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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

Amended by:

►**A1** Act of Accession of Greece	L 291	17	19.11.1979

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COUNCIL DIRECTIVE

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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.

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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.

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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.

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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.

9. **Suspension travel**

'Suspension travel' means the distance from the highest to the lowest position in the suspension system.

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.

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.

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13. **Spectral power density *(Ø)***

'Spectral power density (Ø)' means the square of the root mean square of the accelerations (a_{eff}) measured with tertiary filters, divided by the band-width of those filters.

14. **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.

15. **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.

16. **Vibration class**

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

17. **Category A tractor**

'Category A tractor' means a tractor whose characteristics enable it to be included in a given vibration class because of similar constructional features.

17.1. 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 $\leq$ 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.

17.2. 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.

18. **Reference tractor**

'Reference tractor' means a tractor whose vibration behaviour is specific for establishing the set values for the test stand testing of a seat for a given vibration class of tractors.

18.1. The spectral power density of the vertical acceleration at the point of the seat attachment of the reference tractor must satisfy the conditions in Appendices 9 and 10 to Annex II.

18.2. The reference tractor should — provided the requirements of 18.1 are complied with — meet the requirements set out in the following table:

	Class I	Class II	Tolerances (1)
Unladen mass in kg	3 040	4 750	± 5 %
— front axle in kg	1 300	1 830	± 5 %
— rear axle in kg	1 740	2 920	± 5 %
Front tyres	7·50-18	12·4/11-28	
Rear tyres	16·9/14-34	16·9/14-38	
Front tyre pressure in bar (2)	2·0	1·5	+ 0·1 bar
Rear tyre pressure in bar (2)	1·1	1·3	+ 0·1 bar
Wheelbase in mm	2 125	2 590	± 10 %

(1) These tolerances may only be exceeded when it is necessary to meet the requirement specified in 18.1.
(2) These values are applicable to diagonal-ply tyres; if radial-ply tyres are used, the pressure must be increased by 15 %.

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19. **Category B tractor**

‘Category B tractor’ means a tractor whose characteristics are such that it cannot be included in a class in category A.

20. **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:

20.1. dimensions;

20.2. position and inclination of the backrest;

20.3. inclination of the seat surface;

20.4. 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: ± 1º,

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

— for measurement of tyre pressure: + 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;

1.7.3. determination of vertical vibration.

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, locked in a position, 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.

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.

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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).

2.1.3. The depth and the width of the surface of seats intended for tractors in which the rear wheel track width does not exceed 1 150 mm may be reduced if the construction of the tractor does not enable the requirements of 2.1.1 and 2.1.2 to be complied with, namely, not more than 300 mm for the depth and not more than 400 mm for the width.

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)

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

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

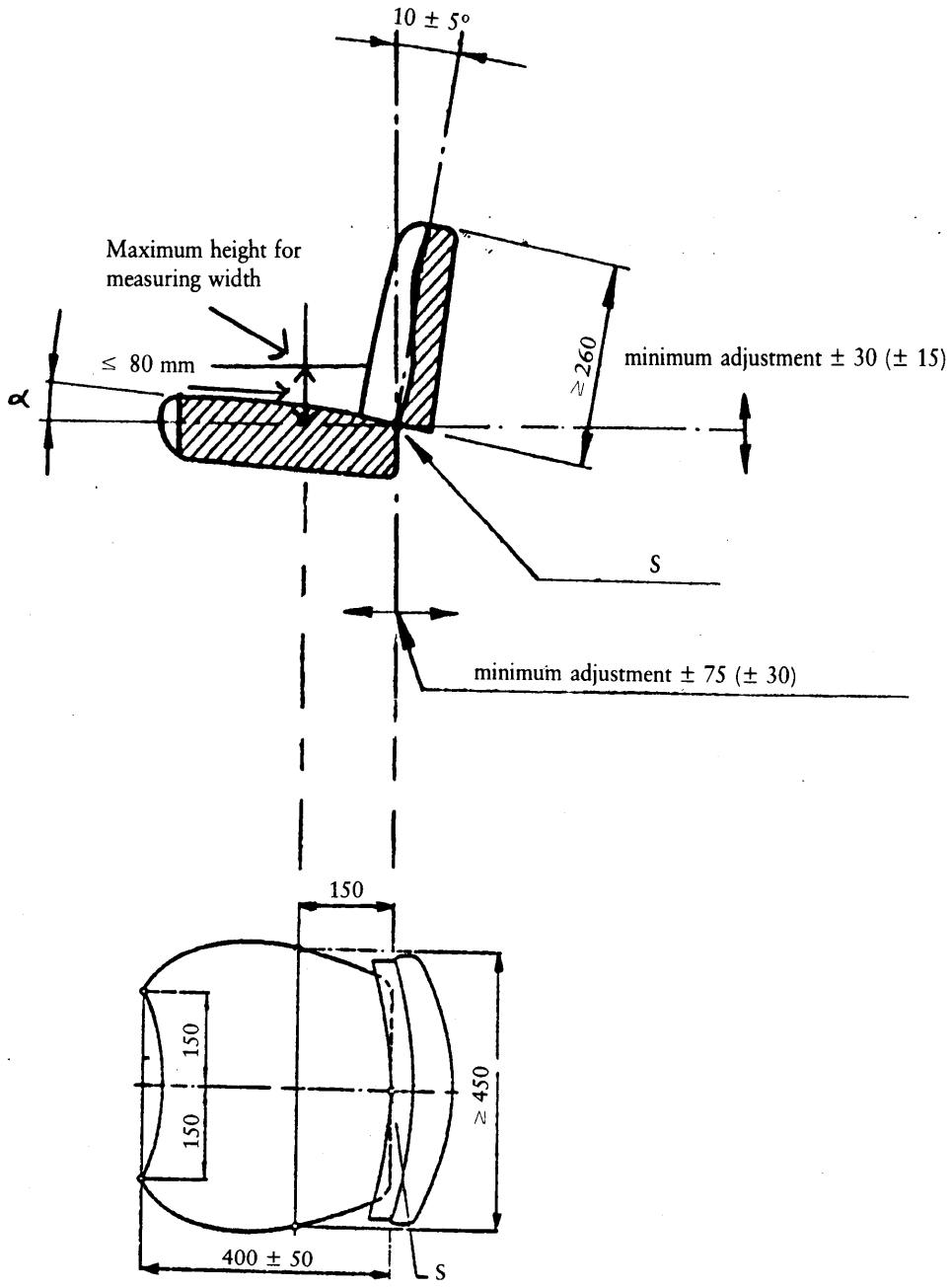
— 60 mm for tractors with a rear wheel track width of 1 150 mm or less.

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

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

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

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(Dimensions in millimetres)

2.5. **Seat tests**

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

2.5.1.1. The suspension system characteristics are determined by a static test. This must be carried out with the seat adjusted to accommodate a driver of a mass of 50 kg and one of a mass of 120 kg.

The limits of the range of adjustment of the seat to the driver's mass are calculated from the suspension system characteristics.

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. The depression of the suspension system must be measured with an accuracy of not less than ± 1 mm. The load must be applied in accordance with the procedure laid down in section 3 of Appendix 1.

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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 depression of the suspension system is measured must not exceed 100 N; at least eight measurement points must be plotted at approximately equal intervals in the movement of the suspension system. The point taken as the maximum load should either be that at which no further spring depression can be recorded, or a load of 1 500 N. After the load has been applied or withdrawn, the vertical depression of the suspension system must be measured 200 mm in front of the seat reference point (S); after the 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 without fixed weight adjustment limits, the settings are to be so selected that:

2.5.1.4.1. for the lightest driver, the seat returns to the top of the suspension travel when the load is removed; and

2.5.1.4.2. for the heaviest driver, the load of 1 500 N just depresses the seat to the lowest limit of the suspension travel.

2.5.1.4.3. The range of adjustment thus determined by using the loads prescribed in 2.5.1.4.1 and 2.5.1.4.2 must be deemed greater than the range required in 3.1.1.

2.5.1.4.4. If the seat is equipped with a progressive lower spring stop, the lowest position of the suspension travel (see section 9 of Annex I) may be defined as the position which the seat assumes under a load of 1 000 N, in the setting for the lightest driver.

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).

2.5.1.7. To determine the limits of the adjustment range as a function of the driver's mass, the values of sections A and B (see Appendix 2) established in accordance with 2.5.1.6 must be multiplied by 1·3.

2.5.2. *Test to determine the lateral stability*

2.5.2.1. The seat must be set for the maximum permissible driver's mass and connected to the test stand or to the tractor in such a way that its base plate rests on a fixed plate (test stand) not smaller than the base plate itself.

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.

2.5.3. *Test to determine the vibration*

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

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 either those specified in Appendices 4 and 5 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 2.5.3.2.1. The vibrations must be transmitted to a platform which roughly corresponds in its dimensions to the driver's cab of a tractor. To generate the vibrations, an uninterrupted double run of the set values or the double-integrated acceleration signals must be used, recorded at the seat

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attachment of a Category B tractor moving on a standard roadway. The measurements must not be made during the first run of the set values or of the acceleration signal.

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.

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 a vibrating arm, the dimension R must be at least 2 000 mm (see Appendix 6).

The test stand must be capable of simulating sinusoidal vibrations, as shown in Appendix 7, when a mass of 150 kg is applied.

2.5.3.2. Testing on a standard roadway

2.5.3.2.1. The roadway consists of two parallel strips spaced according to the wheel track of the tractor. The surface may be cast in smoothly surfaced concrete, or it may be formed of wood or concrete blocks set in a basic structure. The surface of each track strip is defined by the ordinates of elevation in relation to a base line; 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 must 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 table in Appendix 3 to Annex II).

2.5.3.2.2. The vertical vibrations transmitted are determined 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.

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.

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

2.5.3.3.1. Driver's mass

The tests must be carried out with two drivers: one with a total mass of 55 kg (± 10 %), of which not more than 5 kg may be

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carried in a weighting belt around the body; the other with a mass of 98 kg (± 10 %), with a maximum mass of 8 kg in the belt.

