

▼B

D	L	R
80·80	100	125
80·96	110	125
81·12	115	135
81·28	110	140
81·44	115	140
81·60	110	140
81·76	115	140
81·92	110	140
82·08	110	140
82·24	110	135
82·40	110	135
82·56	100	125
87·72	110	125
82·88	110	125
83·04	100	125
83·20	100	120
83·36	100	125
83·52	100	120
83·68	100	135
83·84	95	140
84·00	100	135
84·16	110	140
84·32	110	140
84·48	110	140
84·64	110	140
84·80	120	155
84·96	115	145
85·12	115	155
85·28	120	160
85·44	120	165
85·60	120	160
85·76	125	165
85·92	135	160
86·08	135	160
86·24	125	155
86·40	125	155
86·56	120	145
86·72	120	145
86·98	110	140
87·04	110	140
87·20	110	140
87·36	110	140
87·52	110	140
87·68	100	135
87·84	100	135
88·00	100	135
88·16	100	125
88·32	110	120
88·48	115	120
88·64	110	120
88·80	110	125
88·96	100	125
89·12	100	125
89·28	95	125
89·44	95	125
89·60	100	120
89·76	100	135
89·92	110	140
90·08	110	135
90·24	110	140
90·40	100	145
90·56	100	155
90·72	110	155
90·88	110	155
91·04	100	155

▼B

D	L	R
91·20	110	155
91·36	110	160
91·52	115	160
91·68	110	155
91·84	115	155
92·00	115	140
92·16	115	155
92·32	120	155
92·48	125	145
92·64	125	155
92·80	125	155
92·96	120	155
93·12	120	145
93·28	120	145
93·44	115	145
93·60	120	145
93·76	115	140
93·92	115	140
94·08	115	140
94·24	115	140
94·40	115	140
94·56	115	140
94·72	115	135
94·88	115	135
95·04	110	135
95·20	110	135
95·36	110	135
95·52	115	135
95·68	100	140
95·84	95	135
96·00	100	125
96·16	95	125
96·32	95	125
96·48	95	125
96·64	110	125
96·80	95	120
96·96	95	120
97·12	95	120
97·28	95	110
97·44	100	115
97·60	110	120
97·76	110	115
97·92	100	115
98·08	95	115
98·24	100	115
98·40	95	115
98·52	100	115
98·72	100	110
98·88	110	100
99·04	95	95
99·20	90	100
99·36	90	100
93·52	75	110
99·68	75	115
99·84	75	115
100·00	75	110

▼**M2**

Appendix 4

Set-value signals for the test-stand inspection of the driver's seat on Category A (Class I) tractors (Item 2.5.3.1.1):

PS = set point;

a = amplitude of the set-value signal (in 10^{-4} m);

t = measurement time (in seconds).

When the sequence of signals is repeated in the table for 701 points, points 700 and 0 coincide in time at an amplitude of a = 0:

PS No	a 10^{-4} m	t s
0	0 000	0
1	0 089	.
2	0 215	.
.	.	.
.	.	.
.	.	.
699	0 023	.
700	0 000	28,0

▼**M2**

Appendix 5

Set-value signals for the test-stand inspection of the driver's seat on Category A (Class II) tractors (Item 2.5.3.1.1):

PS = set points;

a = amplitude of the set-value signal (in 10^{-4} m);

t = measurement time (in seconds).

When the sequence of signals is repeated in the table for 701 points, points 700 and 0 coincide in time at an amplitude of a = 0:

PS No	a 10^{-4} m	t s
0	0 000	0
1	0 022	.
2	0 089	.
.	.	.
.	.	.
.	.	.
699	0 062	.
700	0 000	28,0

