II

(Acts whose publication is not obligatory)

COUNCIL

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

(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.

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 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.

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.

2. This Directive shall apply only to tractors defined in paragraph 1 which are fitted with pneumatic tyres and which have two axles and a maximum design speed of between 6 and 25 km/h.

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.

Done at Brussels, 25 July 1978.

For the Council

The President

K. von DOHNANYI

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.

13. **Spectral power density** (∅)

'Spectral power density (∅)' 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 %.

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.

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: + 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.

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 ± 5° (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 12° 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:

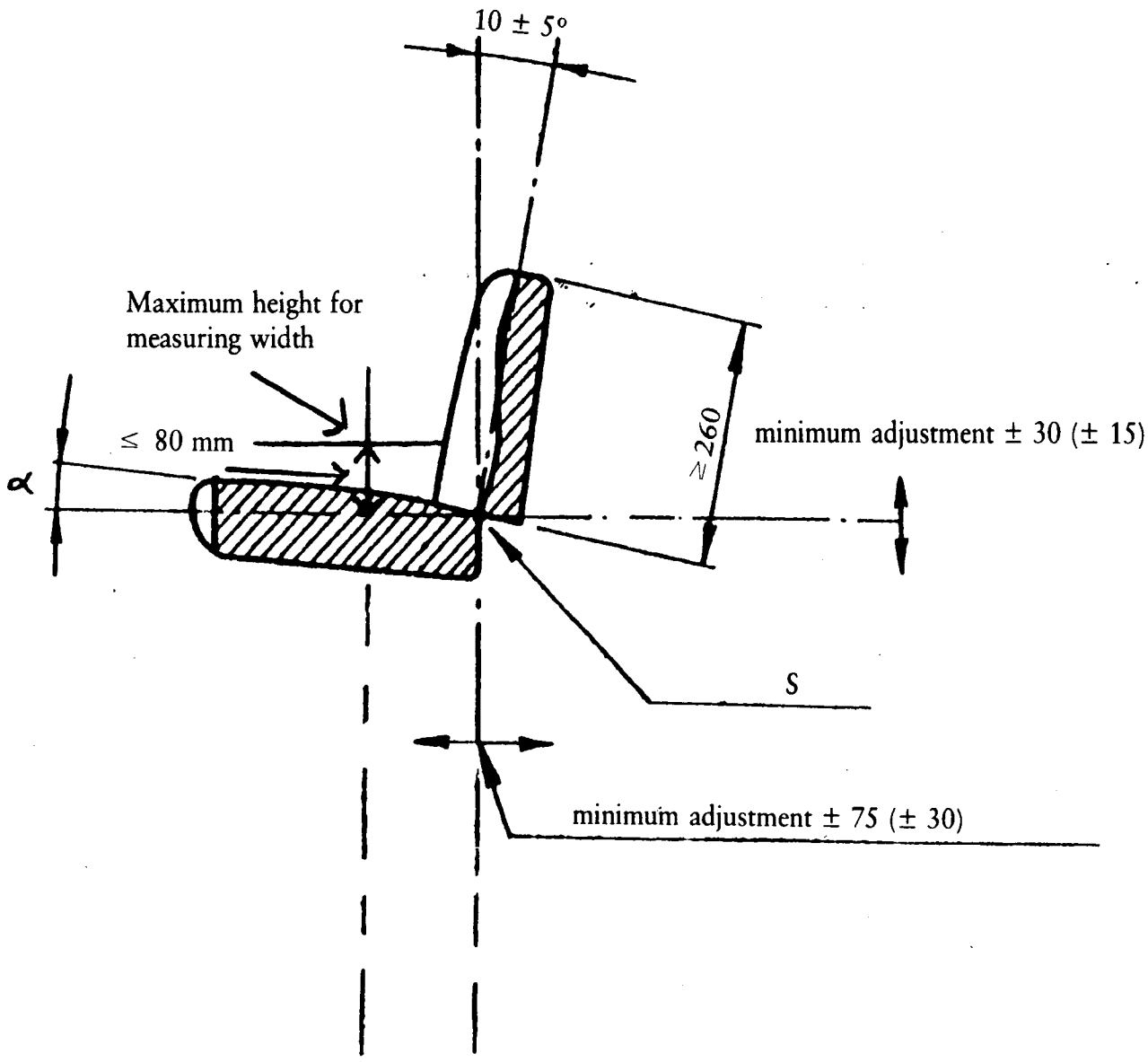
— 150 mm for tractors with a rear wheel track width of more than 1 150 mm,

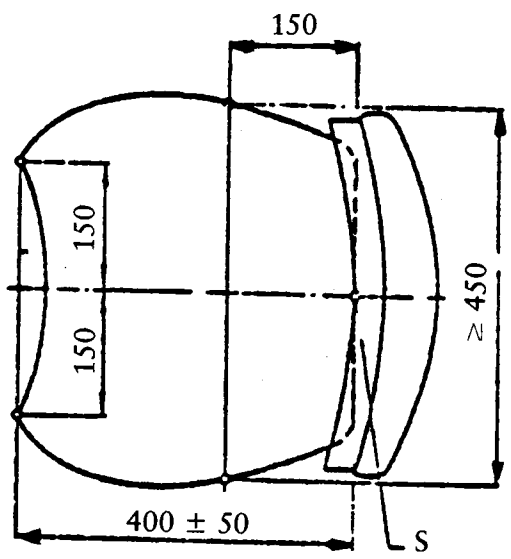
— 60 mm for tractors with a rear wheel track width of 1 150 mm or less.

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.





(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.

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 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 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)

$$I = \int_0^T (a_w)^2 \, dt$$

— or the square root of that integral

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

$$a_{weff} = \sqrt{I/T} = \frac{\sqrt{I}}{\sqrt{T}}$$

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.

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: $a_{wB} = 1{\cdot}9$ to $2{\cdot}2$ m/s²

Class II reference tractors: $a_{wB} = 1{\cdot}6$ to $1{\cdot}8$ m/s²

and must be corrected to meet the reference value of:

$$a^*_{wB} = 2{\cdot}05 \text{ m/s}^2 \text{ for class I}$$

$$a^*_{wB} = 1{\cdot}7 \text{ m/s}^2 \text{ for class II,}$$

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

$$a^*_{ws} = a_{ws} \frac{a^*_{wB}}{a_{wB}}$$

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:

$$a^*_{wB} = 2{\cdot}05 \text{ m/s}^2 \text{ for Category A tractors in Class I}$$

$$a^*_{wB} = 1{\cdot}7 \text{ m/s}^2 \text{ for Category A tractors in Class II,}$$

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

$$a^*_{ws} = a_{ws} \frac{a^*_{wB}}{a_{wB}}$$

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^*_{ws}.

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:

$$a^*_{ws} = a_{ws} \frac{a_{wF}}{a_{wp}}$$

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/s².

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:

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,

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.

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.

Figure 1

Device for determining the seat reference point (S)