2.5.3.3.2. Position of the accelerometer

To measure the vibrations transmitted to the driver, an accelerometer is fixed on a rigid and 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 protective 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 natural or synthetic foam-rubber covering about 20 mm thick.

To measure the vibrations at the seat attachment, an accelerometer must be fixed at 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.

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 H.

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 ($a_{w_{eff}}$)

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

The overall inaccuracy in the r.m.s. value of the weighted acceleration calculated in this way must be within ± 5 %.

2.5.3.3.6. Calibration

All instruments must be regularly calibrated.

2.5.3.3.7. Evaluation of vibration tests

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

2.5.3.3.7.2. The report must give the arithmetic mean value of the corrected seat vibration acceleration for the light driver and also the arithmetic mean value of the corrected seat vibration acceleration for the heavy driver. The test report must also contain the ratio of the weighted vibration acceleration on the driver's seat to that measured at the seat attachment. This ratio shall be given to two decimal places.

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2.5.3.3.7.3. The range of ambient temperature during the tests must be measured and shown in the report.

2.5.4. *Vibration tests to be carried out on tractor seats depending on their intended use*

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.

2.5.5. *Procedure used for determining the seat vibration on seats intended for Category A tractors*

2.5.5.1. The vibration behaviour of the reference tractor, which is the critical factor in the test on the driver's seat, is defined by the spectral power density of the vertical acceleration (Appendices 9 and 10) recorded at the seat attachment of the reference tractor during a run on the standard roadway in accordance with the requirements of 2.5.3.2.

2.5.5.2. The value a_{wB} actually present at the seat attachment during the measurement run must be within the following ranges:

Class I reference tractors:

$$a_{wB} = 1{\cdot}9 \text{ to } 2{\cdot}2 \text{ m/s}^2$$

Class II reference tractors:

$$a_{wB} = 1{\cdot}6 \text{ to } 1{\cdot}8 \text{ m/s}^2$$

and must be corrected to meet the reference value of:

$$a_{w^*B} = 2 \cdot 05 \text{ m/s}^2 \text{ for class I}$$

$$a_{w^*B} = 1 \cdot 7 \text{ m/s}^2 \text{ for class II,}$$

the acceleration of a_{ws} measured on the driver's seat being corrected in accordance with the relation:

$$a_{w^*s} = a_{ws} \frac{a_{w^*B}}{a_{wB}}$$

2.5.5.3. In the case of the test carried out on the stand, the set value signals for the generation of the vertical movement of the seat attachment must have been determined by double integration of the acceleration signals recorded at the seat attachment of the Class I or II reference tractors being tested during a run on the standard roadway. These set value signals are given in Appendices 4 and 5.

The test stand must be so adjusted that the seat attachment is subjected to a weighted acceleration of:

$$a_{wB} = 1{\cdot}9 \text{ to } 2{\cdot}2 \text{ m/s}^2$$

for Category A tractors in Class I, and

$$a_{wB} = 1{\cdot}6 \text{ to } 1{\cdot}8 \text{ m/s}^2$$

for Category A tractors in Class II.

The value a_{wB} actually present at the seat attachment during measurement must be determined. In case of deviation from the reference value of:

$$a_{w^*B} = 2 \cdot 05 \text{ m/s}^2 \text{ for Category A tractors in Class I}$$

$$a_{w^*B} = 1 \cdot 7 \text{ m/s}^2 \text{ for Category A tractors in Class II,}$$

the acceleration of a_{ws} measured at the driver's seat being corrected in accordance with the following equation:

▼B

$$a_{w^*s} = a_{ws} \frac{a_{w^*B}}{a_{wB}}$$

2.5.5.4. For the test on the stand, the requirements of 2.5.3.1 apply, and the vibration must be generated in accordance with the requirements of 2.5.5.2.

For each of the two drivers referred to in 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 Annex II). At least two test runs must be carried out. The measured values must not deviate from the arithmetic mean by more than ± 5 %.

2.5.6. *Procedure used for determining the seat vibration on seats intended for Category B tractors*

2.5.6.1. In accordance with the requirements of 2.5.4.2, the seat vibration tests are not applicable to a group or 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 2.5.3.2 and 2.5.3.3. In this case, the vibration acceleration measured on the driver's seat (a_{ws}) need not be corrected and is accordingly identical to the reference value a_{w^*s}.

2.5.6.3. The testing on the test stand must be carried out in association with a standard roadway test in accordance with the requirements of 2.5.3.1 and 2.5.3.3.

The set values for the vibration rig drive unit must be determined by double integration of the vibratory movement acceleration signal recorded in accordance with 2.5.3.1.1.

2.5.6.4. In the determination of the set values obtained in accordance with 2.5.6.3, the weighted vibration acceleration (a_{wp}) recorded on the test stand at the seat attachment must not deviate by more than ± 10 % from the value (a_{wF}) recorded on the standard roadway in accordance with the requirements of 2.5.6.3 (first paragraph). In the event of deviation 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:

$$a_{w^*s} = a_{ws} \frac{a_{wF}}{a_{wp}}$$

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 %.

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 5°;

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

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:

▼B

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:

1 for Germany,

2 for France,

3 for Italy,

4 for the Netherlands,

6 for Belgium,

11 for the United Kingdom,

13 for Luxembourg,

18 for Denmark,

IRL for Ireland,

▼A1

E for Greece,

▼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:

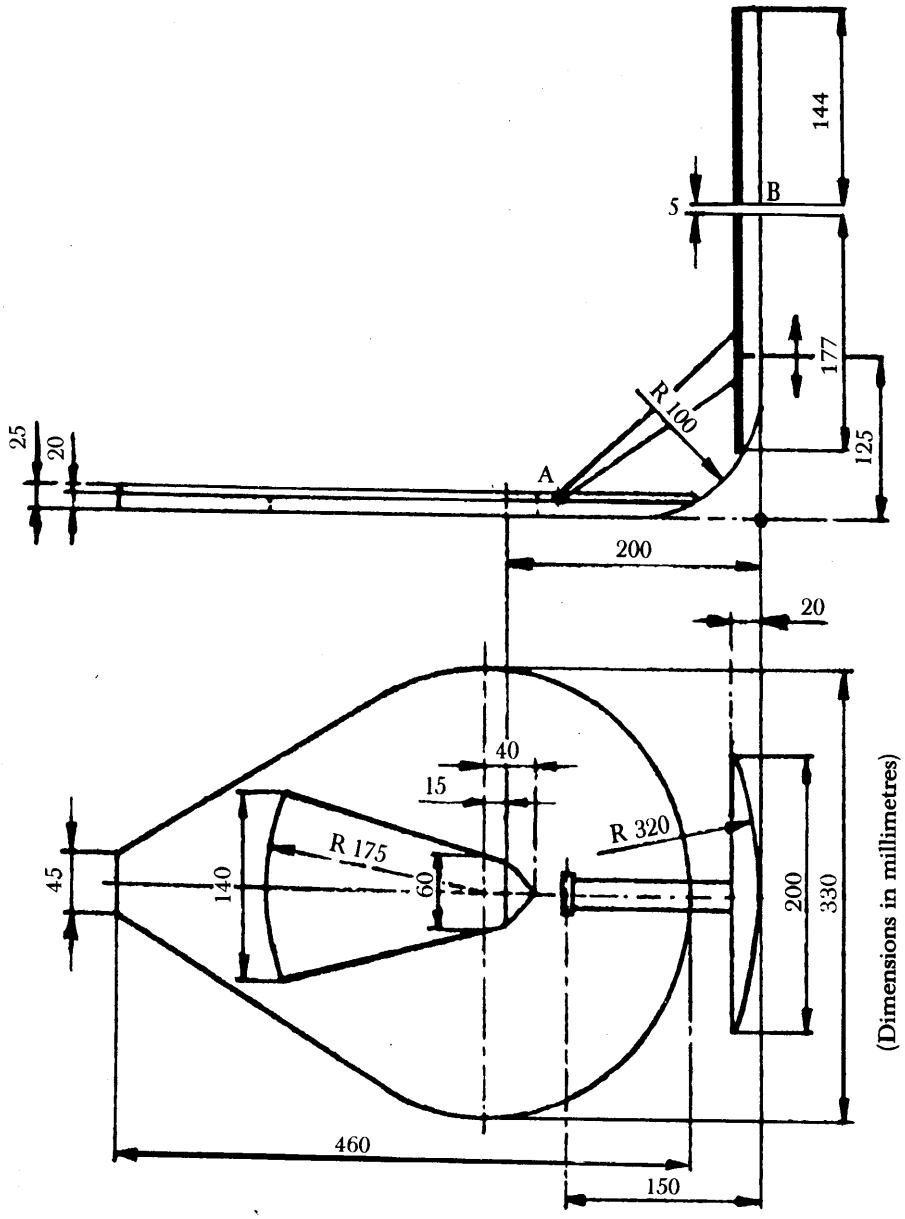
(a) where there is no possibility of defining the tangent to the lowest possible area, the lower part of the backrest board in a vertical position must be lightly pressed against the padded backrest;

