
Changes to legislation: There are currently no known outstanding effects for the Council Regulation (EEC) No 3821/85, Division III.. (See end of Document for details)

Council Regulation (EEC) No 3821/85 of 20 December
1985 on recording equipment in road transport

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ANNEX I

REQUIREMENTS FOR CONSTRUCTION, TESTING, INSTALLATION AND INSPECTION

III. CONSTRUCTION REQUIREMENTS FOR RECORDING EQUIPMENT

(a) General points

1. *Recording equipment shall include the following:*
 - 1.1. Visual instruments showing:
 - distance travelled (distance recorder),
 - speed (speedometer),
 - time (clock).
 - 1.2. Recording instruments comprising:
 - a recorder of the distance travelled,
 - a speed recorder,
 - one or more time recorders satisfying the requirements laid down in Chapter III (c) 4.
 - [^{F1}1.3. A means of marking showing on the record sheet individually:
 - each opening of the case containing that sheet,
 - for electronic recording equipment, as defined in point 7 of Chapter II, any interruption exceeding 100 milliseconds in the power supply of the recording equipment (except lighting), not later than at switching-on the power supply again,
 - for electronic recording equipment, as defined in point 7 of Chapter II, any interruption exceeding 100 milliseconds in the power supply of the distance and speed sensor and any interruption in the signal lead to the distance and speed sensor.]

Textual Amendments

- F1** Substituted by [Commission Regulation \(EEC\) No 3314/90 of 16 November 1990 Commission Regulation adapting to technical progress Council Regulation \(EEC\) No 3821/85 on recording equipment in road transport.](#)

2. Any inclusion in the equipment of devices additional to those listed above must not interfere with the proper operation of the mandatory devices or with the reading of them.

The equipment must be submitted for approval complete with any such additional devices.

3. Materials

- 3.1. All the constituent parts of the recording equipment must be made of materials with sufficient stability and mechanical strength and stable electrical and magnetic characteristics.
- 3.2. Any modification in a constituent part of the equipment or in the nature of the materials used for its manufacture must, before being applied in manufacture, be submitted for approval to the authority which granted type-approval for the equipment.

4. Measurement of distance travelled

The distances travelled may be measured and recorded either:

- so as to include both forward and reverse movement, or
- so as to include only forward movement.

Any recording of reversing movements must on no account affect the clarity and accuracy of the other recordings.

5. Measurement of speed

- 5.1. The range of speed measurement shall be as stated in the type approval certificate.
- 5.2. The natural frequency and the damping of the measuring device must be such that the instruments showing and recording the speed can, within the range of measurement, follow acceleration changes of up to 2 m/s^2 , within the limits of accepted tolerances.

6. Measurement of time (clock)

- 6.1. The control of the mechanism for resetting the clock must be located inside a case containing the record sheet; each opening of that case must be automatically recorded on the record sheet.
- 6.2. If the forward movement mechanism of the record sheet is controlled by the clock, the period during which the latter will run correctly after being fully wound must be greater by at least 10 % than the recording period corresponding to the maximum sheet-load of the equipment.

7. Lighting and Protection

- 7.1. The visual instruments of the equipment must be provided with adequate non-dazzling lighting.
- 7.2. For normal conditions of use, all the internal parts of the equipment must be protected against damp and dust. In addition they must be made proof against tampering by means of casings capable of being sealed.

(b) Visual instruments

1. Distance travelled indicator (distance recorder)

- 1.1. The value of the smallest grading on the instrument showing distance travelled must be 0,1 kilometres. Figures showing hectometres must be clearly distinguishable from those showing whole kilometres.
- 1.2. The figures on the distance recorder must be clearly legible and must have an apparent height of at least 4 mm.
- 1.3. The distance recorder must be capable of reading up to at least 99 999,9 kilometres.

2. Speed indicators (speedometer)

- 2.1. Within the range of measurement, the speed scale must be uniformly graduated by 1, 2, 5 or 10 kilometres per hour. The value of a speed graduation (space between two successive marks) must not exceed 10 % of the maximum speed shown on the scale.
- 2.2. The range indicated beyond that measured need not be marked by figures.
- 2.3. The length of each space on the scale representing a speed difference of 10 kilometres per hour must not be less than 10 millimetres.

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2.4. On an indicator with a needle, the distance between the needle and the instrument face must not exceed three millimetres.

3. Time indicator (clock)

The time indicator must be visible from outside the equipment and give a clear, plain and unambiguous reading.

(c) Recording instruments

1. General points

1.1. All equipment, whatever the form of the record sheet (strip or disc) must be provided with a mark enabling the record sheet to be inserted correctly, in such a way as to ensure that the time shown by the clock and the time-marking on the sheet correspond.

1.2. The mechanism moving the record sheet must be such as to ensure that the latter moves without play and can be freely inserted and removed.

1.3. For record sheets in disc form, the forward movement device must be controlled by the clock mechanism. In this case, the rotating movement of the sheet must be continuous and uniform, with a minimum speed of seven millimetres per hour measured at the inner border of the ring marking the edge of the speed recording area.