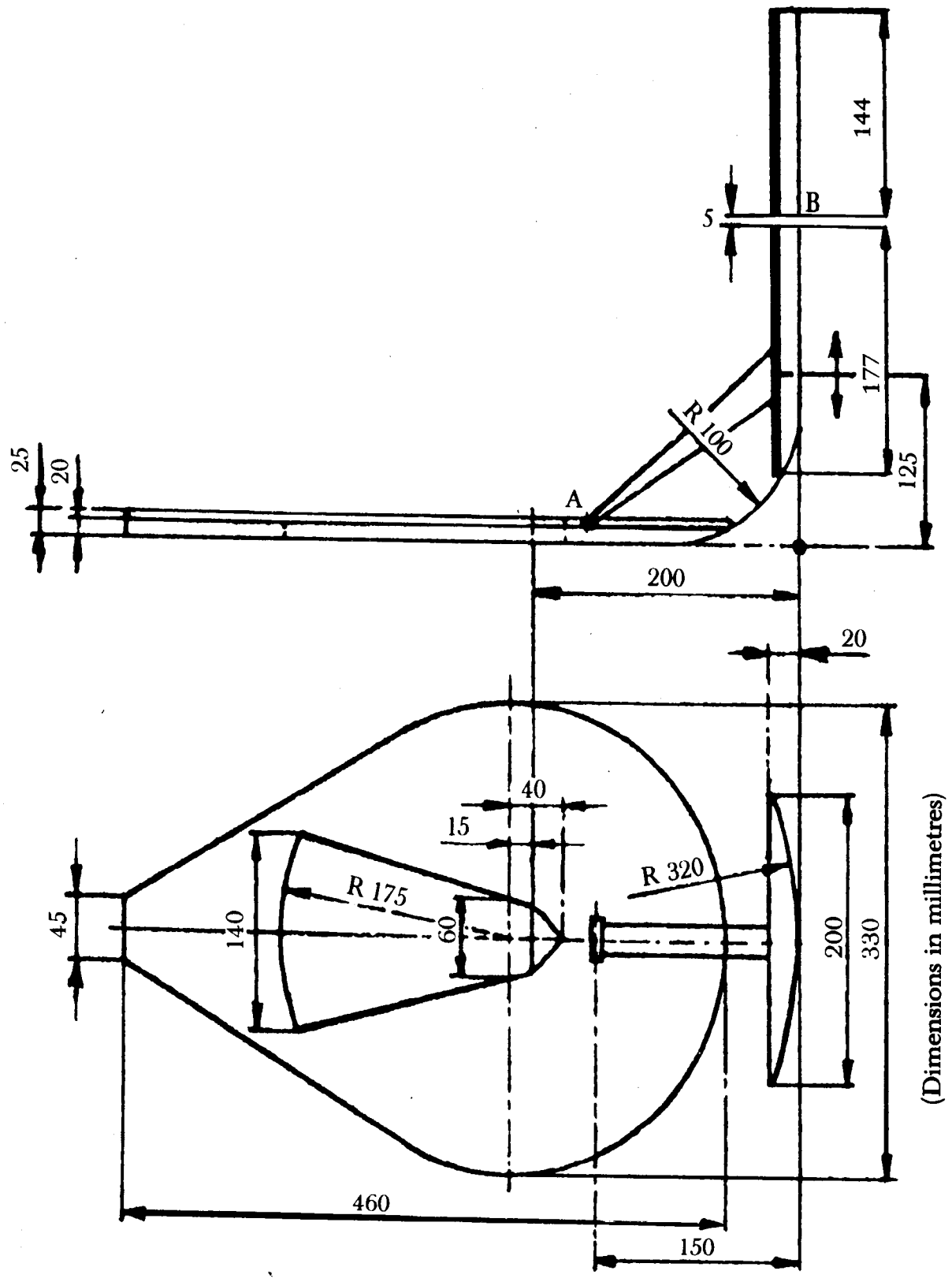
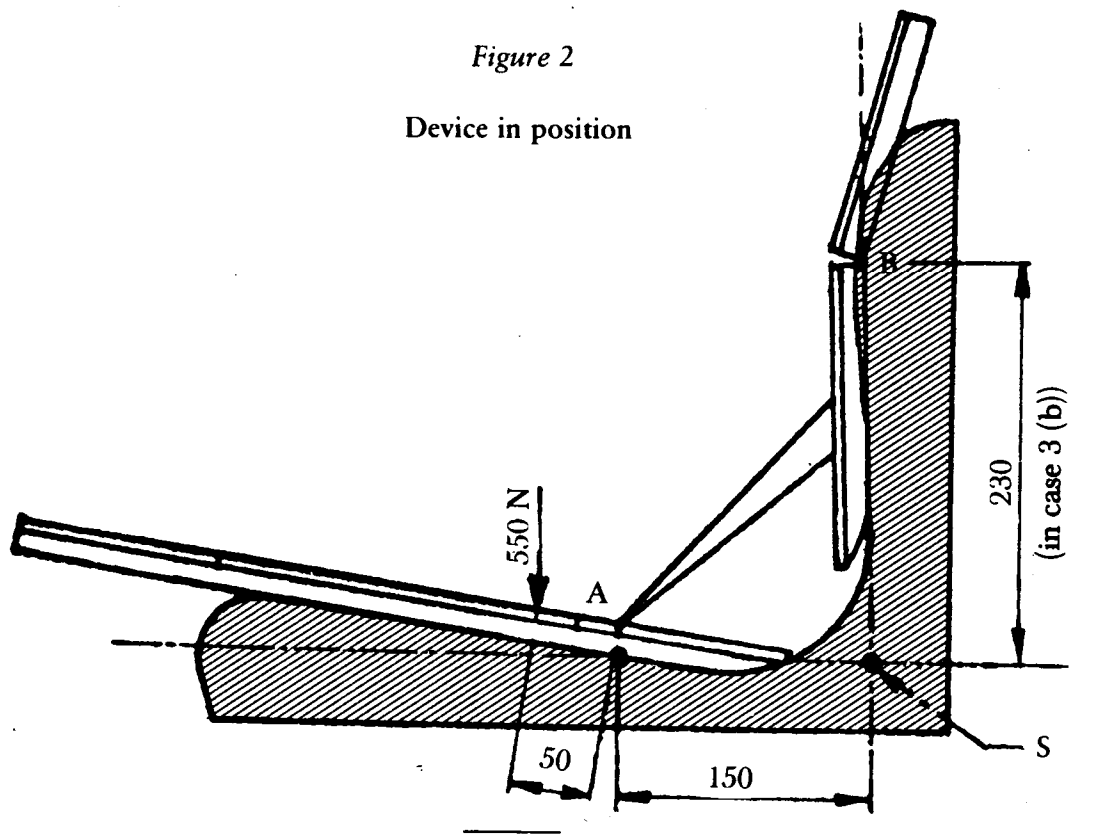


Figure 2

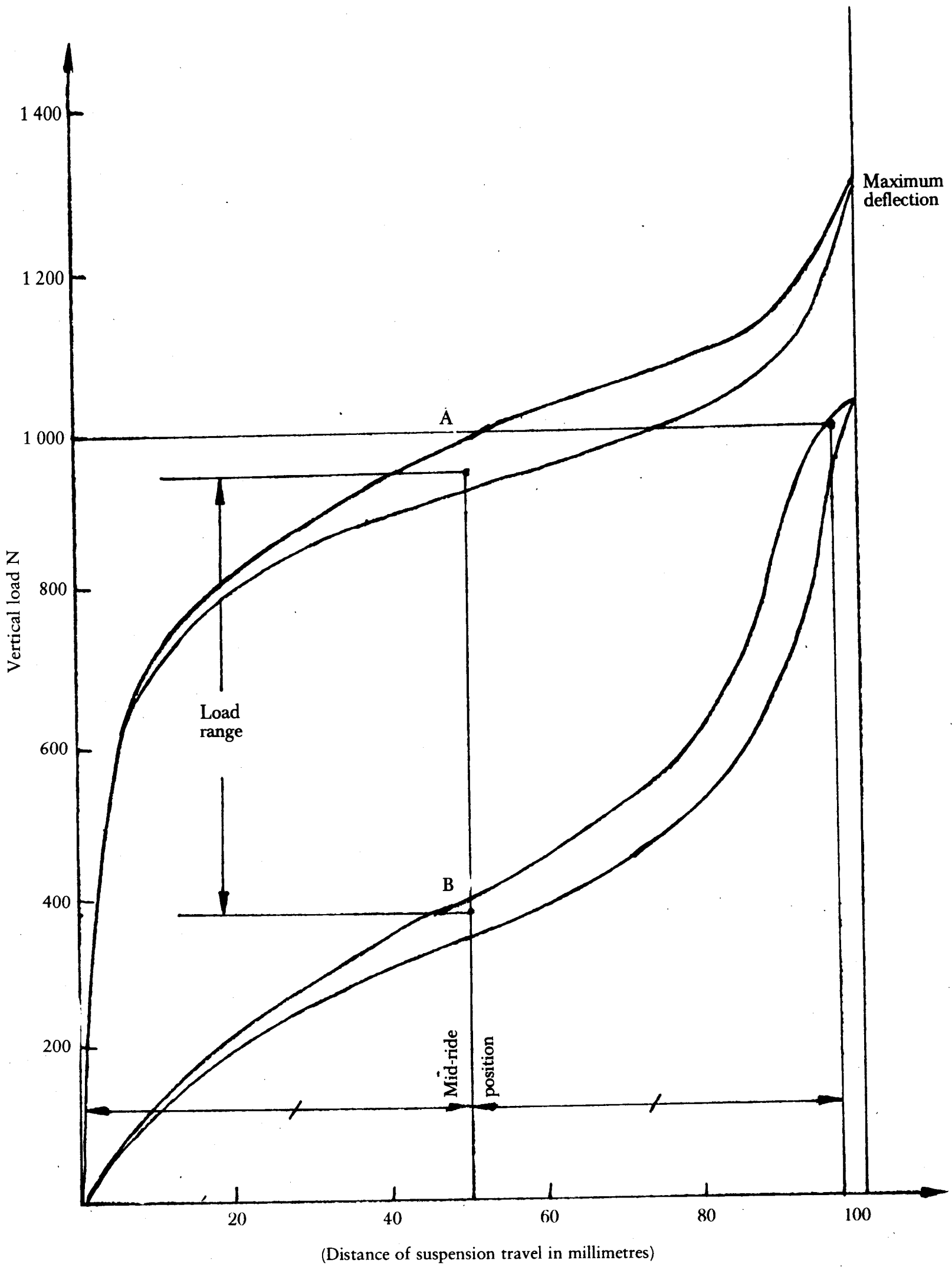
Device in position



Appendix 2

Test to determine the characteristics of the suspension system

Hysteresis curves to determine the load adjustment range (2.5.1)