(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

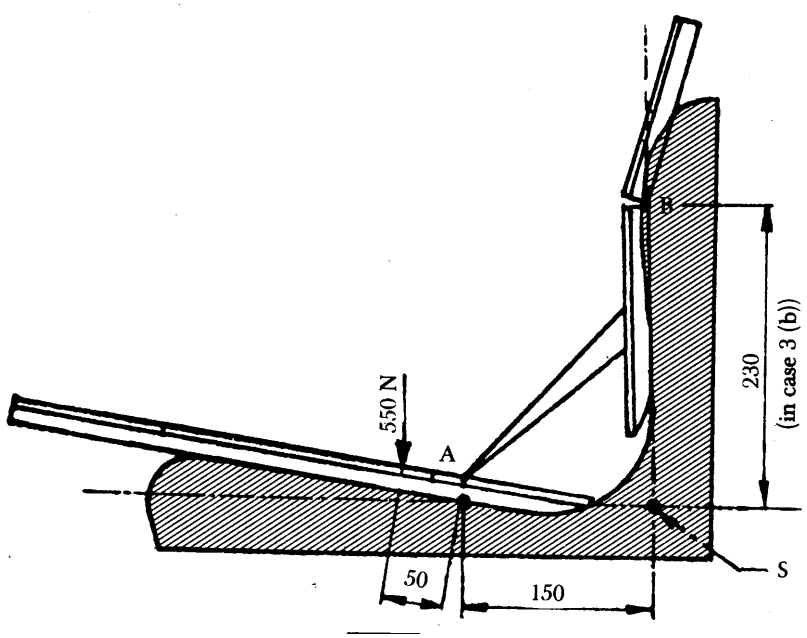
Device for determining the seat reference point (S)



▼B

Figure 2

Device in position

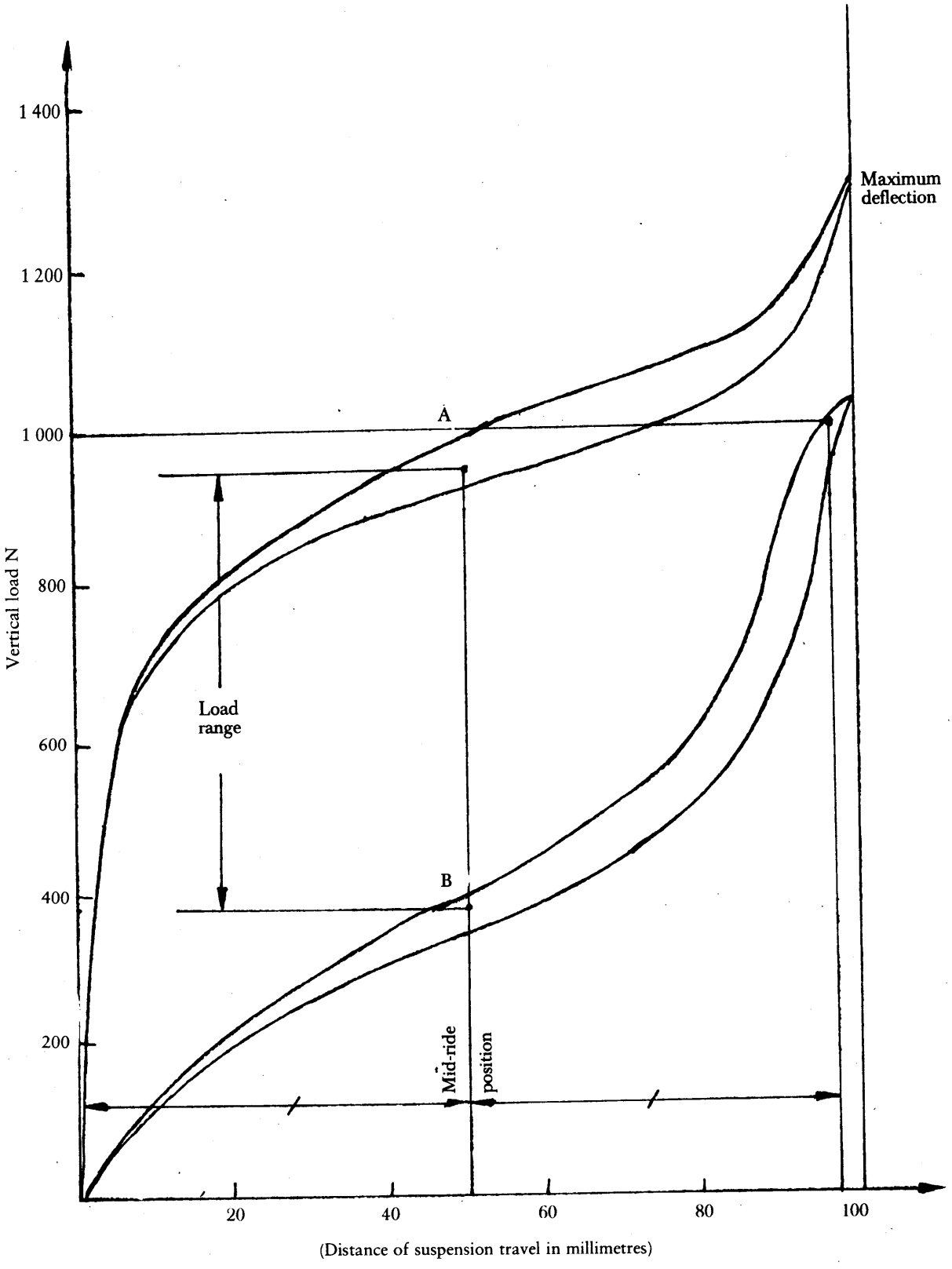


▼B

Appendix 2

Test to determine the characteristics of the suspension system

Hysteresis curves to determine the load adjustment range (2.5.1)



▼B

Appendix 3

Test on standard roadway

Table of elevation ordinates in relation to an arbitrary basic level defining the surface of each strip of the roadway (2.5.3.2.1)

D = distance from starting point (metres)

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
8·00	115	100
8·16	125	110
8·32	110	100
8·48	110	100
8·64	110	95

▼B

D	L	R
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
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

▼B

D	L	R
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
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

▼B

D	L	R
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
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

▼B

D	L	R
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
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

▼B

D	L	R
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
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

▼B

D	L	R
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
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

▼B

D	L	R
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
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

▼B

D	L	R
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
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

▼B

D	L	R
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

▼B

Appendix 4

Set-value signals for the test-stand testing of driver's seats for Category A tractors in Class I (2.5.3.1.1)

PS = set point

a = amplitude of the required value signal in 10^{-4}m,

t = measurement time in seconds

These signals are shown in the table for 701 required points.

They can be stored numerically and, after passing through a low-pass filter with a cut-off frequency of about 10 Hz and high-frequency attenuation of 12 dB/octave, they show the amplitude of the set value for the electro-hydraulically controlled test stand. The set-value signals must be repeated without interruption.

PS No	a 10^{-4} m	t s
0	0 000	0
1	0 344	0·04
2	0 333	0·08
3	0 272	
4	0 192	
5	0 127	
6	0 115	
7	0 169	
8	0 243	
9	0 298	
10	0 320	
11	0 270	
12	0 191	
13	0 124	
14	0 057	
15	0 027	
16	0 004	
17	−0 013	
18	−0 039	
19	−0 055	
20	−0 056	
21	−0 059	
22	−0 068	
23	−0 104	
24	−0 134	
25	−0 147	1·0
26	−0 144	
27	−0 143	
28	−0 155	
29	−0 179	
30	−0 181	
31	−0 155	
32	−0 139	
33	−0 141	
34	−0 170	
35	−0 221	
36	−0 259	
37	−0 281	
38	−0 268	
39	−0 258	
40	−0 285	
41	−0 348	
42	−0 437	
43	−0 509	
44	−0 547	
45	−0 562	
46	−0 550	
47	−0 550	
48	−0 576	
49	−0 622	
50	−0 669	2·0
51	−0 689	
52	−0 634	
53	−0 542	
54	−0 429	
55	−0 314	

▼B

PS No	a 10^{-4} m	t s
56	−0 282	
57	−0 308	
58	−0 373	
59	−0 446	
60	−0 469	
61	−0 465	
62	−0 417	
63	−0 352	
64	−0 262	
65	−0 211	
66	−0 180	
67	−0 182	
68	−0 210	
69	−0 222	
70	−0 210	
71	−0 186	
72	−0 141	
73	−0 088	
74	−0 033	
75	0 000	3·0
76	0 001	
77	−0 040	
78	−0 098	
79	−0 130	
80	−0 115	
81	−0 068	
82	−0 036	
83	−0 032	
84	−0 050	
85	−0 052	
86	−0 039	
87	−0 011	
88	0 014	
89	0 041	
90	0 054	
91	0 040	
92	0 006	
93	−0 000	
94	0 025	
95	0 065	
96	0 076	
97	0 054	
98	−0 016	
99	−0 066	
100	−0 048	4·0
101	−0 011	
102	0 061	
103	0 131	
104	0 168	
105	0 161	
106	0 131	
107	0 086	
108	0 067	
109	0 088	
110	0 110	
111	0 148	
112	0 153	
113	0 139	
114	0 119	
115	0 099	
116	0 091	
117	0 078	
118	0 059	
119	0 062	
120	0 072	
121	0 122	
122	0 155	
123	0 191	
124	0 184	
125	0 143	5·0
126	0 087	
127	0 029	
128	0 010	
129	0 025	

▼B

PS No	a 10^{-4} m	t s
130	0 074	
131	0 106	
132	0 115	
133	0 090	
134	0 048	
135	0 038	
136	0 066	
137	0 116	
138	0 180	
139	0 229	
140	0 212	
141	0 157	
142	0 097	
143	0 055	
144	0 073	
145	0 175	
146	0 287	
147	0 380	
148	0 406	
149	0 338	
150	0 238	6·0
151	0 151	
152	0 080	
153	0 090	
154	0 146	
155	0 196	
156	0 230	
157	0 222	
158	0 184	
159	0 147	
160	0 115	
161	0 114	
162	0 140	
163	0 198	
164	0 257	
165	0 281	
166	0 276	
167	0 236	
168	0 201	
169	0 167	
170	0 145	
171	0 135	
172	0 165	
173	0 242	
174	0 321	
175	0 399	7·0
176	0 411	
177	0 373	
178	0 281	
179	0 179	
180	0 109	
181	0 094	
182	0 136	
183	0 206	
184	0 271	
185	0 267	
186	0 203	
187	0 091	
188	0 009	
189	0 006	
190	0 074	
191	0 186	
192	0 280	
193	0 342	
194	0 330	
195	0 265	
196	0 184	
197	0 118	
198	0 105	
199	0 128	
200	0 174	8·0
201	0 215	
202	0 229	
203	0 221	