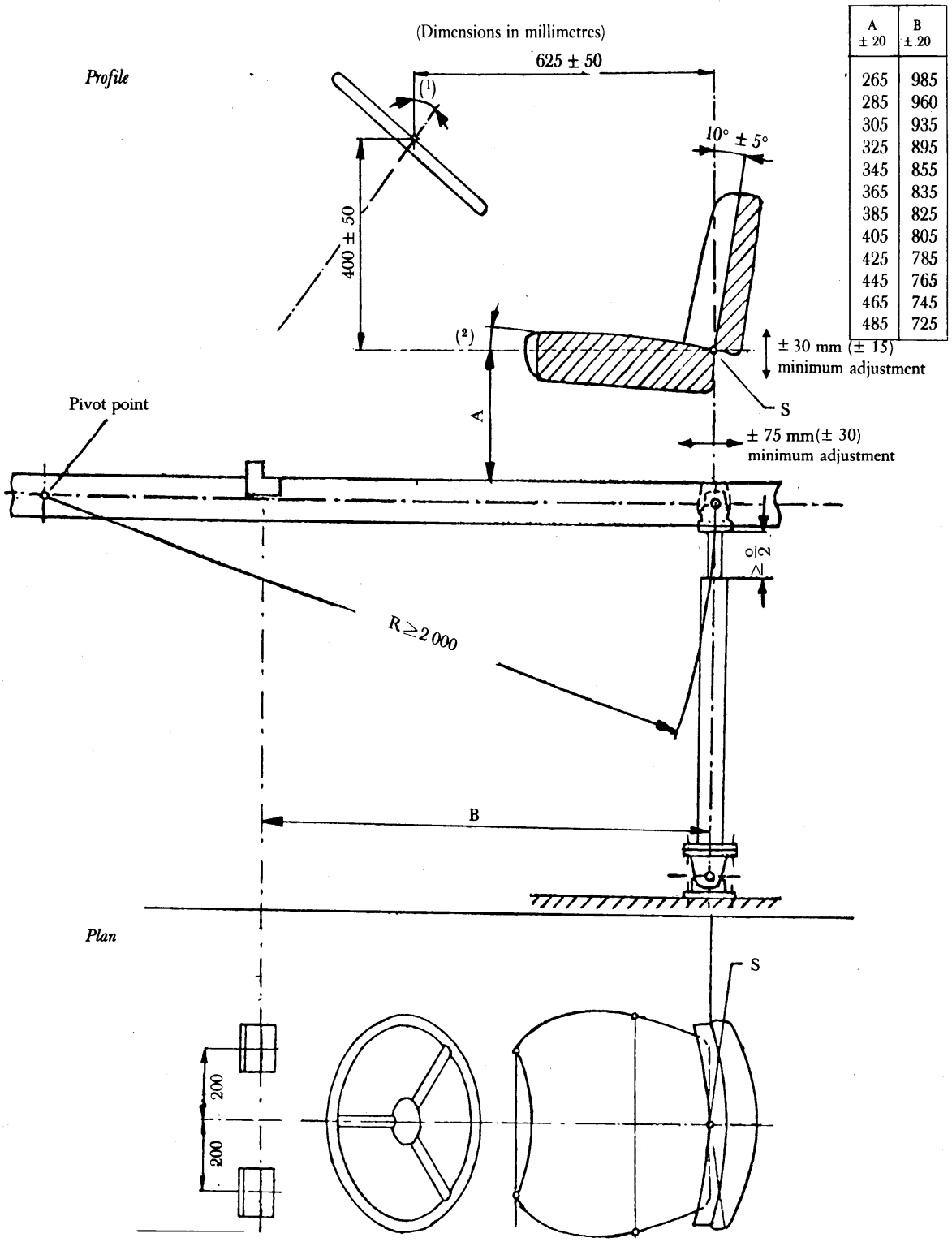
▼B

Appendix 6

▼M2

Test stand (Item 2.5.3.1); example of construction *(dimensions in mm)*

▼B



A ± 20	B ± 20
265	985
285	960
305	935
325	895
345	855
365	835
385	825
405	805
425	785
445	765
465	745
485	725

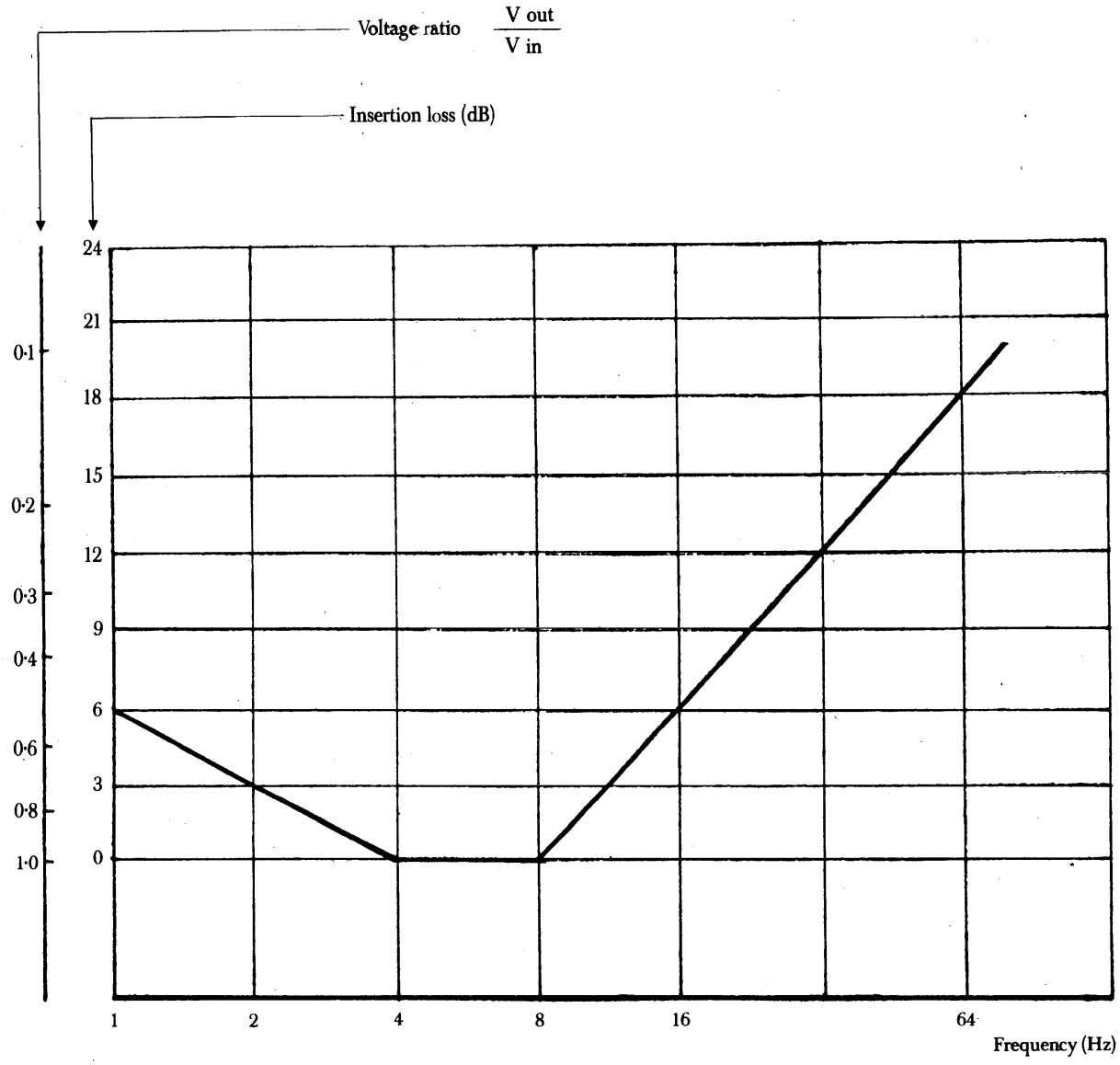
(1) The angle of the steering column in relation to the vertical depends on the position of the seat, the diameter of the steering wheel.
(2) The rearward inclination of the surface of the fitted seat cushion must be 3 to 12° in relation to the horizontal when measured with the loading device in accordance with Appendix 1 to Annex II. The choice of the angle of inclination within this class depends on the position when seated.