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	D	L	R	D	L	R	D	L	R
0	115	140	7·20	65	90	14·40	65	95	21·60	70	90
0·16	110	125	7·36	75	95	14·56	65	100	21·76	75	95
0·32	110	140	7·52	75	100	14·72	65	90	21·92	75	95
0·48	115	135	7·68	95	95	14·88	65	90	22·08	75	90
0·64	120	135	7·84	115	110	15·04	65	85	22·24	85	90
0·80	120	125	8·00	115	100	15·20	55	85	22·40	85	95
0·96	125	135	8·16	125	110	15·36	65	85	22·58	90	85
1·12	120	125	8·32	110	100	15·52	65	85	22·72	90	85
1·28	120	115	8·48	110	100	15·68	55	75	22·88	95	85
1·44	115	110	8·64	110	95	15·84	55	85	23·04	95	85
1·60	110	100	8·80	110	95	16·00	65	75	23·20	100	85
1·76	110	110	8·96	110	95	16·16	55	85	23·36	100	75
1·92	110	110	9·12	110	100	16·32	50	75	23·52	110	85
2·08	115	115	9·28	125	90	16·48	55	75	23·68	110	85
2·24	110	110	9·44	120	100	16·64	65	75	23·84	110	85
2·40	100	110	9·60	135	95	16·80	65	75	24·00	100	75
2·56	100	100	9·76	120	95	16·96	65	85	24·16	100	75
2·72	95	110	9·92	120	95	17·12	65	70	24·32	95	70
2·88	95	95	10·08	120	95	17·28	65	65	24·48	100	70
3·04	90	95	10·24	115	85	17·44	65	75	24·64	100	70
3·20	90	100	10·40	115	90	17·60	65	75	24·80	115	75
3·36	85	100	10·56	115	85	17·76	50	75	24·96	110	75
3·52	90	100	10·72	115	90	17·92	55	85	25·12	110	85
3·68	90	115	10·88	120	90	18·08	55	85	25·28	100	75
3·84	95	110	11·04	110	75	18·24	65	85	25·44	110	95
4·00	90	110	11·20	110	75	18·40	70	75	25·60	100	95
4·16	90	95	11·36	100	85	18·56	75	75	25·76	115	100
4·32	95	100	11·52	110	85	18·72	95	75	25·92	115	100
4·48	100	100	11·68	95	90	18·88	90	75	26·08	110	95
4·64	100	90	11·84	95	90	19·04	90	70	26·24	115	95
4·90	90	90	12·00	95	85	19·20	95	70	26·40	110	95
4·96	90	90	12·16	100	95	19·36	85	70	26·56	100	95
5·12	95	90	12·32	100	90	19·52	85	75	26·72	100	95
5·28	95	70	12·48	95	85	19·68	75	85	26·88	100	100
5·44	95	65	12·64	95	85	19·84	85	85	27·04	100	95
5·60	90	50	12·80	95	90	20·00	75	90	27·20	100	95
5·76	95	50	12·96	85	90	20·16	85	85	27·36	110	90
5·92	85	50	13·12	85	85	20·32	75	70	27·52	115	90
6·08	85	55	13·28	75	90	20·48	70	75	27·68	115	85
6·24	75	55	13·44	75	95	20·64	65	75	27·84	110	90
6·40	75	55	13·60	75	90	20·80	70	75	28·00	110	85
6·56	70	65	13·76	70	75	20·96	65	75	28·16	110	85
6·72	75	75	13·92	70	90	21·12	70	75	28·32	100	85
6·88	65	75	14·08	70	100	21·28	70	85	28·48	100	90
7·04	65	85	14·24	70	110	21·44	70	85	28·64	90	85

D	L	R	D	L	R	D	L	R	D	L	R
28·80	90	75	38·40	110	35	48·00	75	85	57·60	95	115
28·96	75	90	38·56	100	35	48·16	90	95	57·76	85	110
29·12	75	75	38·72	115	35	48·32	95	95	57·92	90	115
29·28	75	75	38·88	100	35	48·48	100	120	58·08	90	110
29·44	70	75	39·04	100	35	48·64	110	100	58·24	90	100
29·60	75	75	39·20	110	30	48·30	115	100	58·40	85	95
29·76	75	85	39·36	110	45	48·96	115	115	58·56	90	95
29·92	85	75	39·52	110	50	49·12	120	115	58·72	85	90
30·08	75	75	39·68	100	55	49·28	120	110	58·88	90	90
30·24	85	75	39·84	110	50	49·44	115	95	59·04	90	95
30·40	75	75	40·00	90	55	49·60	115	90	59·20	90	115
30·56	70	75	40·16	85	55	49·76	115	90	59·36	90	115
30·72	75	75	40·32	90	65	49·92	110	95	59·52	90	115
30·88	85	75	40·48	90	65	50·08	110	100	59·68	85	110
31·04	90	75	40·64	90	70	50·24	100	110	59·84	75	110
31·20	90	85	40·80	95	75	50·40	100	120	60·00	90	115
31·36	100	75	40·96	95	75	50·56	95	120	60·16	90	120
31·52	100	75	41·12	95	75	50·72	95	115	60·32	90	120
31·68	120	85	41·28	90	90	50·88	95	120	60·48	90	120
31·84	115	75	41·44	90	95	51·04	95	120	60·64	95	120
32·00	120	85	41·60	85	95	51·20	90	135	60·80	95	120
32·16	120	85	41·76	85	100	51·36	95	125	60·96	90	120
32·32	135	90	41·92	90	100	51·52	95	120	61·12	90	115
32·48	145	95	42·08	90	95	51·68	100	120	61·28	95	110
32·64	160	95	42·24	85	100	51·84	100	120	61·44	95	110
32·80	165	90	42·40	85	110	52·00	100	120	61·60	100	100
32·96	155	90	42·56	95	110	52·16	100	125	61·76	110	100
33·12	145	90	42·72	95	115	52·32	110	125	61·92	100	100
33·28	140	95	42·88	95	115	52·48	110	125	62·08	100	100
33·44	140	85	43·04	100	100	52·64	100	125	62·24	95	100
33·60	140	85	43·20	100	95	52·80	100	120	62·40	95	100
33·76	125	75	43·36	100	95	52·96	100	120	62·56	95	100
33·92	125	75	43·52	100	90	53·12	110	115	62·72	90	100
34·08	115	85	43·68	110	95	53·28	100	110	62·88	90	100
34·24	120	75	43·84	100	100	53·44	110	110	63·04	90	100
34·40	125	75	44·00	110	90	53·60	95	110	63·20	90	90
34·56	115	85	44·16	100	85	53·76	95	110	63·36	90	90
34·72	115	75	44·32	110	90	53·92	100	110	63·52	85	90
34·88	115	90	44·48	110	85	54·08	95	100	63·68	85	90
35·04	115	100	44·64	100	85	54·24	100	100	63·84	75	85
35·20	120	100	44·80	100	90	54·40	100	100	64·00	75	85
35·36	120	100	44·96	95	90	54·56	100	100	64·16	75	75
35·52	135	95	45·12	90	95	54·72	95	100	64·32	75	75
35·68	135	95	45·28	90	100	54·88	100	100	64·48	70	75
35·84	135	95	45·44	95	100	55·04	100	115	64·64	70	70
36·00	135	90	45·60	90	90	55·20	110	115	64·80	70	55
36·16	120	75	45·76	85	90	55·36	100	110	64·96	70	45
36·32	115	75	45·92	75	90	55·52	110	100	65·12	65	55
36·48	110	70	46·08	85	90	55·68	100	110	65·28	65	55
36·64	100	65	46·24	75	90	55·84	100	110	65·44	65	65
36·80	110	55	46·40	75	90	56·00	100	110	65·60	55	70
36·96	115	55	46·54	75	90	56·16	95	115	65·76	55	75
37·12	100	50	46·72	85	90	56·32	90	110	65·92	55	75
37·28	115	50	46·88	85	85	56·48	95	110	66·08	55	75
37·44	110	50	47·04	90	85	56·64	95	110	66·24	55	85
37·60	100	65	47·20	75	85	56·80	90	100	66·46	55	85
37·76	90	55	47·36	65	75	56·96	100	100	66·56	65	90
37·92	95	55	47·52	70	70	57·12	100	95	66·72	70	90
38·08	90	35	47·68	70	75	57·28	95	100	66·88	70	110
38·24	90	35	47·84	70	75	57·44	100	100	67·04	65	100