▼B

PS No	a 10^{-4} m	t s
204	0 199	
205	0 164	
206	0 162	
207	0 174	
208	0 210	
209	0 242	
210	0 270	
211	0 285	
212	0 285	
213	0 258	
214	0 223	
215	0 194	
216	0 165	
217	0 132	
218	0 106	
219	0 077	
220	0 065	
221	0 073	
222	0 099	
223	0 114	
224	0 111	
225	0 083	9·0
226	0 026	
227	−0 028	
228	−0 052	
229	−0 069	
230	−0 077	
231	−0 067	
232	−0 095	
233	−0 128	
234	−0 137	
235	−0 144	
236	−0 131	
237	−0 155	
238	−0 208	
239	−0 266	
240	−0 285	
241	−0 276	
242	−0 205	
243	−0 110	
244	−0 020	
245	0 041	
246	0 053	
247	0 020	
248	0 016	
249	0 041	
250	0 090	10·0
251	0 136	
252	0 151	
253	0 123	
254	0 070	
255	0 034	
256	−0 001	
257	−0 010	
258	−0 031	
259	−0 061	
260	−0 086	
261	−0 104	
262	−0 103	
263	−0 093	
264	−0 074	
265	−0 056	
266	−0 039	
267	−0 000	
268	0 033	
269	0 067	
270	0 097	
271	0 085	
272	0 034	
273	0 002	
274	−0 050	
275	−0 080	11·0
276	−0 096	
277	−0 121	

▼B

PS No	a 10^{-4} m	t s
278	−0 116	
279	−0 092	
280	−0 060	
281	−0 018	
282	−0 011	
283	−0 052	
284	−0 143	
285	−0 241	
286	−0 330	
287	−0 343	
288	−0 298	
289	−0 235	
290	−0 203	
291	−0 249	
292	−0 356	
293	−0 448	
294	−0 486	
295	−0 444	
296	−0 343	
297	−0 240	
298	−0 215	
299	−0 277	
300	−0 399	12·0
301	−0 527	
302	−0 585	
303	−0 569	
304	−0 479	
305	−0 363	
306	−0 296	
307	−0 299	
308	−0 374	
309	−0 466	
310	−0 528	
311	−0 520	
312	−0 432	
313	−0 320	
314	−0 244	
315	−0 237	
316	−0 310	
317	−0 413	
318	−0 462	
319	−0 456	
320	−0 351	
321	−0 181	
322	−0 045	
323	0 013	
324	−0 037	
325	−0 160	13·0
326	−0 247	
327	−0 258	
328	−0 187	
329	−0 069	
330	0 044	
331	0 078	
332	0 061	
333	−0 012	
334	−0 102	
335	−0 127	
336	−0 103	
337	−0 045	
338	0 039	
339	0 094	
340	0 107	
341	0 058	
342	−0 011	
343	−0 078	
344	−0 093	
345	−0 068	
346	−0 025	
347	0 021	
348	0 008	
349	−0 016	
350	−0 038	14·0
351	−0 024	

▼B

PS No	a 10^{-4} m	t s
352	0 041	
353	0 135	
354	0 196	
355	0 171	
356	0 053	
357	−0 111	
358	−0 265	
359	−0 348	
360	−0 336	
361	−0 258	
362	−0 155	
363	−0 059	
364	−0 056	
365	−0 123	
366	−0 187	
367	−0 218	
368	−0 136	
369	0 012	
370	0 149	
371	0 212	
372	0 153	
373	0 021	
374	−0 104	
375	−0 160	15·0
376	−0 142	
377	−0 027	
378	0 099	
379	0 186	
380	0 174	
381	0 085	
382	−0 031	
383	−0 086	
384	−0 069	
385	0 012	
386	0 103	
387	0 164	
388	0 129	
389	0 047	
390	−0 055	
391	−0 097	
392	−0 056	
393	0 043	
394	0 162	
395	0 220	
396	0 205	
397	0 129	
398	0 053	
399	0 022	
400	0 052	16·0
401	0 114	
402	0 175	
403	0 191	
404	0 172	
405	0 138	
406	0 092	
407	0 052	
408	0 051	
409	0 025	
410	0 001	
411	−0 026	
412	−0 065	
413	−0 073	
414	−0 038	
415	−0 001	
416	0 029	
417	0 030	
418	−0 005	
419	−0 045	
420	−0 068	
421	−0 093	
422	−0 075	
423	−0 067	
424	−0 051	
425	−0 049	17·0

▼B

PS No	a 10^{-4} m	t s
426	−0 059	
427	−0 077	
428	−0 107	
429	−0 143	
430	−0 141	
431	−0 142	
432	−0 106	
433	−0 080	
434	−0 050	
435	−0 030	
436	−0 014	
437	−0 017	
438	−0 031	
439	−0 037	
440	−0 068	
441	−0 113	
442	−0 167	
443	−0 203	
444	−0 191	
445	−0 135	
446	−0 047	
447	0 028	
448	0 032	
449	−0 031	
450	−0 108	18·0
451	−0 157	
452	−0 155	
453	−0 081	
454	−0 012	
455	0 053	
456	0 085	
457	0 054	
458	0 002	
459	−0 026	
460	−0 034	
461	−0 014	
462	0 031	
463	0 061	
464	0 098	
465	0 123	
466	0 103	
467	0 078	
468	0 046	
469	0 042	
470	0 044	
471	0 072	
472	0 109	
473	0 133	
474	0 138	
475	0 125	19·0
476	0 095	
477	0 105	
478	0 129	
479	0 181	
480	0 206	
481	0 200	
482	0 168	
483	0 140	
484	0 149	
485	0 186	
486	0 237	
487	0 242	
488	0 207	
489	0 130	
490	0 055	
491	0 015	
492	0 014	
493	0 036	
494	0 054	
495	0 056	
496	0 022	
497	−0 032	
498	−0 076	
499	−0 108	

▼B

PS No	a 10^{-4} m	t s
500	−0 099	20·0
501	−0 029	
502	0 051	
503	0 138	
504	0 199	
505	0 213	
506	0 184	
507	0 139	
508	0 062	
509	0 027	
510	0 030	
511	0 067	
512	0 146	
513	0 247	
514	0 314	
515	0 330	
516	0 289	
517	0 224	
518	0 179	
519	0 184	
520	0 216	
521	0 229	
522	0 210	
523	0 130	
524	0 062	
525	0 006	21·0
526	−0 004	
527	0 004	
528	0 018	
529	0 031	
530	0 020	
531	0 014	
532	−0 011	
533	−0 022	
534	−0 029	
535	−0 042	
536	−0 066	
537	−0 120	
538	−0 188	
539	−0 241	
540	−0 252	
541	−0 243	
542	−0 212	
543	−0 183	
544	−0 170	
545	−0 189	
546	−0 233	
547	−0 286	
548	−0 311	
549	−0 280	
550	−0 215	22·0
551	−0 128	
552	−0 038	
553	−0 018	
554	−0 024	
555	−0 052	
556	−0 055	
557	−0 033	
558	0 013	
559	0 061	
560	0 079	
561	0 060	
562	0 024	
563	−0 013	
564	−0 027	
565	−0 018	
566	0 011	
567	0 064	
568	0 111	
569	0 171	
570	0 238	
571	0 285	
572	0 295	
573	0 261	

▼B

PS No	a 10^{-4} m	t s
574	0 201	
575	0 145	23·0
576	0 142	
577	0 163	
578	0 222	
579	0 284	
580	0 334	
581	0 342	
582	0 301	
583	0 240	
584	0 205	
585	0 216	
586	0 257	
587	0 326	
588	0 363	
589	0 380	
590	0 358	
591	0 303	
592	0 273	
593	0 341	
594	0 249	
595	0 252	
596	0 245	
597	0 244	
598	0 225	
599	0 212	
600	0 180	24·0
601	0 160	
602	0 130	
603	0 118	
604	0 104	
605	0 081	
606	0 040	
607	−0 004	
608	−0 040	
609	−0 057	
610	−0 049	
611	−0 021	
612	0 011	
613	0 033	
614	0 038	
615	0 027	
616	0 019	
617	0 024	
618	0 040	
619	0 069	
620	0 082	
621	0 086	
622	0 068	
623	0 056	
624	0 036	
625	0 006	25·0
626	−0 015	
627	−0 049	
628	−0 071	
629	−0 075	
630	−0 078	
631	−0 074	
632	−0 069	
633	−0 094	
634	−0 116	
635	−0 150	
636	−0 178	
637	−0 188	
638	−0 198	
639	−0 194	
640	−0 187	
641	−0 170	
642	−0 161	
643	−0 154	
644	−0 140	
645	−0 115	
646	−0 055	
647	0 001	

▼B

PS No	a 10^{-4} m	t s
648	0 049	
649	0 085	
650	0 094	26·0
651	0 071	
652	0 039	
653	−0 001	
654	−0 027	
655	−0 025	
656	0 000	
657	0 028	
658	0 045	
659	0 019	
660	−0 032	
661	−0 101	
662	−0 162	
663	−0 198	
664	−0 193	
665	−0 149	
666	−0 096	
667	−0 075	
668	−0 086	
669	−0 151	
670	−0 246	
671	−0 329	
672	−0 382	
673	−0 392	
674	−0 340	
675	−0 286	27·0
676	−0 249	
677	−0 245	
678	−0 298	
679	−0 348	
680	−0 366	
681	−0 330	
682	−0 247	
683	−0 175	
684	−0 135	
685	−0 149	
686	−0 165	
687	−0 178	
688	−0 142	
689	−0 097	
690	−0 067	
691	−0 051	
692	−0 071	
693	−0 101	
694	−0 110	
695	−0 091	
696	−0 043	
697	0 020	
698	0 061	
699	0 064	
700	0 036	28·0

▼B

Appendix 5

Set-value signals for the test stand inspection of driver's seats for Category A tractors in Class II (2.5.3.1.1)

PS = set point

a = amplitude of the required value signal in 10^{-4}m

t = measurement time in seconds

These signals are shown in the table for 701 set points.

