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# COMMISSION OF THE EUROPEAN COMMUNITIES

COM(75) 333 final

Brussels, 3 July 1975

## PROPOSAL FOR A COUNCIL DIRECTIVE

on the approximation of the laws of the Member States  
relating to

**T A X I M E T E R S**

(forwarded by the Commission to the Council)

COM(75) 333 final

## EXPLANATORY MEMORANDUM

### I. GENERAL

This Directive results from the application of Article 100 of the Treaty in connection with the Council Directive of 26 July 1971 on the approximation of the laws of the Member States relating to common provisions for both measuring instruments and methods of metrological control (1).

It is aimed at removing technical barriers to trade within the Community which exist at present in the Taximeter sector as a result of divergences in the national laws governing these instruments in the Member States.

A comparative examination of the rules applying to Taximeters showed that the differences are not restricted solely to the technical requirements applying to construction, materials, indicator devices and markings, but extend also to accuracy and the methods of metrological control to which these instruments are subjected before they are placed on the market and employed.

A similar situation is reflected at the trading level in the mandatory requirement for manufacturers to vary their production in order to take account of the regulations in force in the Member State where these instruments are intended to be used and to undergo repeated checks along various lines.

Since the present national laws are justified by the legitimate desire to protect consumers, harmonization of these laws appears the only means likely to remove the drawbacks arising from their diversity and to create the conditions necessary for establishing the common market.

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(1) OJ No L 202 of 6 September 1971.

The Council and the Commission have long regarded it as essential to undertake harmonization in this sector, and as already contemplated in the "General Programme aimed at removing technical barriers to trade" adopted on 28 May 1969\* and in the "Resolution on Industrial Policy" which it adopted on 17 December 1973\*\*, the Council has invited the Commission to forward to it a proposal for a Directive on Taximeters before 1 January 1976, with a view to its adoption by the Council before 1 January 1977. The text in question is appended.

The Community used the Recommendation recently adopted by the International Organization of Legal Metrology as the basis for this Directive, thus ensuring that the requirements featuring in it are based on a consensus gained over a much wider field than that of the Community alone.

The legally operative part appears in a straightforward form as is customary for Directives on Measuring Instruments.

Article 1 defines the scope of the Directive.

Article 2 lays down which Taximeters may be granted EEC marks and symbols and the conditions under which they shall be submitted to pattern approval and initial verification.

In view of the wide variety of tariff regulations in force in the Member States and also the fact that final adjustment of the Taximeter can only take place after it has been installed once and for all on the vehicle of which it forms an integral part, it was not possible to carry out all the operations corresponding to the EEC initial verification at the point of manufacture. Provision is thus made for initial verification to be carried out in two stages. At the end of the first stage, which consists of checking the proper functioning and metrological characteristics of the Taximeter, that meter shall receive the EEC partial initial verification mark provided for in the Council Directive of 26 July 1971 on the approximation of the laws of the Member States relating to common provisions for both measuring instruments and methods of metrological control.

\* OJ No C 76 of 17 June 1969

\*\* OJ No C 117 of 31 December 1973

As laid down in Article 3, this mark allows Taximeters access to the markets of all the Member States of the Community. The competent authorities of the Member State where such instruments will be used must of necessity check that the installation on the vehicle has been carried out correctly and must perform the final adjustments.

Articles 4 and 5 are common to all Directives. Article 4 contains the wording proposed by the European Parliament for one of the recent proposals.

## II. HARMONIZATION SOLUTION

The harmonization solution adopted can only be of the optional type. It will ensure that Taximeters satisfying this Directive can be freely marketed and used in the Member States in the same way as Instruments which have satisfied the national inspection procedures in each Member State.

This solution, which, incidentally, is adopted for all measuring instruments, was the only method applicable in this sector at present. As long as the substance of non-technical provisions relating, inter alia to the field of use and to the tariff regulations in force remains as divergent between the various Member States as at present, it will be very difficult to envisage total harmonization.