In equipment of the strip type, where the forward movement device of the sheets is controlled by the clock mechanism the speed of rectilinear forward movement must be at least 10 millimetres per hour.

1.4. Recording of the distance travelled, of the speed of the vehicle and of any opening of the case containing the record sheet or sheets must be automatic.

2. Recording distance travelled

2.1. Every kilometre of distance travelled must be represented on the record by a variation of at least one millimetre on the corresponding coordinate.

2.2. Even at speeds reaching the upper limit of the range of measurement, the record of distances must still be clearly legible.

3. Recording speed

3.1. Whatever the form of the record sheet, the speed recording stylus must normally move in a straight line and at right angles to the direction of travel of the record sheet.

However, the movement of the stylus may be curvilinear, provided the following conditions are satisfied:

- the trace drawn by the stylus must be perpendicular to the average circumference (in the case of sheets in disc form) or to the axis (in the case of sheets in strip form) of the area reserved for speed recording,
- the ratio between the radius of curvature of the trace drawn by the stylus and the width of the area reserved for speed recording must be not less than 2,4 to 1 whatever the form of the record sheet,
- the markings on the time-scale must cross the recording area in a curve of the same radius as the trace drawn by the stylus. The spaces between the markings on the time-scale must represent a period not exceeding one hour.

3.2. Each variation in speed of 10 kilometres per hour must be represented on the record by a variation of at least 1,5 millimetres on the corresponding coordinate.

4. Recording time

[^{F1}4.1. Recording equipment must be so constructed that the period of driving time is always recorded automatically and that it is possible, through the operation where necessary of a switch device to record separately the other periods of time as indicated in Article 15 (3), second indent (b), (c) and (d) of the Regulation.]

4.2. It must be possible, from the characteristics of the traces, their relative positions and if necessary the signs laid down in Article 15 of the Regulation to distinguish clearly between the various periods of time.

The various periods of time should be differentiated from one another on the record by differences in the thickness of the relevant traces, or by any other system of at least equal effectiveness from the point of view of legibility and ease of interpretation of the record.

4.3. In the case of vehicles with a crew consisting of more than one driver, the recordings provided for in point 4.1 must be made on two separate sheets, each sheet being allocated to one driver. In this case, the forward movement of the separate sheets must be effected either by a single mechanism or by separate synchronized mechanisms.

(d) Closing device

1. The case containing the record sheet or sheets and the control of the mechanism for resetting the clock must be provided with a lock.

2. Each opening of the case containing the record sheet or sheets and the control of the mechanism for resetting the clock must be automatically recorded on the sheet or sheets.

(e) Markings

1. The following markings must appear on the instrument face of the equipment:
— close to the figure shown by the distance recorder, the unit of measurement of distance, indicated by the abbreviation 'km',
— near the speed scale, the marking 'km/h',
— the measurement range of the speedometer in the form 'V_{min} ... km/h, V_{max} ... km/h', This marking is not necessary if it is shown on the descriptive plaque of the equipment.

However, these requirements shall not apply to recording equipment approved before 10 August 1970.

2. The descriptive plaque must be built into the equipment and must show the following markings, which must be visible on the equipment when installed:

— name and address of the manufacturer of the equipment,
— manufacturer's number and year of construction,
— approval mark for the equipment type,
— the constant of the equipment in the form 'k = ... rev/km' or 'k = ... imp/km',
— optionally, the range of speed measurement, in the form indicated in point 1,
— should the sensitivity of the instrument to the angle of inclination be capable of affecting the readings given by the equipment beyond the permitted tolerances, the permissible angle expressed as:

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where α is the angle measured from the horizontal position of the front face (fitted the right way up) of the equipment for which the instrument is calibrated, while β and γ represent respectively the maximum permissible upward and downward deviations from the angle of calibration α .

- (f) Maximum tolerances (visual and recording instruments)
1. On the test bench before installation:
 - (a) distance travelled:

1 % more or less than the real distance, where that distance is at least one kilometre;
 - (b) speed:

3 km/h more or less than the real speed;
 - (c) time:

\pm two minutes per day with a maximum of 10 minutes per seven days in cases where the running period of the clock after rewinding is not less than that period.
 2. On installation:
 - (a) distance travelled:

2 % more or less than the real distance, where that distance is at least one kilometre;
 - (b) speed:

4 km/h more or less than the real speed;
 - (c) time:

\pm two minutes per day, or
 \pm 10 minutes per seven days.
 3. In use:
 - (a) distance travelled:

4 % more or less than the real distance, where that distance is at least one kilometre;
 - (b) speed:

6 km/h more or less than the real speed;
 - (c) time:

\pm two minutes per day, or
 \pm 10 minutes per seven days.
 4. The maximum tolerances set out in points 1, 2 and 3 are valid for temperatures between 0° and 40 °C, temperatures being taken in close proximity to the equipment.
 5. Measurement of the maximum tolerances set out in points 2 and 3 shall take place under the conditions laid down in Chapter VI.

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