They can be stored numerically and, after passing through a low-pass filter with a cut-off frequency of abour 10 Hz and high-frequency attenuation of 12 dB/ octave, they show the amplitude of the set value for the electro-hydraulically controlled test stand. The set-value signals must be repeated without interruption.

PS No	a 10^{-4} m	t s
0	0 000	0
1	0 156	0·04
2	0 147	0·08
3	0 144	
4	0 162	
5	0 210	
6	0 272	
7	0 336	
8	0 382	
9	0 404	
10	0 408	
11	0 376	
12	0 324	
13	0 275	
14	0 226	
15	0 176	
16	0 141	
17	0 126	
18	0 144	
19	0 180	
20	0 205	
21	0 198	
22	0 184	
23	0 138	
24	0 102	
25	0 068	1·0
26	0 050	
27	0 055	
28	0 078	
29	0 120	
30	0 184	
31	0 209	
32	0 224	
33	0 206	
34	0 157	
35	0 101	
36	0 049	
37	−0 002	
38	−0 038	
39	−0 068	
40	−0 088	
41	−0 100	
42	−0 110	
43	−0 151	
44	−0 183	
45	−0 234	
46	−0 303	
47	−0 364	
48	−0 410	
49	−0 407	
50	−0 367	2·0
51	−0 289	
52	−0 180	
53	−0 081	
54	−0 000	
55	−0 011	

▼B

PS No	a 10^{-4} m	t s
56	−0 070	
57	−0 168	
58	−0 256	
59	−0 307	
60	−0 302	
61	−0 249	
62	−0 157	
63	−0 056	
64	0 013	
65	0 044	
66	0 025	
67	−0 026	
68	−0 077	
69	−0 115	
70	−0 131	
71	−0 102	
72	−0 031	
73	0 035	
74	0 078	
75	0 057	3·0
76	0 000	
77	−0 069	
78	−0 124	
79	−0 143	
80	−0 129	
81	−0 091	
82	−0 045	
83	−0 004	
84	−0 004	
85	−0 016	
86	−0 047	
87	−0 080	
88	−0 083	
89	−0 080	
90	−0 060	
91	−0 029	
92	−0 013	
93	−0 004	
94	−0 039	
95	−0 100	
96	−0 171	
97	−0 218	
98	−0 226	
99	−0 190	
100	−0 116	4·0
101	−0 054	
102	−0 001	
103	−0 001	
104	−0 045	
105	−0 126	
106	−0 191	
107	−0 223	
108	−0 206	
109	−0 168	
110	−0 122	
111	−0 095	
112	−0 101	
113	−0 114	
114	−0 161	
115	−0 212	
116	−0 254	
117	−0 273	
118	−0 258	
119	−0 211	
120	−0 169	
121	−0 125	
122	−0 115	
123	−0 127	
124	−0 156	
125	−0 185	5·0
126	−0 232	
127	−0 256	
128	−0 260	
129	−0 260	

▼B

PS No	a 10^{-4} m	t s
130	−0 247	
131	−0 228	
132	−0 204	
133	−0 192	
134	−0 179	
135	−0 144	
136	−0 128	
137	−0 117	
138	−0 131	
139	−0 154	
140	−0 164	
141	−0 160	
142	−0 128	
143	−0 059	
144	0 015	
145	0 074	
146	0 034	
147	0 042	
148	−0 034	
149	−0 101	
150	−0 147	6·0
151	−0 141	
152	−0 091	
153	−0 031	
154	0 017	
155	0 027	
156	−0 012	
157	−0 058	
158	−0 127	
159	−0 151	
160	−0 125	
161	−0 049	
162	0 045	
163	0 104	
164	0 122	
165	0 104	
166	0 046	
167	−0 018	
168	−0 047	
169	−0 036	
170	0 016	
171	0 145	
172	0 257	
173	0 330	
174	0 330	
175	0 258	7·0
176	0 138	
177	0 034	
178	−0 037	
179	−0 030	
180	0 026	
181	0 141	
182	0 216	
183	0 243	
184	0 188	
185	0 079	
186	−0 015	
187	−0 047	
188	−0 008	
189	0 091	
190	0 230	
191	0 340	
192	0 381	
193	0 332	
194	0 225	
195	0 099	
196	0 014	
197	−0 012	
198	0 033	
199	0 131	
200	0 247	8·0
201	0 335	
202	0 348	
203	0 314	

▼B

PS No	a 10^{-4} m	t s
204	0 239	
205	0 161	
206	0 124	
207	0 139	
208	0 218	
209	0 328	
210	0 405	
211	0 426	
212	0 403	
213	0 314	
214	0 191	
215	0 088	
216	0 025	
217	0 030	
218	0 087	
219	0 173	
220	0 240	
221	0 274	
222	0 250	
223	0 182	
224	0 077	
225	−0 019	9·0
226	−0 075	
227	−0 061	
228	−0 033	
229	0 011	
230	0 042	
231	0 025	
232	−0 021	
233	−0 078	
234	−0 142	
235	−0 197	
236	−0 225	
237	−0 217	
238	−0 196	
239	−0 133	
240	−0 038	
241	0 052	
242	0 128	
243	0 168	
244	0 164	
245	0 169	
246	0 170	
247	0 188	
248	0 210	
249	0 220	
250	0 210	10·0
251	0 185	
252	0 149	
253	0 100	
254	0 057	
255	0 035	
256	0 006	
257	−0 000	
258	0 010	
259	0 034	
260	0 047	
261	0 047	
262	0 031	
263	0 028	
264	0 036	
265	0 072	
266	0 125	
267	0 188	
268	0 216	
269	0 189	
270	0 119	
271	0 031	
272	−0 026	
273	−0 059	
274	−0 052	
275	−0 009	11·0
276	0 039	
277	0 081	

▼B

PS No	a 10^{-4} m	t s
278	0 107	
279	0 079	
280	0 023	
281	−0 044	
282	−0 121	
283	−0 168	
284	−0 172	
285	−0 147	
286	−0 119	
287	−0 114	
288	−0 155	
289	−0 217	
290	−0 287	
291	−0 243	
292	−0 341	
293	−0 289	
294	−0 217	
295	−0 157	
296	−0 150	
297	−0 193	
298	−0 248	
299	−0 319	
300	−0 371	12·0
301	−0 378	
302	−0 354	
303	−0 309	
304	−0 264	
305	−0 241	
306	−0 236	
307	−0 264	
308	−0 262	
309	−0 282	
310	−0 275	
311	−0 278	
312	−0 285	
313	−0 302	
314	−0 318	
315	−0 316	
316	−0 293	
317	−0 238	
318	−0 154	
319	−0 070	
320	−0 021	
321	−0 029	
322	−0 075	
323	−0 138	
324	−0 189	
325	−0 193	13·0
326	−0 153	
327	−0 095	
328	−0 012	
329	0 033	
330	0 069	
331	0 064	
332	0 000	
333	−0 074	
334	−0 147	
335	−0 164	
336	−0 142	
337	−0 067	
338	−0 001	
339	0 057	
340	0 080	
341	0 040	
342	−0 010	
343	−0 096	
344	−0 148	
345	−0 164	
346	−0 134	
347	−0 060	
348	0 038	
349	0 136	
350	0 195	14·0
351	0 170	

▼B

PS No	a 10^{-4} m	t s
352	0 077	
353	−0 067	
354	−0 212	
355	−0 321	
356	−0 356	
357	−0 339	
358	−0 277	
359	−0 189	
360	−0 119	
361	−0 100	
362	−0 124	
363	−0 170	14·0
364	−0 193	
365	−0 173	
366	−0 105	
367	−0 000	
368	0 075	
369	0 092	
370	0 074	
371	0 011	
372	−0 049	
373	−0 082	
374	−0 076	
375	−0 039	15·0
376	0 010	
377	0 053	
378	0 078	
379	0 068	
380	0 033	
381	0 004	
382	−0 000	
383	−0 013	
384	−0 003	
385	0 000	
386	−0 001	
387	−0 010	
388	−0 023	
389	−0 019	
390	0 014	
391	0 060	
392	0 093	
393	0 117	
394	0 137	
395	0 123	
396	0 098	
397	0 075	
398	0 055	
399	0 062	
400	0 087	16·0
401	0 113	
402	0 126	
403	0 139	
404	0 119	
405	0 080	
406	0 023	
407	−0 043	
408	−0 099	
409	−0 121	
410	−0 090	
411	−0 009	
412	0 072	
413	0 120	
414	0 111	
415	0 049	
416	−0 021	
417	−0 098	
418	−0 136	
419	−0 117	
420	−0 072	
421	−0 020	
422	0 038	
423	0 061	
424	0 026	
425	−0 016	17·0

▼B

PS No	a 10^{-4} m	t s
426	−0 090	
427	−0 151	
428	−0 171	
429	−0 150	
430	−0 080	
431	−0 001	
432	0 064	
433	0 113	
434	0 109	
435	0 089	
436	0 016	
437	−0 040	
438	−0 098	
439	−0 142	
440	−0 147	

PS No	a 10^{-4} m	t s
441	−0 112	
442	−0 028	
443	0 058	
444	0 118	
445	0 124	
446	0 080	
447	0 006	
448	−0 052	
449	−0 068	
450	−0 050	18·0
451	−0 000	
452	0 063	
453	0 129	
454	0 155	
455	0 156	
456	0 111	
457	0 069	
458	0 049	
459	0 036	
460	0 056	
461	0 100	
462	0 143	
463	0 178	
464	0 193	
465	0 178	
466	0 136	
467	0 087	
468	0 050	
469	0 041	
470	0 067	
471	0 117	
472	0 165	
473	0 188	
474	0 178	
475	0 171	19·0
476	0 154	
477	0 141	
478	0 137	
479	0 146	
480	0 177	
481	0 231	
482	0 282	
483	0 314	
484	0 287	
485	0 222	
486	0 138	
487	0 050	
488	−0 003	
489	0 001	
490	0 041	
491	0 095	
492	0 124	
493	0 112	
494	0 060	