▼M2

▼B

Appendix ►M2 *7* ◄

Characteristic of the filter of the vibration measuring instrument (2.5.3.3.5)

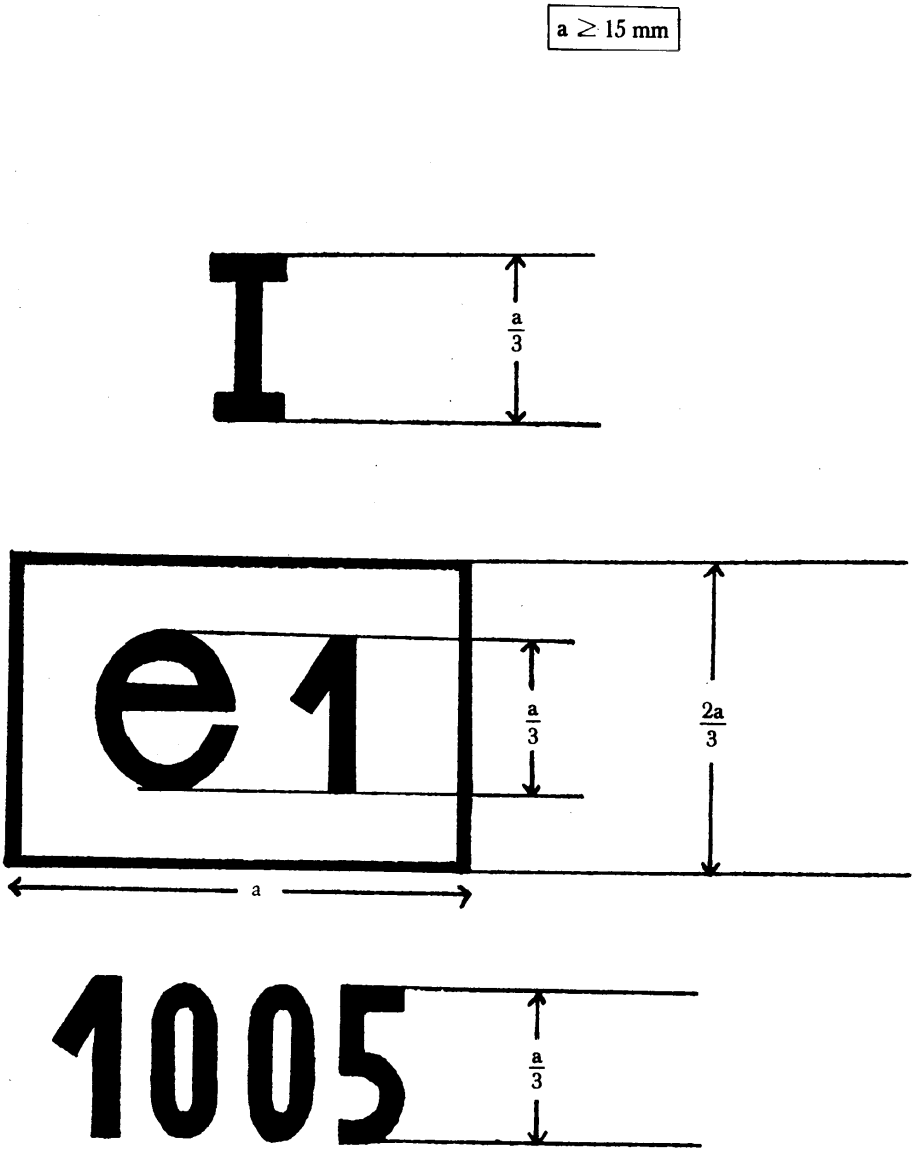


▼M2

▼B

Appendix ►M2 *8* ◄

Example of an EEC component type-approval mark (3.5)



The seat bearing the EEC type-approval mark above is a seat intended for a Category A tractor in Class I and approved in Germany (e1) under number 1 005.

▼B

ANNEX III

MODEL EEC COMPONENT TYPE-APPROVAL CERTIFICATE

Name of administration

Notification concerning the grant, refusal, withdrawal or extension of EEC component type-approval for a type of driver's seat for a wheeled agricultural or forestry tractor

EEC component type-approval No .....