D	L	R	D	L	R	D	L	R	D	L	R
67·20	55	100	76·00	110	135	84·80	120	155	93·60	120	145
67·36	65	100	76·16	100	125	84·96	115	145	93·76	115	140
67·52	50	100	76·32	100	125	85·12	115	155	93·92	115	140
67·68	50	85	76·48	100	125	85·28	120	160	94·08	115	140
67·84	50	90	76·64	110	125	85·44	120	165	94·24	115	140
68·00	50	100	76·80	115	125	85·60	120	160	94·40	115	140
68·16	55	100	76·96	120	125	85·76	125	165	94·56	115	140
68·32	55	95	77·12	120	125	85·92	135	160	94·72	115	135
68·48	65	90	77·28	120	135	86·08	135	160	94·88	115	135
68·64	50	85	77·44	110	125	86·24	125	155	95·04	110	135
68·80	50	70	77·60	100	125	86·40	125	155	95·20	110	135
68·96	50	70	77·76	120	135	86·56	120	145	95·36	110	135
69·12	50	65	77·92	120	125	86·72	120	145	95·52	115	135
69·28	50	55	78·03	120	125	86·98	110	140	95·68	100	140
69·44	45	50	78·24	115	125	87·04	110	140	95·84	95	135
69·60	35	50	78·40	115	120	87·20	110	140	96·00	100	125
69·76	35	55	78·56	115	120	87·36	110	140	96·16	95	125
69·92	35	65	78·72	110	120	87·52	110	140	96·32	95	125
70·08	35	65	78·88	100	120	87·68	100	135	96·48	95	125
70·24	35	65	79·04	100	120	87·84	100	135	96·64	110	125
70·40	35	55	79·20	95	120	88·00	100	135	96·80	95	120
70·58	45	55	79·36	95	120	88·16	100	125	96·96	95	120
70·72	50	55	79·52	95	125	88·32	110	120	97·12	95	120
70·88	50	50	79·68	95	125	88·48	115	120	97·28	95	110
71·04	50	45	79·84	100	120	88·64	110	120	97·44	100	115
71·20	50	45	80·00	95	125	88·80	110	125	97·60	110	120
71·36	50	50	80·16	95	125	88·96	100	125	97·76	110	115
71·52	45	45	80·32	95	125	89·12	100	125	97·92	100	115
71·68	45	55	80·48	100	120	89·28	95	125	98·08	95	115
71·84	55	65	80·64	100	125	89·44	95	125	98·24	100	115
72·00	55	65	80·80	100	125	89·60	100	120	98·40	95	115
72·16	70	65	80·96	110	125	89·76	100	135	98·52	100	115
72·32	70	75	81·12	115	135	89·92	110	140	98·72	100	110
72·48	75	85	81·28	110	140	90·08	110	135	98·88	110	100
72·64	75	85	81·44	115	140	90·24	110	140	99·04	95	95
72·80	75	90	81·60	110	140	90·40	100	145	99·20	90	100
72·96	85	95	81·76	115	140	90·56	100	155	99·36	90	100
73·12	90	100	81·92	110	140	90·72	110	155	93·52	75	110
73·28	90	110	82·08	110	140	90·88	110	155	99·68	75	115
73·44	90	115	82·24	110	135	91·04	100	155	99·84	75	115
73·60	90	120	82·40	110	135	91·20	110	155	100·00	75	110
73·76	90	115	82·56	100	125	91·36	110	160			
73·92	90	115	87·72	110	125	91·52	115	160			
74·08	110	115	82·88	110	125	91·68	110	155			
74·24	100	100	83·04	100	125	91·84	115	155			
74·40	100	110	83·20	100	120	92·00	115	140			
74·56	100	110	83·36	100	125	92·16	115	155			
74·72	95	115	83·52	100	120	92·32	120	155			
74·88	95	120	83·68	100	135	92·48	125	145			
75·04	95	125	83·84	95	140	92·64	125	155			
75·20	95	135	84·00	100	135	92·80	125	155			
75·36	100	135	84·16	110	140	92·96	120	155			
75·52	100	140	84·32	110	140	93·12	120	145			
75·68	100	140	84·48	110	140	93·28	120	145			
75·84	100	140	84·64	110	140	93·44	115	145			

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	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s
0	0000	0									
1	0344	0·04	47	−0550		93	−0000		139	0229	
2	0333	0·08	48	−0576		94	0025		140	0212	
3	0272		49	−0622		95	0065		141	0157	
4	0192		50	−0669	2·0	96	0076		142	0097	
5	0127		51	−0689		97	0054		143	0055	
6	0115		52	−0634		98	−0016		144	0073	
7	0169		53	−0542		99	−0066		145	0175	
8	0243		54	−0429		100	−0048	4·0	146	0287	
9	0298		55	−0314		101	−0011		147	0380	
10	0320		56	−0282		102	0061		148	0406	
11	0270		57	−0308		103	0131		149	0338	
12	0191		58	−0373		104	0168		150	0238	6·0
13	0124		59	−0446		105	0161		151	0151	
14	0057		60	−0469		106	0131		152	0080	
15	0027		61	−0465		107	0086		153	0090	
16	0004		62	−0417		108	0067		154	0146	
17	−0013		63	−0352		109	0088		155	0196	
18	−0039		64	−0262		110	0110		156	0230	
19	−0055		65	−0211		111	0148		157	0222	
20	−0056		66	−0180		112	0153		158	0184	
21	−0059		67	−0182		113	0139		159	0147	
22	−0068		68	−0210		114	0119		160	0115	
23	−0104		69	−0222		115	0099		161	0114	
24	−0134		70	−0210		116	0091		162	0140	
25	−0147	1·0	71	−0186		117	0078		163	0198	
26	−0144		72	−0141		118	0059		164	0257	
27	−0143		73	−0088		119	0062		165	0281	
28	−0155		74	−0033		120	0072		166	0276	
29	−0179		75	0000	3·0	121	0122		167	0236	
30	−0181		76	0001		122	0155		168	0201	
31	−0155		77	−0040		123	0191		169	0167	
32	−0139		78	−0098		124	0184		170	0145	
33	−0141		79	−0130		125	0143	5·0	171	0135	
34	−0170		80	−0115		126	0087		172	0165	
35	−0221		81	−0068		127	0029		173	0242	
36	−0259		82	−0036		128	0010		174	0321	
37	−0281		83	−0032		129	0025		175	0399	7·0
38	−0268		84	−0050		130	0074		176	0411	
39	−0258		85	−0052		131	0106		177	0373	
40	−0285		86	−0039		132	0115		178	0281	
41	−0348		87	−0011		133	0090		179	0179	
42	−0437		88	0014		134	0048		180	0109	
43	−0509		89	0041		135	0038		181	0094	
44	−0547		90	0054		136	0066		182	0136	
45	−0562		91	0040		137	0116		183	0206	
46	−0550		92	0006		138	0180		184	0271	

PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s
185	0267		249	0041		313	−0320		377	−0027	
186	0203		250	0090	10·0	314	−0244		378	0099	
187	0091		251	0136		315	−0237		379	0186	
188	0009		252	0151		316	−0310		380	0174	
189	0006		253	0123		317	−0413		381	0085	
190	0074		254	0070		318	−0462		382	−0031	
191	0186		255	0034		319	−0456		383	−0086	
192	0280		256	−0001		320	−0351		384	−0069	
193	0342		257	−0010		321	−0181		385	0012	
194	0330		258	−0031		322	−0045		386	0103	
195	0265		259	−0061		323	0013		387	0164	
196	0184		260	−0086		324	−0037		388	0129	
197	0118		261	−0104		325	−0160	13·0	389	0047	
198	0105		262	−0103		326	−0247		390	−0055	
199	0128		263	−0093		327	−0258		391	−0097	
200	0174	8·0	264	−0074		328	−0187		392	−0056	
201	0215		265	−0056		329	−0069		393	0043	
202	0229		266	−0039		330	0044		394	0162	
203	0221		267	−0000		331	0078		395	0220	
204	0199		268	0033		332	0061		396	0205	
205	0164		269	0067		333	−0012		397	0129	
206	0162		270	0097		334	−0102		398	0053	
207	0174		271	0085		335	−0127		399	0022	
208	0210		272	0034		336	−0103		400	0052	16·0
209	0242		273	0002		337	−0045		401	0114	
210	0270		274	−0050		338	0039		402	0175	
211	0285		275	−0080	11·0	339	0094		403	0191	
212	0285		276	−0096		340	0107		404	0172	
213	0258		277	−0121		341	0058		405	0138	
214	0223		278	−0116		342	−0011		406	0092	
215	0194		279	−0092		343	−0078		407	0052	
216	0165		280	−0060		344	−0093		408	0051	
217	0132		281	−0018		345	−0068		409	0025	
218	0106		282	−0011		346	−0025		410	0001	
219	0077		283	−0052		347	0021		411	−0026	
220	0065		284	−0143		348	0008		412	−0065	
221	0073		285	−0241		349	−0016		413	−0073	
222	0099		286	−0330		350	−0038	14·0	414	−0038	
223	0114		287	−0343		351	−0024		415	−0001	
224	0111		288	−0298		352	0041		416	0029	
225	0083	9·0	289	−0235		353	0135		417	0030	
226	0026		290	−0203		354	0196		418	−0005	
227	−0028		291	−0249		355	0171		419	−0045	
228	−0052		292	−0356		356	0053		420	−0068	
229	−0069		293	−0448		357	−0111		421	−0093	
230	−0077		294	−0486		358	−0265		422	−0075	
231	−0067		295	−0444		359	−0348		423	−0067	
232	−0095		296	−0343		360	−0336		424	−0051	
233	−0128		297	−0240		361	−0258		425	−0049	17·0
234	−0137		298	−0215		362	−0155		426	−0059	
235	−0144		299	−0277		363	−0059		427	−0077	
236	−0131		300	−0399	12·0	364	−0056		428	−0107	
237	−0155		301	−0527		365	−0123		429	−0143	
238	−0208		302	−0585		366	−0187		430	−0141	
239	−0266		303	−0569		367	−0218		431	−0142	
240	−0285		304	−0479		368	−0136		432	−0106	
241	−0276		305	−0363		369	0012		433	−0080	
242	−0205		306	−0296		370	0149		434	−0050	
243	−0110		307	−0299		371	0212		435	−0030	
244	−0020		308	−0374		372	0153		436	−0014	
245	0041		309	−0466		373	0021		437	−0017	
246	0053		310	−0528		374	−0104		438	−0031	
247	0020		311	−0520		375	−0160	15·0	439	−0037	
248	0016		312	−0432		376	−0142		440	−0068	

PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s
441	−0113		506	0184		571	0285		636	−0178	
442	−0167		507	0139		572	0295		637	−0188	
443	−0203		508	0062		573	0261		638	−0198	
444	−0191		509	0027		574	0201		639	−0194	
445	−0135		510	0030		575	0145	23·0	640	−0187	
446	−0047		511	0067		576	0142		641	−0170	
447	0028		512	0146		577	0163		642	−0161	
448	0032		513	0247		578	0222		643	−0154	
449	−0031		514	0314		579	0284		644	−0140	
450	−0108	18·0	515	0330		580	0334		645	−0115	
451	−0157		516	0289		581	0342		646	−0055	
452	−0155		517	0224		582	0301		647	0001	
453	−0081		518	0179		583	0240		648	0049	
454	−0012		519	0184		584	0205		649	0085	
455	0053		520	0216		585	0216		650	0094	26·0
456	0085		521	0229		586	0257		651	0071	
457	0054		522	0210		587	0326		652	0039	
458	0002		523	0130		588	0363		653	−0001	
459	−0026		524	0062		589	0380		654	−0027	
460	−0034		525	0006	21·0	590	0358		655	−0025	
461	−0014		526	−0004		591	0303		656	0000	
462	0031		527	0004		592	0273		657	0028	
463	0061		528	0018		593	0341		658	0045	
464	0098		529	0031		594	0249		659	0019	
465	0123		530	0020		595	0252		660	−0032	
466	0103		531	0014		596	0245		661	−0101	
467	0078		532	−0011		597	0244		662	−0162	
468	0046		533	−0022		598	0225		663	−0198	
469	0042		534	−0029		599	0212		664	−0193	
470	0044		535	−0042		600	0180	24·0	665	−0149	
471	0072		536	−0066		601	0160		666	−0096	
472	0109		537	−0120		602	0130		667	−0075	
473	0133		538	−0188		603	0118		668	−0086	
474	0138		539	−0241		604	0104		669	−0151	
475	0125	19·0	540	−0252		605	0081		670	−0246	
476	0095		541	−0243		606	0040		671	−0329	
477	0105		542	−0212		607	−0004		672	−0382	
478	0129		543	−0183		608	−0040		673	−0392	
479	0181		544	−0170		609	−0057		674	−0340	
480	0206		545	−0189		610	−0049		675	−0286	27·0
481	0200		546	−0233		611	−0021		676	−0249	
482	0168		547	−0286		612	0011		677	−0245	
483	0140		548	−0311		613	0033		678	−0298	
484	0149		549	−0280		614	0038		679	−0348	
485	0186		550	−0215	22·0	615	0027		680	−0366	
486	0237		551	−0128		616	0019		681	−0330	
487	0242		552	−0038		617	0024		682	−0247	
488	0207		553	−0018		618	0040		683	−0175	
489	0130		554	−0024		619	0069		684	−0135	
490	0055		555	−0052		620	0082		685	−0149	
491	0015		556	−0055		621	0086		686	−0165	
492	0014		557	−0033		622	0068		687	−0178	
493	0036		558	0013		623	0056		688	−0142	
494	0054		559	0061		624	0036		689	−0097	
495	0056		560	0079		625	0006	25·0	690	−0067	
496	0022		561	0060		626	−0015		691	−0051	
497	−0032		562	0024		627	−0049		692	−0071	
498	−0076		563	−0013		628	−0071		693	−0101	
499	−0108		564	−0027		629	−0075		694	−0110	
500	−0099	20·0	565	−0018		630	−0078		695	−0091	
501	−0029		566	0011		631	−0074		696	−0043	
502	0051		567	0064		632	−0069		697	0020	
503	0138		568	0111		633	−0094		698	0061	
504	0199		569	0171		634	−0116		699	0064	
505	0213		570	0238		635	−0150		700	0036	28·0

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	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s
0	0 000	0									
1	0 156	0·04	47	−0 364		93	−0 004		139	−0 154	
2	0 147	0·08	48	−0 410		94	−0 039		140	−0 164	
3	0 144		49	−0 407		95	−0 100		141	−0 160	
4	0 162		50	−0 367	2·0	96	−0 171		142	−0 128	
5	0 210		51	−0 289		97	−0 218		143	−0 059	
6	0 272		52	−0 180		98	−0 226		144	0 015	
7	0 336		53	−0 081		99	−0 190		145	0 074	
8	0 382		54	−0 000		100	−0 116	4·0	146	0 034	
9	0 404		55	−0 011		101	−0 054		147	0 042	
10	0 408		56	−0 070		102	−0 001		148	−0 034	
11	0 376		57	−0 168		103	−0 001		149	−0 101	
12	0 324		58	−0 256		104	−0 045		150	−0 147	6·0
13	0 275		59	−0 307		105	−0 126		151	−0 141	
14	0 226		60	−0 302		106	−0 191		152	−0 091	
15	0 176		61	−0 249		107	−0 223		153	−0 031	
16	0 141		62	−0 157		108	−0 206		154	0 017	
17	0 126		63	−0 056		109	−0 168		155	0 027	
18	0 144		64	0 013		110	−0 122		156	−0 012	
19	0 180		65	0 044		111	−0 095		157	−0 058	
20	0 205		66	0 025		112	−0 101		158	−0 127	
21	0 198		67	−0 026		113	−0 114		159	−0 151	
22	0 184		68	−0 077		114	−0 161		160	−0 125	
23	0 138		69	−0 115		115	−0 212		161	−0 049	
24	0 102		70	−0 131		116	−0 254		162	0 045	
25	0 068	1·0	71	−0 102		117	−0 273		163	0 104	
26	0 050		72	−0 031		118	−0 258		164	0 122	
27	0 055		73	0 035		119	−0 211		165	0 104	
28	0 078		74	0 078		120	−0 169		166	0 046	
29	0 120		75	0 057	3·0	121	−0 125		167	−0 018	
30	0 184		76	0 000		122	−0 115		168	−0 047	
31	0 209		77	−0 069		123	−0 127		169	−0 036	
32	0 224		78	−0 124		124	−0 156		170	0 016	
33	0 206		79	−0 143		125	−0 185	5·0	171	0 145	
34	0 157		80	−0 129		126	−0 232		172	0 257	
35	0 101		81	−0 091		127	−0 256		173	0 330	
36	0 049		82	−0 045		128	−0 260		174	0 330	
37	−0 002		83	−0 004		129	−0 260		175	0 258	7·0
38	−0 038		84	−0 004		130	−0 247		176	0 138	
39	−0 068		85	−0 016		131	−0 228		177	0 034	
40	−0 088		86	−0 047		132	−0 204		178	−0 037	
41	−0 100		87	−0 080		133	−0 192		179	−0 030	
42	−0 110		88	−0 083		134	−0 179		180	0 026	
43	−0 151		89	−0 080		135	−0 144		181	0 141	
44	−0 183		90	−0 060		136	−0 128		182	0 216	
45	−0 234		91	−0 029		137	−0 117		183	0 243	
46	−0 303		92	−0 013		138	−0 131		184	0 188	

PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s
185	0079		249	0220		313	−0302		377	0053	
186	−0015		250	0210	10·0	314	−0318		378	0078	
187	−0047		251	0185		315	−0316		379	0068	
188	−0008		252	0149		316	−0293		380	0033	
189	0091		253	0100		317	−0238		381	0004	
190	0230		254	0057		318	−0154		382	−0000	
191	0340		255	0035		319	−0070		383	−0013	
192	0381		256	0006		320	−0021		384	−0003	
193	0332		257	−0000		321	−0029		385	0000	
194	0225		258	0010		322	−0075		386	−0001	
195	0099		259	0034		323	−0138		387	−0010	
196	0014		260	0047		324	−0189		388	−0023	
197	−0012		261	0047		325	−0193	13·0	389	−0019	
198	0033		262	0031		326	−0153		390	0014	
199	0131		263	0028		327	−0095		391	0060	
200	0247	8·0	264	0036		328	−0012		392	0093	
201	0335		265	0072		329	0033		393	0117	
202	0348		266	0125		330	0069		394	0137	
203	0314		267	0188		331	0064		395	0123	
204	0239		268	0216		332	0000		396	0098	
205	0161		269	0189		333	−0074		397	0075	
206	0124		270	0119		334	−0147		398	0055	
207	0139		271	0031		335	−0164		399	0062	
208	0218		272	−0026		336	−0142		400	0087	16·0
209	0328		273	−0059		337	−0067		401	0113	
210	0405		274	−0052		338	−0001		402	0126	
211	0426		275	−0009	11·0	339	0057		403	0139	
212	0403		276	0039		340	0080		404	0119	
213	0314		277	0081		341	0040		405	0080	
214	0191		278	0107		342	−0010		406	0023	
215	0088		279	0079		343	−0096		407	−0043	
216	0025		280	0023		344	−0148		408	−0099	
217	0030		281	−0044		345	−0164		409	−0121	
218	0087		282	−0121		346	−0134		410	−0090	
219	0173		283	−0168		347	−0060		411	−0009	
220	0240		284	−0172		348	0038		412	0072	
221	0274		285	−0147		349	0136		413	0120	
222	0250		286	−0119		350	0195	14·0	414	0111	
223	0182		287	−0114		351	0170		415	0049	
224	0077		288	−0155		352	0077		416	−0021	
225	−0019	9·0	289	−0217		353	−0067		417	−0098	
226	−0075		290	−0287		354	−0212		418	−0136	
227	−0061		291	−0243		355	−0321		419	−0117	
228	−0033		292	−0341		356	−0356		420	−0072	
229	0011		293	−0289		357	−0339		421	−0020	
230	0042		294	−0217		358	−0277		422	0038	
231	0025		295	−0157		359	−0189		423	0061	
232	−0021		296	−0150		360	−0119		424	0026	
233	−0078		297	−0193		361	−0100		425	−0016	17·0
234	−0142		298	−0248		362	−0124		426	−0090	
235	−0197		299	−0319		363	−0170	14·0	427	−0151	
236	−0225		300	−0371	12·0	364	−0193		428	−0171	
237	−0217		301	−0378		365	−0173		429	−0150	
238	−0196		302	−0354		366	−0105		430	−0080	
239	−0133		303	−0309		367	−0000		431	−0001	
240	−0038		304	−0264		368	0075		432	0064	
241	0052		305	−0241		369	0092		433	0113	
242	0128		306	−0236		370	0074		434	0109	
243	0168		307	−0264		371	0011		435	0089	
244	0164		308	−0262		372	−0049		436	0016	
245	0169		309	−0282		373	−0082		437	−0040	
246	0170		310	−0275		374	−0076		438	−0098	
247	0188		311	−0278		375	−0039	15·0	439	−0142	
248	0210		312	−0285		376	0010		440	−0147	

PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s	PS No	a 10^{-4} m	t s
441	−0112		506	−0027		571	0089		636	−0163	
442	−0028		507	−0103		572	−0004		637	−0182	
443	0058		508	−0096		573	−0075		638	−0177	
444	0118		509	−0026		574	−0099		639	−0184	
445	0124		510	0062		575	−0054	23·0	640	−0201	
446	0080		511	0198		576	0024		641	−0199	
447	0006		512	0275		577	0126		642	−0187	
448	−0052		513	0293		578	0203		643	−0145	
449	−0068		514	0244		579	0223		644	−0092	
450	−0050	18·0	515	0149		580	0200		645	−0040	
451	−0000		516	0056		581	0113		646	0017	
452	0063		517	0005		582	0026		647	0044	
453	0129		518	−0001		583	−0008		648	0061	
454	0155		519	0023		584	−0003		649	0029	
455	0156		520	0035		585	0057		650	−0018	26·0
456	0111		521	0063		586	0149		651	−0078	
457	0069		522	0034		587	0236		652	−0129	
458	0049		523	−0009		588	0290		653	−0135	
459	0036		524	−0074		589	0299		654	−0110	
460	0056		525	−0154	21·0	590	0244		655	−0039	
461	0100		526	−0203		591	0192		656	0008	
462	0143		527	−0204		592	0145		657	0019	
463	0178		528	−0167		593	0095		658	−0033	
464	0193		529	−0119		594	0090		659	−0102	
465	0178		530	−0077		595	0111		660	−0194	
466	0136		531	−0068		596	0151		661	−0264	
467	0087		532	−0094		597	0186		662	−0292	
468	0050		533	−0168		598	0185		663	−0261	
469	0041		534	−0254		599	0165		664	−0210	
470	0067		535	−0337		600	0120	24·0	665	−0147	
471	0117		536	−0383		601	0057		666	−0092	
472	0165		537	−0400		602	0008		667	−0089	
473	0188		538	−0391		603	−0022		668	−0138	
474	0178		539	−0365		604	−0044		669	−0248	
475	0171	19·0	540	−0346		605	−0062		670	−0360	
476	0154		541	−0342		606	−0070		671	−0455	
477	0141		542	−0372		607	−0061		672	−0497	
478	0137		543	−0398		608	−0057		673	−0473	
479	0146		544	−0431		609	−0044		674	−0393	
480	0177		545	−0464		610	−0040		675	−0294	27·0
481	0231		546	−0459		611	−0037		676	−0230	
482	0282		547	−0425		612	−0028		677	−0214	
483	0314		548	−0354		613	−0017		678	−0241	
484	0287		549	−0259		614	−0006		679	−0294	
485	0222		550	−0187	22·0	615	0011		680	−0343	
486	0138		551	−0174		616	0032		681	−0375	
487	0050		552	−0182		617	0045		682	−0379	
488	−0003		553	−0211		618	0050		683	−0349	
489	0001		554	−0241		619	0039		684	−0276	
490	0041		555	−0228		620	0036		685	−0202	
491	0095		556	−0192		621	0027		686	−0136	
492	0124		557	−0131		622	0025		687	−0099	
493	0112		558	−0066		623	0006		688	−0101	
494	0060		559	−0050		624	0000		689	−0139	
495	−0022		560	−0065		625	−0012	25·0	690	−0196	
496	−0112		561	−0117		626	−0040		691	−0246	
497	−0161		562	−0164		627	−0047		692	−0256	
498	−0153		563	−0191		628	−0058		693	−0234	
499	−0087		564	−0165		629	−0070		694	−0156	
500	0030	20·0	565	−0109		630	−0076		695	−0078	
501	0127		566	−0025		631	−0098		696	0015	
502	0197		567	0081		632	−0103		697	0083	
503	0203		568	0163		633	−0127		698	0118	
504	0147		569	0191		634	−0158		699	0080	
505	0060		570	0164		635	−0158		700	0000	28·0

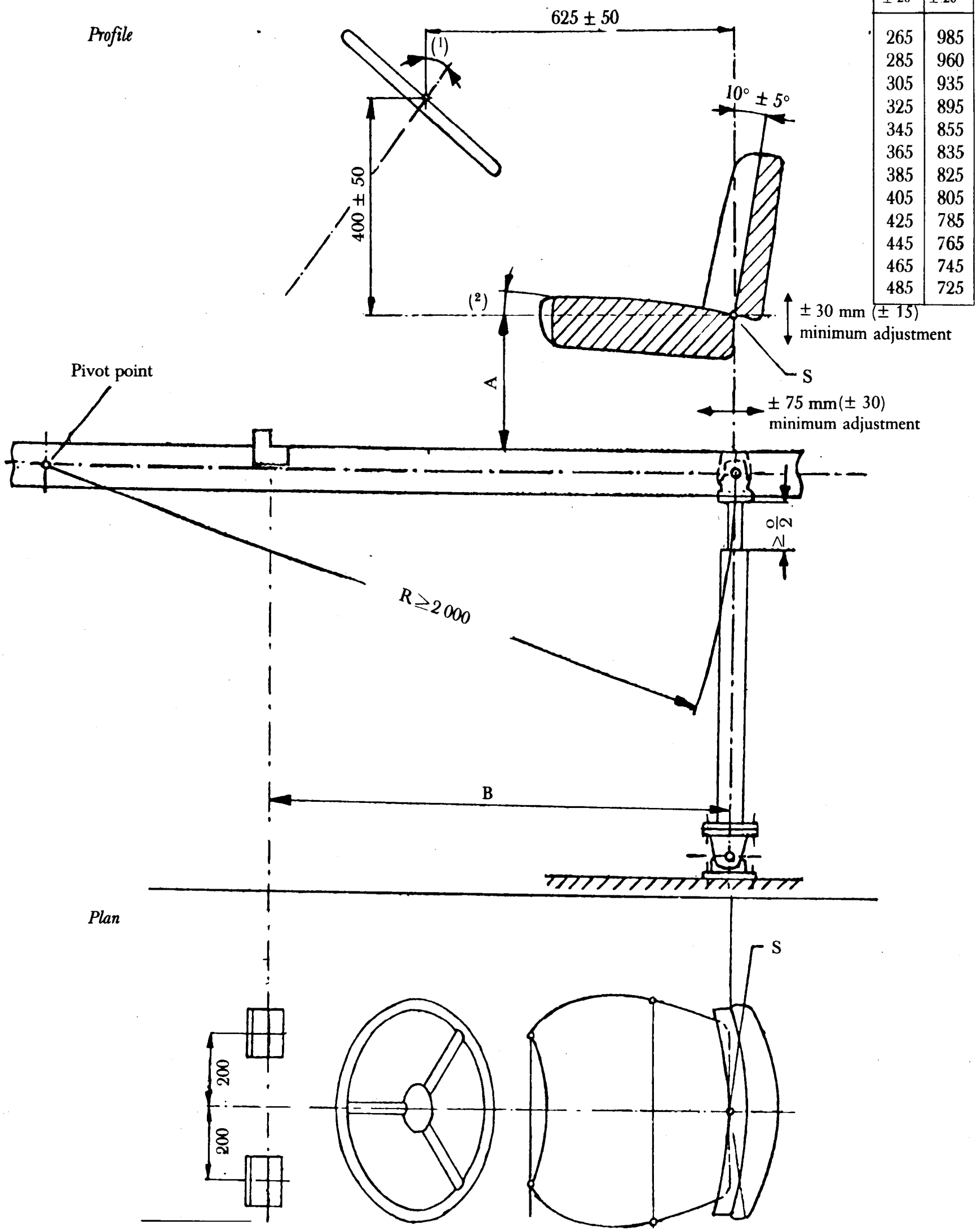
Appendix 6

Test stand (2.5.3.1)

(Dimensions in millimetres)