▼B

PS No	a 10^{-4} m	t s
495	−0 022	
496	−0 112	
497	−0 161	
498	−0 153	
499	−0 087	
500	0 030	20·0
501	0 127	
502	0 197	
503	0 203	
504	0 147	
505	0 060	
506	−0 027	
507	−0 103	
508	−0 096	
509	−0 026	
510	0 062	
511	0 198	
512	0 275	
513	0 293	
514	0 244	
515	0 149	
516	0 056	
517	0 005	
518	−0 001	
519	0 023	
520	0 035	
521	0 063	
522	0 034	
523	−0 009	
524	−0 074	
525	−0 154	21·0
526	−0 203	
527	−0 204	
528	−0 167	
529	−0 119	
530	−0 077	
531	−0 068	
532	−0 094	
533	−0 168	
534	−0 254	
535	−0 337	
536	−0 383	
537	−0 400	
538	−0 391	
539	−0 365	
540	−0 346	
541	−0 342	
542	−0 372	
543	−0 398	
544	−0 431	
545	−0 464	
546	−0 459	
547	−0 425	
548	−0 354	
549	−0 259	
550	−0 187	22·0
551	−0 174	
552	−0 182	
553	−0 211	
554	−0 241	
555	−0 228	
556	−0 192	
557	−0 131	
558	−0 066	
559	−0 050	
560	−0 065	
561	−0 117	
562	−0 164	
563	−0 191	
564	−0 165	
565	−0 109	
566	−0 025	
567	0 081	
568	0 163	

▼B

PS No	a 10^{-4} m	t s
569	0 191	
570	0 164	
571	0 089	
572	−0 004	
573	−0 075	
574	−0 099	
575	−0 054	23·0
576	0 024	
577	0 126	
578	0 203	
579	0 223	
580	0 200	
581	0 113	
582	0 026	
583	−0 008	
584	−0 003	
585	0 057	
586	0 149	
587	0 236	
588	0 290	
589	0 299	
590	0 244	
591	0 192	
592	0 145	
593	0 095	
594	0 090	
595	0 111	
596	0 151	
597	0 186	
598	0 185	
599	0 165	
600	0 120	24·0
601	0 057	
602	0 008	
603	−0 022	
604	−0 044	
605	−0 062	
606	−0 070	
607	−0 061	
608	−0 057	
609	−0 044	
610	−0 040	
611	−0 037	
612	−0 028	
613	−0 017	
614	−0 006	
615	0 011	
616	0 032	
617	0 045	
618	0 050	
619	0 039	
620	0 036	
621	0 027	
622	0 025	
623	0 006	
624	0 000	
625	−0 012	25·0
626	−0 040	
627	−0 047	
628	−0 058	
629	−0 070	
630	−0 076	
631	−0 098	
632	−0 103	
633	−0 127	
634	−0 158	
635	−0 158	
636	−0 163	
637	−0 182	
638	−0 177	
639	−0 184	
640	−0 201	
641	−0 199	
642	−0 187	

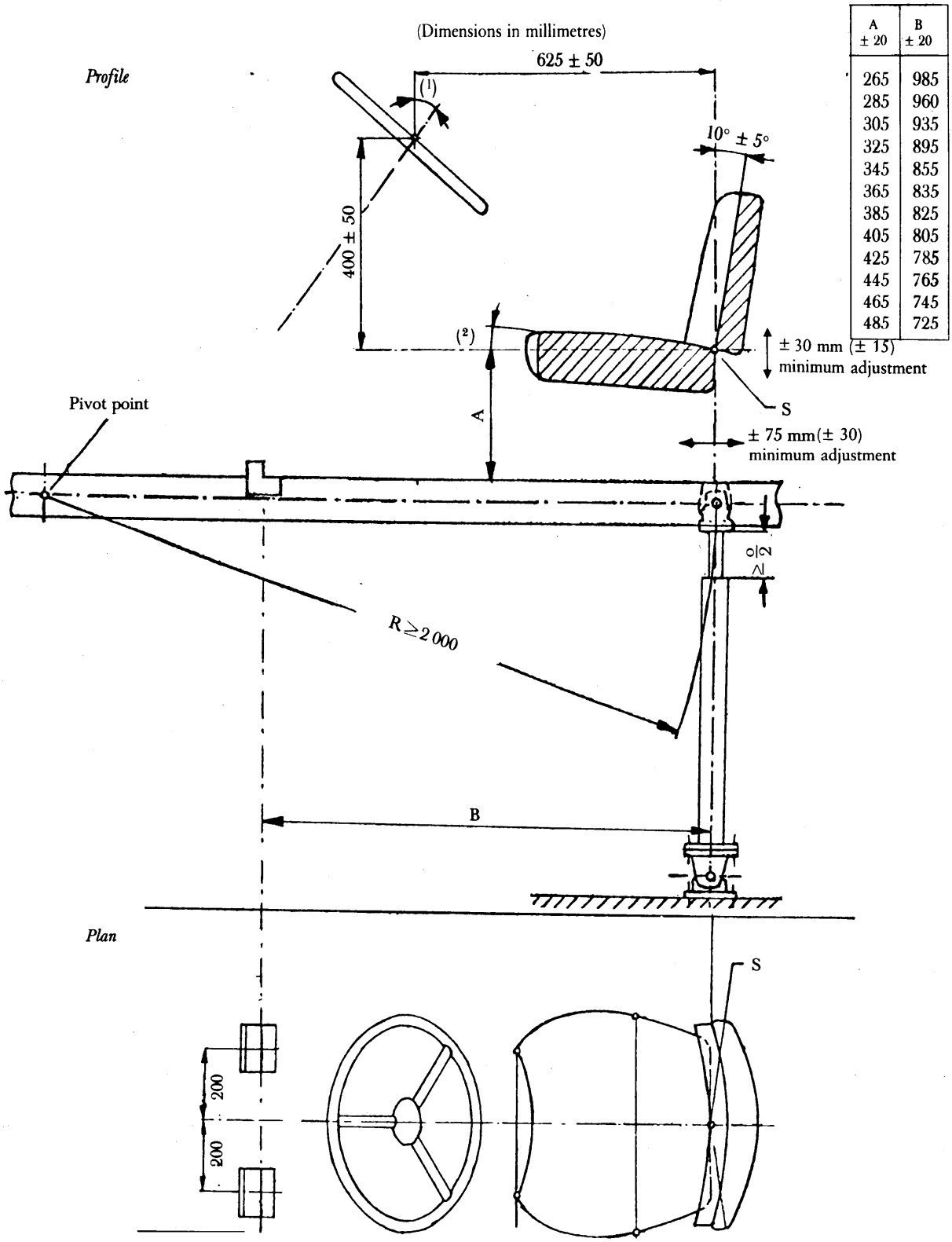
▼B

PS No	a 10^{-4} m	t s
643	−0 145	
644	−0 092	
645	−0 040	
646	0 017	
647	0 044	
648	0 061	
649	0 029	
650	−0 018	26·0
651	−0 078	
652	−0 129	
653	−0 135	
654	−0 110	
655	−0 039	
656	0 008	
657	0 019	
658	−0 033	
659	−0 102	
660	−0 194	
661	−0 264	
662	−0 292	
663	−0 261	
664	−0 210	
665	−0 147	
666	−0 092	
667	−0 089	
668	−0 138	
669	−0 248	
670	−0 360	
671	−0 455	
672	−0 497	
673	−0 473	
674	−0 393	
675	−0 294	27·0
676	−0 230	
677	−0 214	
678	−0 241	
679	−0 294	
680	−0 343	
681	−0 375	
682	−0 379	
683	−0 349	
684	−0 276	
685	−0 202	
686	−0 136	
687	−0 099	
688	−0 101	
689	−0 139	
690	−0 196	
691	−0 246	
692	−0 256	
693	−0 234	
694	−0 156	
695	−0 078	
696	0 015	
697	0 083	
698	0 118	
699	0 080	
700	0 000	28·0

▼B

Appendix 6

Test stand (2.5.3.1)