1. Trade name or mark of seat .....
.....
2. Name and address of seat manufacturer .....
.....
3. If applicable, name and address of manufacturer's authorized representative .....
.....
4. Mark, type and trade name of tractor(s) for which seat is intended (1) .....
.....
5. Date of submission for EEC component type-approval .....
6. Test laboratory .....
.....
7. Date and number of laboratory report .....
8. Date on which EEC component type-approval was granted/refused/withdrawn (2) .....
.....
9. Place .....
10. Date .....
11. A note describing the seat, particularly the range of adjustment, the total weight, the suspension system characteristics, type and thickness of padding and directions for attachment, is attached to this certificate. Designs of the sides of the seat in DIN A4 form (210 × 297 mm) with a lateral and frontal view are enclosed with this note. ►(1) This note must be sent to the competent authorities of the other Member States if they so request. ◄
12. Remarks .....
.....
13. Signature .....

(1) In the case of a seat intended for a tractor in Class I or II, state the class(es) of the tractor(s) for which the seat is intended.
(2) Delete whichever is inapplicable.

▼B

ANNEX IV

DRIVER'S SEAT INSTALLATION REQUIREMENTS FOR EEC TYPE-APPROVAL OF A TRACTOR

1. Every driver's seat must bear the EEC component type-approval mark and comply with the following installation requirements:

1.1. the driver's seat must be installed in such a way that:

1.1.1. the driver is assured of a comfortable position for driving and manoeuvring the tractor;

1.1.2. the seat is easily accessible;

1.1.3. the driver, when seated in the normal driving position, can easily reach the various controls of the tractor that are likely to be actuated during operation;

1.1.4. no part of any of the seat or tractor components is likely to cause the driver to suffer cuts or bruises;

1.1.5. where the seat is adjustable only in length or height, its plane of symmetry must coincide or be parallel with the median longitudinal plane of the tractor;

1.1.6. where the seat is designed to revolve round a vertical axis it must be capable of being locked in all or certain positions and in any case in the position mentioned in 1.1.5.

2. The holder of the EEC type-approval may request that it be extended to other types of seat. The competent authorities must grant this extension on the following conditions:

2.1. the new type of seat has received EEC component type-approval;

2.2. it has been designed to be installed on the type of tractor for which the extension of the EEC type-approval has been requested;

2.3. it is installed in such a manner as to comply with the installation requirements in this Annex.

▼M2

3. Seats intended for tractors with a minimum rear-wheel track of not more than 1 150 mm may have the following minimum dimensions in respect of the depth and width of the seat surface:

— depth of seat surface: 300 mm;

— width of seat surface: 400 mm.

This provision is applicable only if the values specified for the depth and the width of the seat surface (i.e. 400 ± 50 mm and at least 450 mm respectively) cannot be adhered to on grounds relating to the tractor.

▼B

4. A certificate conforming to the model shown in Annex V is to be attached to the EEC type-approval certificate for each type-approval or extension of type-approval granted or refused.

▼B

ANNEX V

ANNEX TO THE EEC TYPE-APPROVAL CERTIFICATE FOR A TRACTOR WITH REGARD TO THE DRIVER'S SEAT

(Articles 4 (2) and 10 of Council Directive 74/150/EEC 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)

Name of administration

EEC type-approval No .....

..... extension (1)

1. Trade name or mark of tractor .....

   .....

2. Type of tractor .....

3. Name and address of tractor manufacturer .....

   .....

4. If applicable, name and address of authorized representative .....

   .....

5. Trade name or mark of driver's seat and component type-approval number .....

   .....

6. Extension of EEC type-approval of the tractor to cover the following seat type .....

   .....

7. Tractor submitted for EEC type-approval on .....

8. Technical department responsible for checking conformity for the purpose of EEC type-approval .

   .....

9. Date of report issued by that department .....

10. Number of report issued by that department .....

11. EEC type-approval with respect to the driver's seat has been granted/refused (2)

12. An extension of EEC type-approval with respect to the driver's seat has been granted/refused (2)

13. Place .....

14. Date .....

15. Signature .....

(1) Where appropriate, state whether the extension of the initial EEC type-approval is the first, second, etc.
(2) Delete whichever is inapplicable.