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

Profile

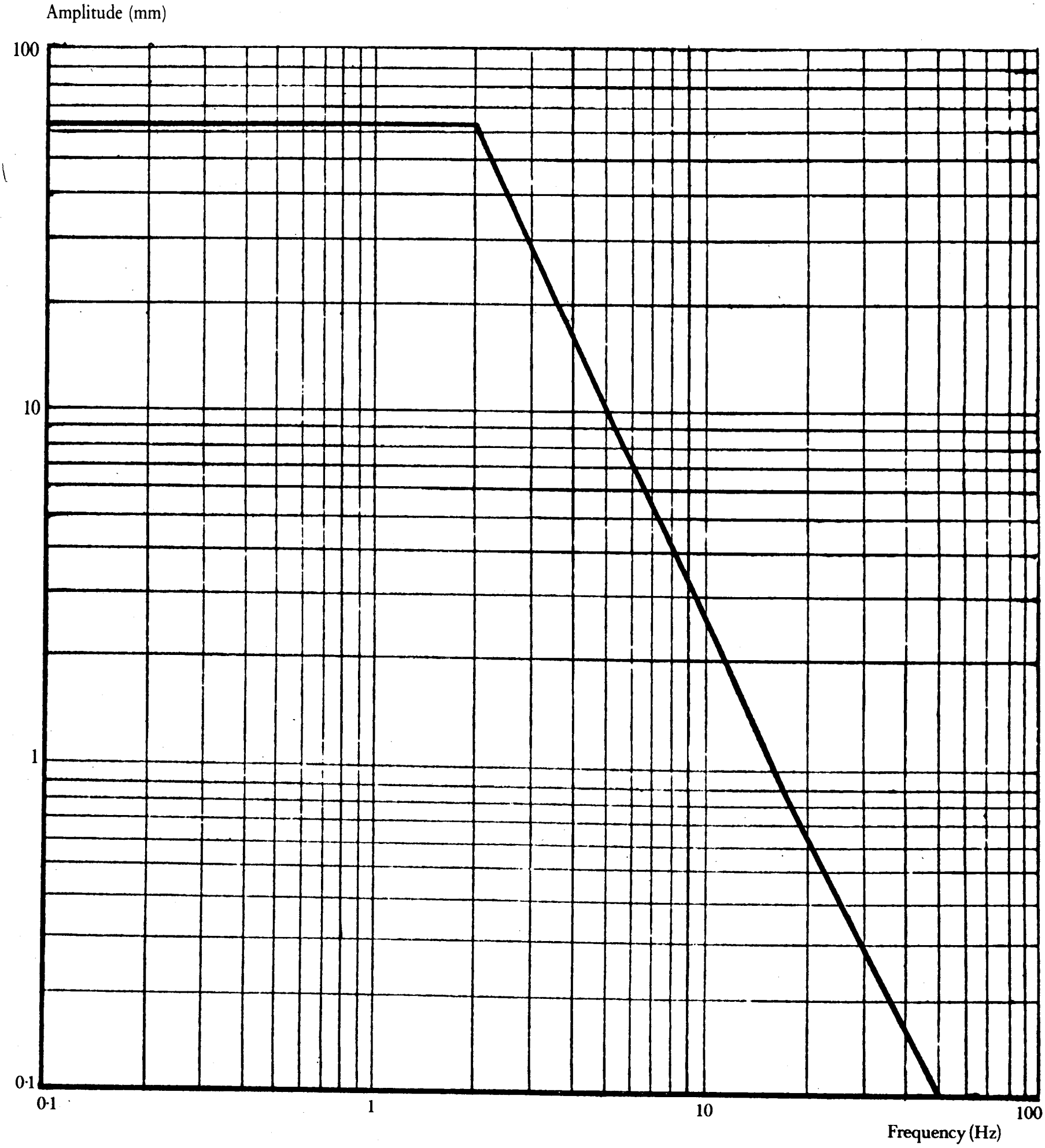


(1) The angle of the steering column in relation to the vertical depends on the position of the seat, the diameter of the steering wheel.

(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.

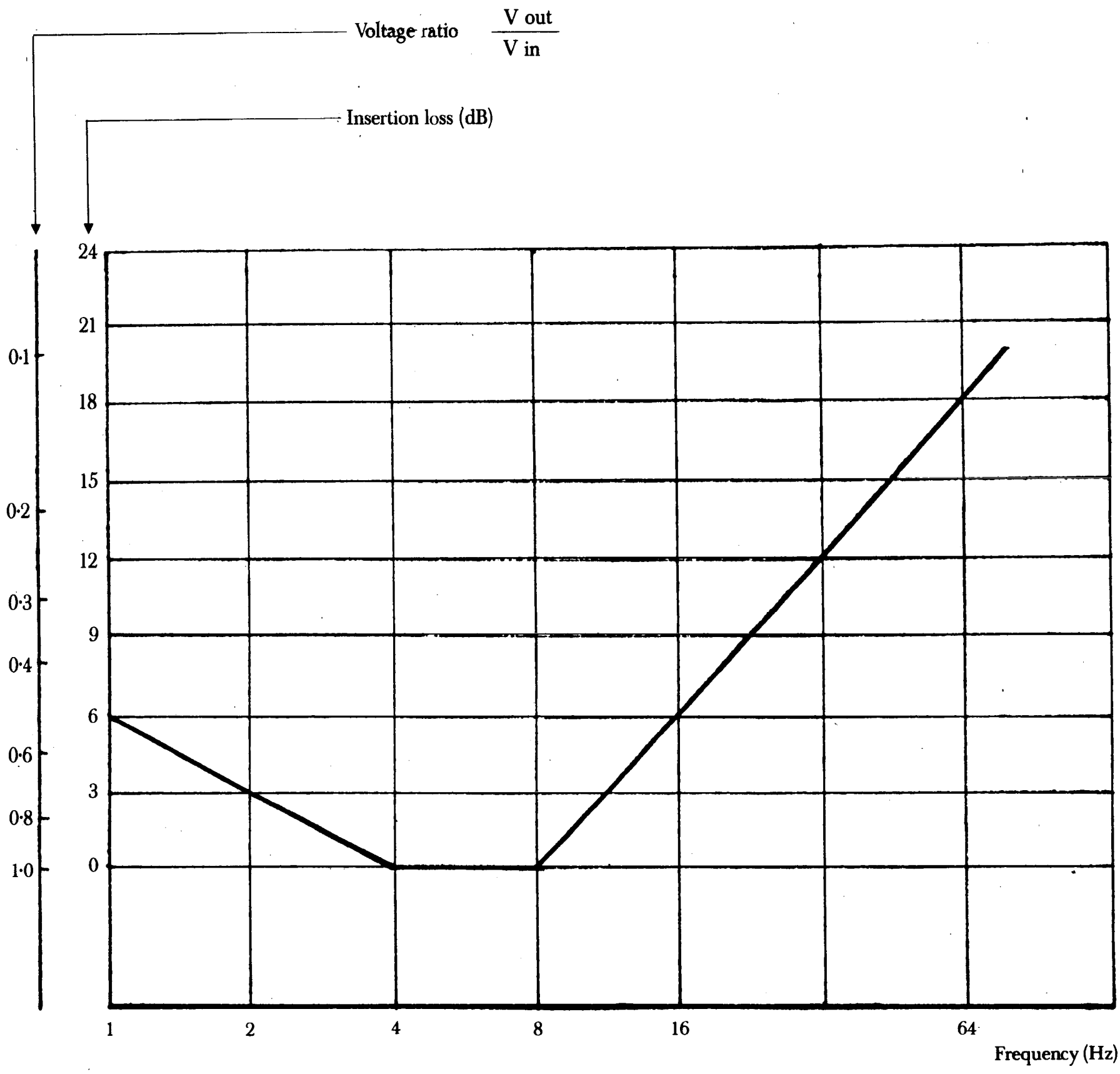
Appendix 7

Travel of the vibration test stand (2.5.3.1)



Appendix 8

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



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:

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

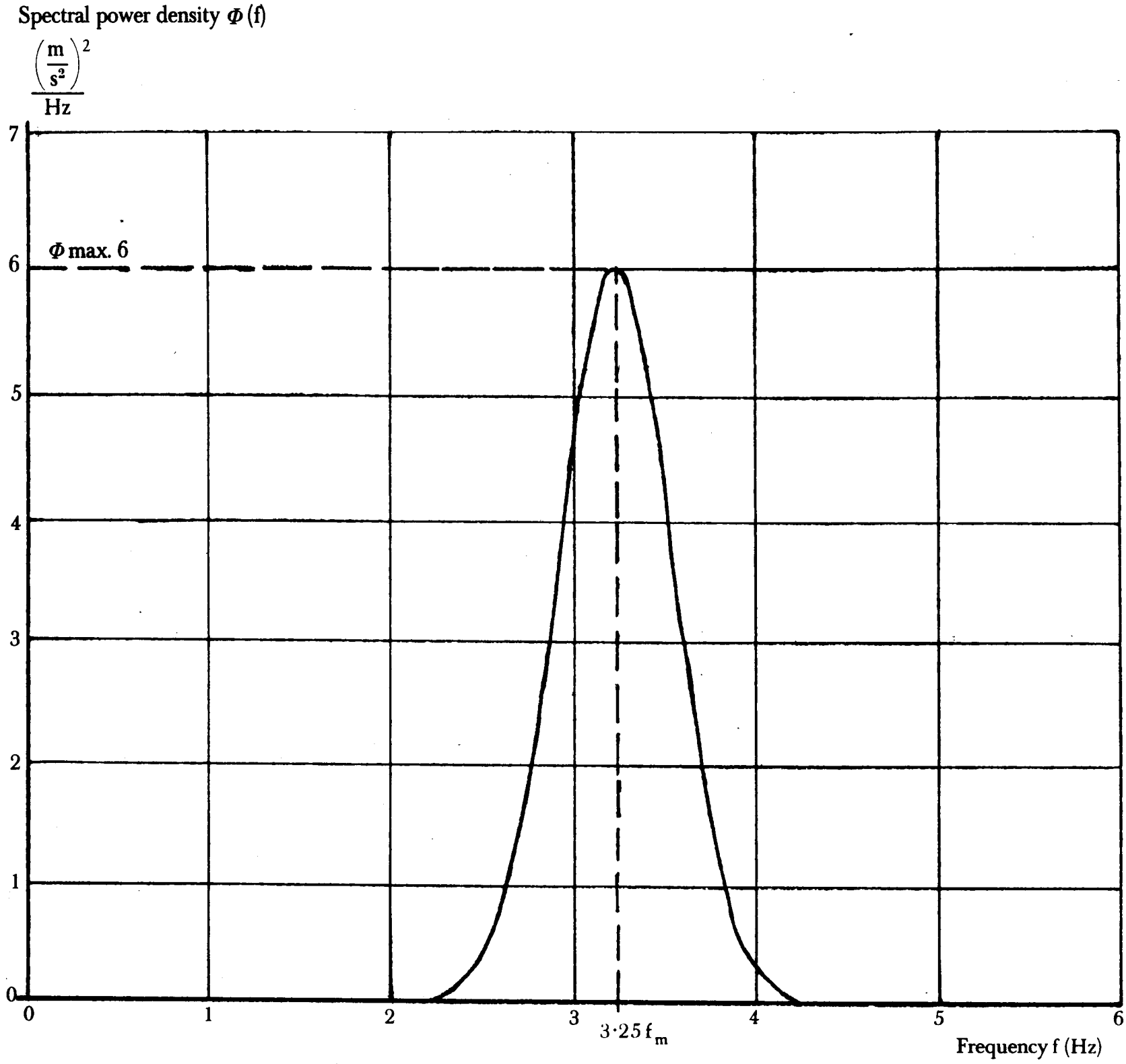
$$f_m = \pm \ 5 \ \%$$

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:

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

Spectral power density $\Phi(f)$

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



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:

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

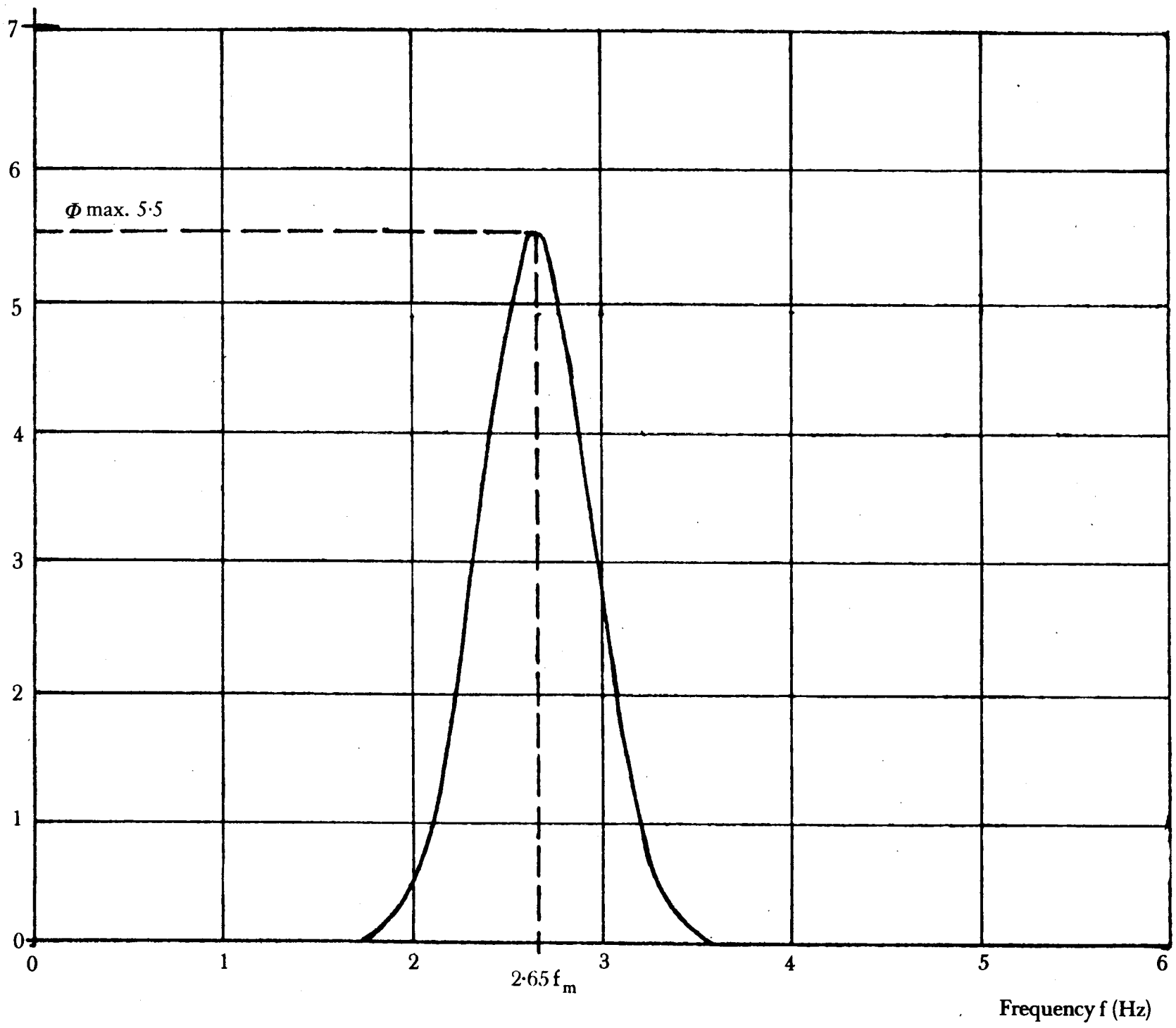
$$f_m = \pm 5\ \%$$

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:

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

Spectral power density $\Phi(f)$

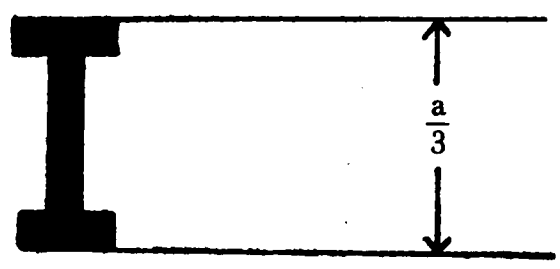
Approximate function for the spectral power density of the vertical vibration acceleration at the seat attachment of the Class II reference tractor

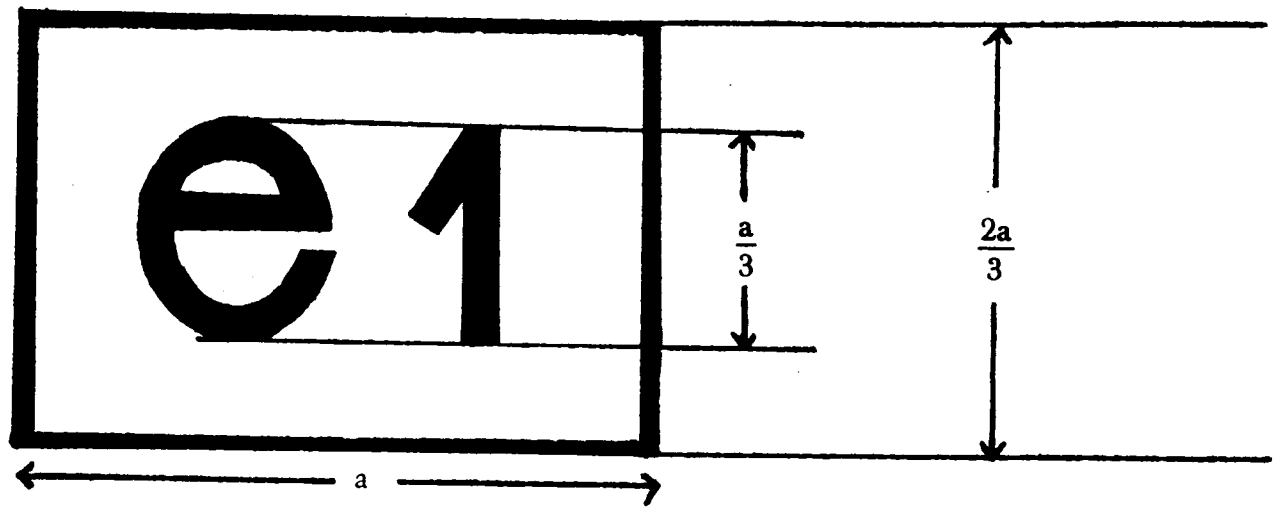


Appendix 11

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

$a \geq 15$ mm





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.

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.

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.

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.