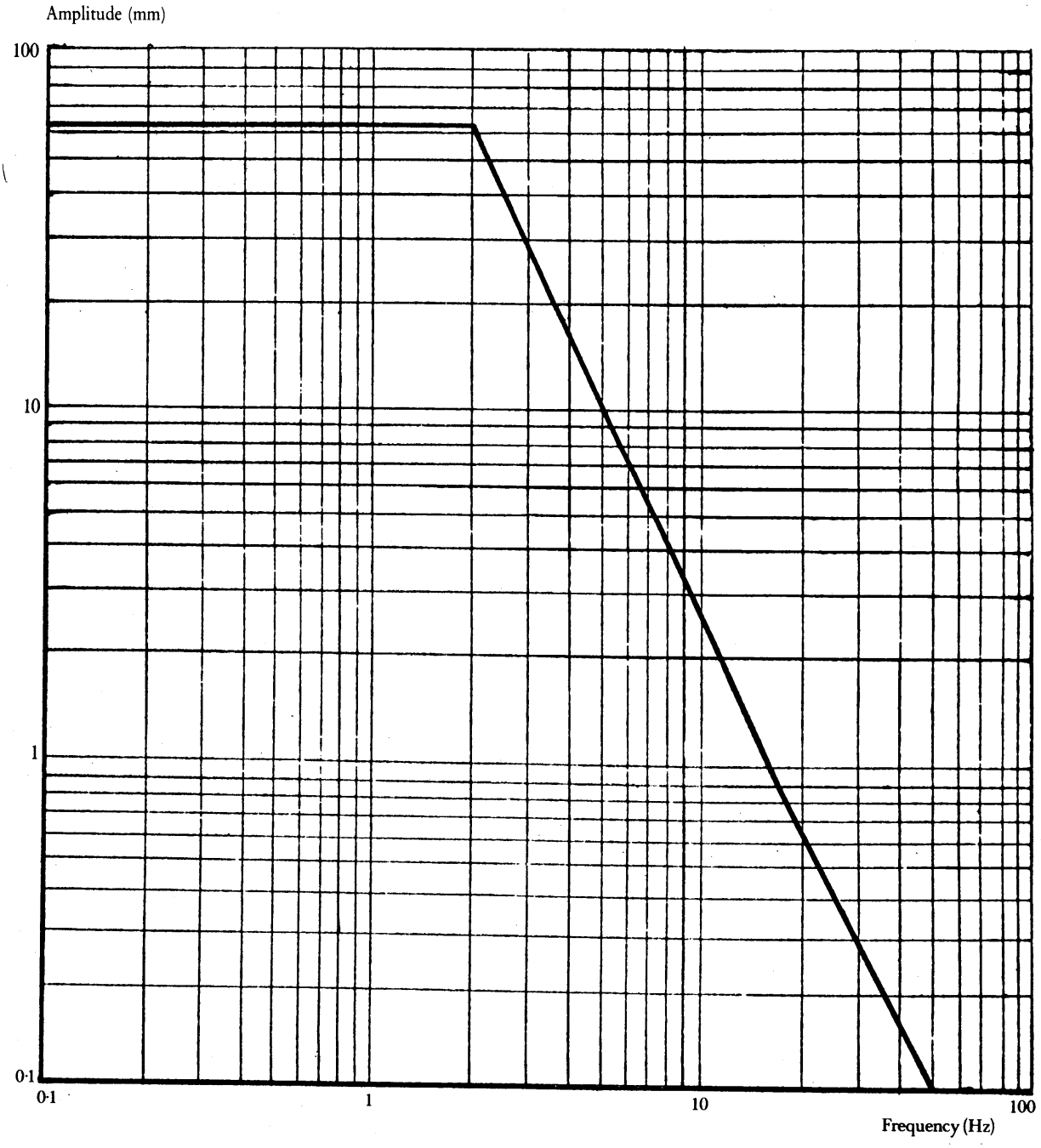
A ± 20	B ± 20
265	985
285	960
305	935
325	895
345	855
365	835
385	825
405	805
425	785
445	765
465	745
485	725

(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.

▼B

Appendix 7

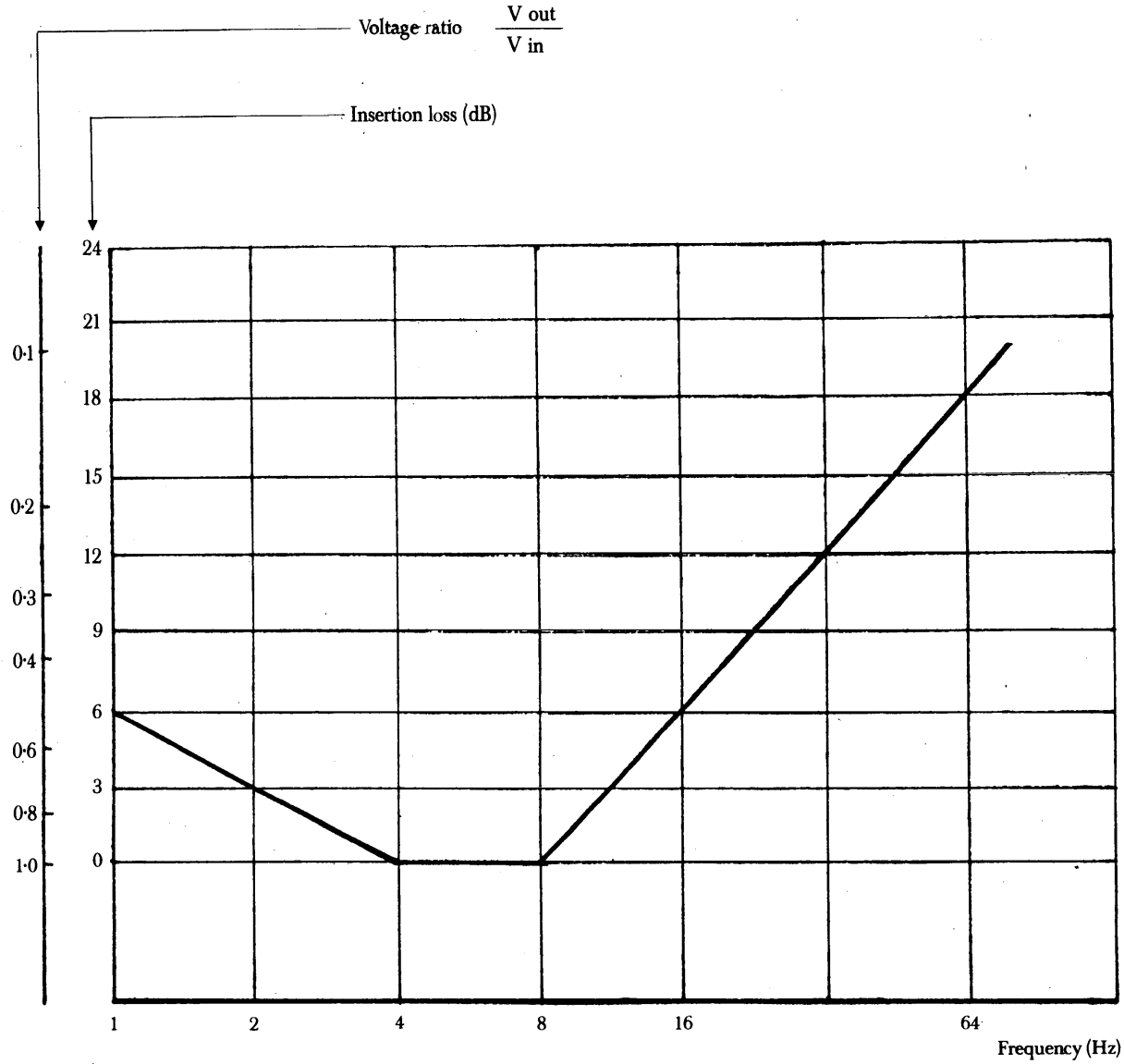
Travel of the vibration test stand (2.5.3.1)



▼B

Appendix 8

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



▼B

Appendix 9

Spectral power density of the vertical vibration acceleration at the seat attachment of the Class I reference tractor (2.5.5)

The spectral power density of the vertical vibration acceleration at the seat attachment of the Class I reference tractor can be approximately expressed by the following relation:

$$\Phi = \Phi_{max} \exp - \frac{(f - f_m)^2}{2b^2}$$

where the constants have the values:

$$\Phi_{max} = 6{\cdot}0 \ (m/s^2)^2/Hz$$

$$f_m = 3{\cdot}25 \ Hz$$

$$b = 0{\cdot}33 \ Hz$$

The permitted tolerances are:

$$\Phi_{max} = \pm \ 10 \ \%$$

$$f_m = \pm \ 5 \ \%$$

The tolerance with respect to b is determined by the fact that, in accordance with 2.5.5.2, the weighted vibration acceleration at the seat attachment must be within the limits:

$$a_w = 1{\cdot}9 \text{ to } 2{\cdot}2 \ m/s^2$$

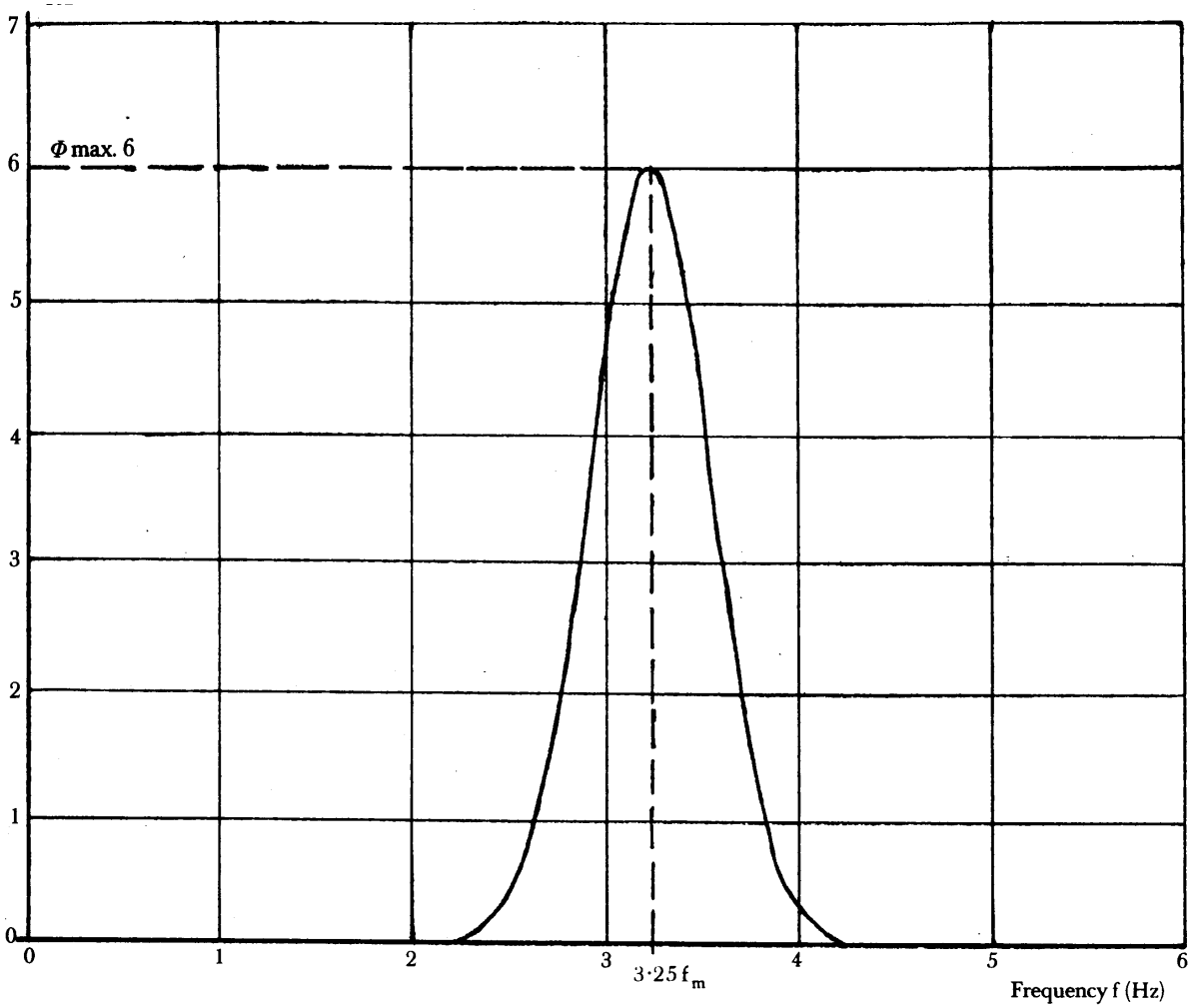
▼B

Spectral power density Φ (f)

Approximate function for the spectral power density of the vertical vibration acceleration at the seat attachment of the Class I reference tractor

Spectral power density Φ (f)

$$\frac{\left(\frac{m}{s^2}\right)^2}{Hz}$$



▼B

Appendix 10

Spectral power density of the vertical vibration acceleration at the seat attachment of the Class II reference tractor (2.5.5)

The spectral power density of the vertical vibration acceleration at the seat attachment of the Class II reference tractor can be approximately described by the following relation:

$$\Phi = \Phi_{max} \exp - \frac{(f - f_m)^2}{2b^2}$$

where the constants have the values:

$$\Phi_{max} = 5{\cdot}5(m/s^2)^2/Hz$$

$$f_m = 2{\cdot}65 \text{ Hz}$$

$$b = 0{\cdot}3 \text{ Hz}$$

The permitted tolerances are:

$$\Phi_{max} = \pm 10\ \%$$

$$f_m = \pm 5\ \%$$

The tolerance with respect to b is determined by the fact that, in accordance with 2.5.5.2, the weighted vibration acceleration at the seat attachment must be within the limits:

$$a_w = 1{\cdot}6 \text{ to } 1{\cdot}8 \text{ m/s}^2$$

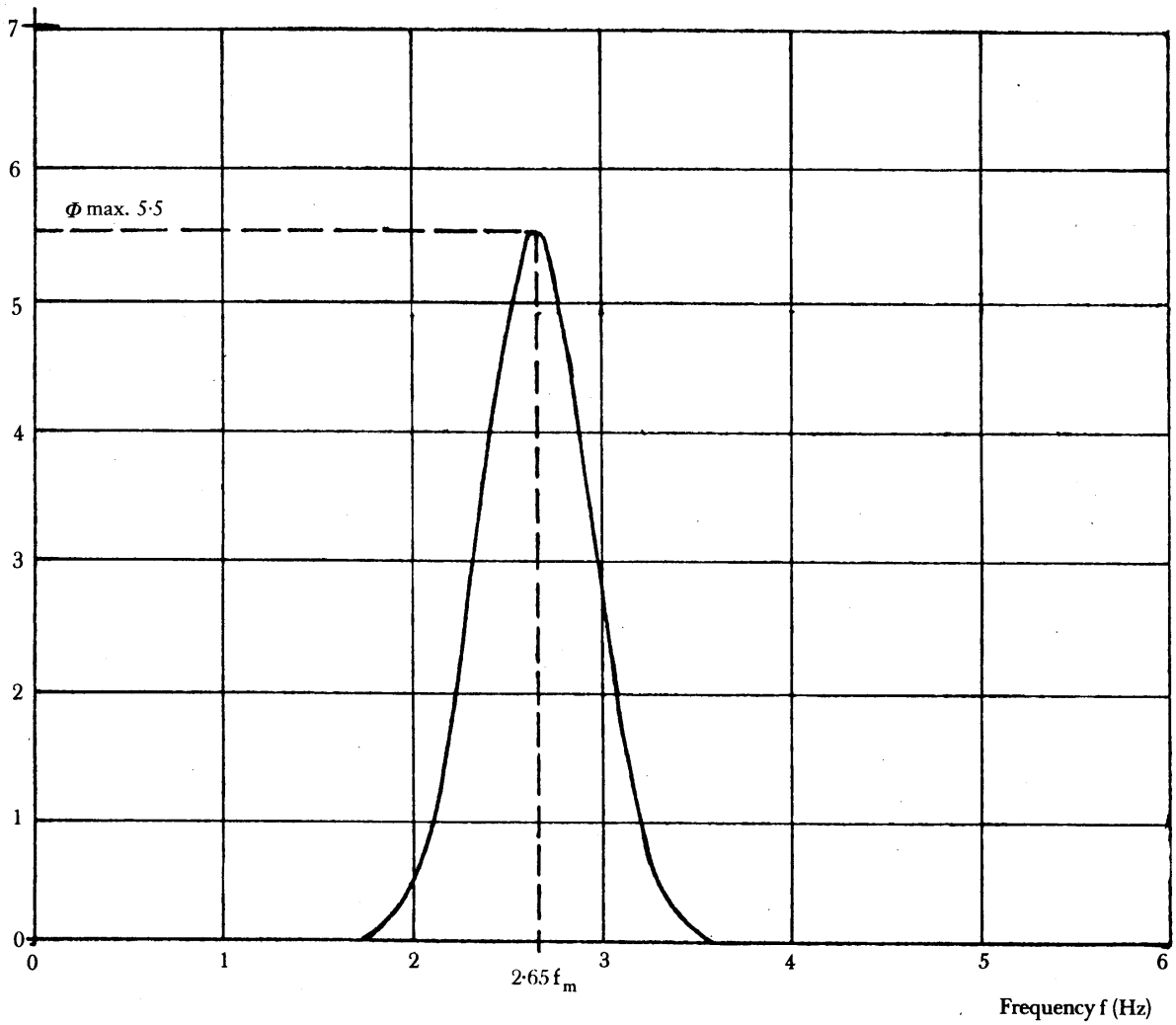
▼B

Spectral power density Φ (f)

Approximate function for the spectral power density of the vertical vibration acceleration at the seat attachment of the Class II reference tractor

Spectral power density Φ (f)

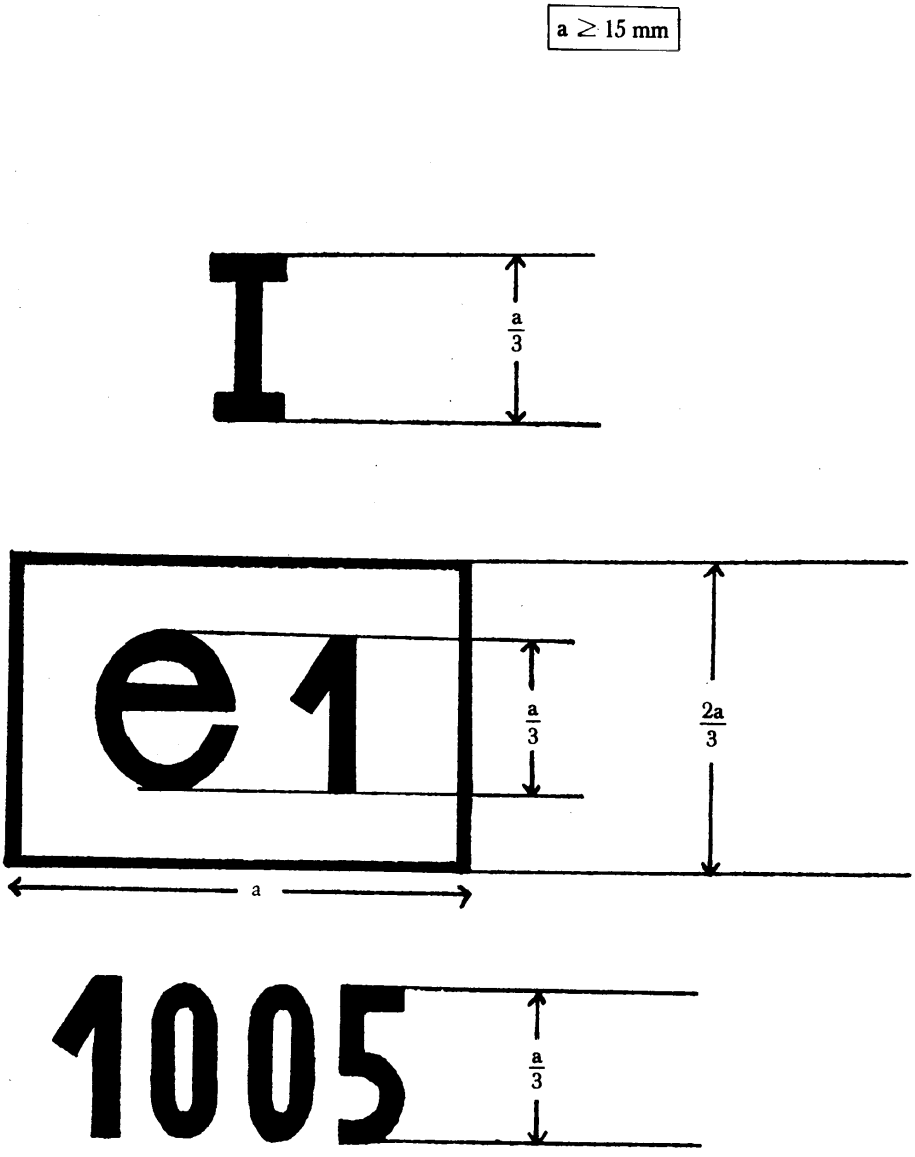
$$\frac{\left(\frac{m}{s^2}\right)^2}{Hz}$$



▼B

Appendix 11

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.
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.

3. Seats intended for tractors with a rear wheel track of 1 150 mm may have the following minimum dimensions with respect to 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 observed on grounds relating to the construction of the tractor.

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.