## III. CONSULTATION OF THE PARLIAMENT AND THE ECONOMIC AND SOCIAL COMMITTEE

The opinion of these two institutions is necessary to comply with the provisions of Article 100, paragraph 2. The implementation of the provisions laid down by the Directive requires that some Member States amend their laws.

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PROPOSAL FOR A COUNCIL DIRECTIVE

on the approximation of the laws of the  
Member States relating to taximeters

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,

Having regard to the Opinion of the Economic and Social Committee,

Whereas in the Member States the construction and methods of inspection  
of taximeters are subject to mandatory provisions which differ from one  
Member State to another and consequently hinder trade in such meters;  
whereas it is therefore necessary to approximate these provisions;

Whereas the Council Directive of 26 July 1971 on the approximation of the  
laws of the Member States relating to common provisions for both measuring  
instruments and methods of metrological control (1) has laid down the EEC  
pattern approval and the EEC initial verification procedures; whereas,  
in accordance with that Directive, it is necessary to lay down the  
technical requirements for design and functioning to be fulfilled by  
these meters in order that they may be freely imported, marketed and  
used after they have undergone the prescribed inspections and the pre-  
scribed marks and symbols have been affixed to them;

Whereas the above-mentioned Directive also provides that special direc-  
tives may specify, when the conditions so permit, the date on which each  
Member State is to repeal the national provisions applicable to meters  
similar to those which satisfy Community provisions; and whereas, in  
this specific case, it is not yet permissible to fix this date;

HAS ADOPTED THIS DIRECTIVE :

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(1) OJ No L 202, 6 September 1971.

Article 1

This Directive applies to time-distance meters called "taximeters". Such meters are defined in Section 1.1. of the Annex to this Directive.

Article 2

Those taximeters which may bear EEC marks and symbols are described in the Annex to this Directive.

They shall be the subject of EEC pattern approval and shall be subjected to EEC initial verification under the conditions laid down in Annex II, Section 1.2.2., of the Council Directive of 26 July 1971 on the approximation of the laws of the Member States relating to common provisions for both measuring instruments and methods of metrological control and under the conditions laid down in the Annex to this Directive.

Article 3

No Member State may refuse, prohibit or restrict the placing on the market of taximeters bearing the EEC pattern approval symbol and the EEC partial initial verification mark provided for in Section 3.1.1.2. of the Council Directive of 26 July 1971 .

It shall be the responsibility of the competent authorities to carry out, before the placing into service of these instruments, the operations which complete the EEC initial verification, provided for in point 7.3. of the Annex to this Directive.

Article 4

1. Member States shall put into force the laws, regulations and administrative provisions necessary to comply with this Directive within eighteen months of its notification, and shall forthwith inform the Commission thereof.

2. Member States shall ensure that the texts of the provisions of national law which they adopt in the field covered by this Directive are communicated to the Commission.

Article 5

This Directive is addressed to the Member States.

Done at Brussels,

For the Council

The President

A N N E X

1. Terminology

1.1. Time-distance meters, called "taximeters"

Time distance meters, called taximeters, are instruments which, according to the characteristics of the vehicle in which they are installed and the rates applied at the place of use, calculate automatically and indicate constantly when in use the amounts to be paid by the users of public vehicles designated as taxis as a function of the distance covered and -below a certain speed - of the time for which the vehicle is occupied, exclusive of various surcharges, the levying of which may be authorized by local regulations in force in the Member States.

In this Annex, such instruments are referred to as "taximeters".

1.2. Special terms used in the document

The reading of a taximeter depends - the rate for fares apart - on a constant ,k, of the instrument and on a characteristic coefficient ,w, of the vehicle in which the instrument is installed. This coefficient w is a function of the effective circumference ,u, of the wheels of the vehicle and of the transmission ratio of the number of revolutions of the wheels to the number of revolutions of the part provided on the vehicle to connect it to the taximeter.

1.2.1. Constant ,k, of the taximeter

The constant ,k, of a taximeter is a characteristic quantity that indicates the type and number of signals that the instrument must receive in order to give correctly a reading corresponding to a distance travelled of 1 km.

This constant ,k, is expressed :

- (a) in revolutions per indicated kilometre (rev/km) if the information relating to the distance travelled by the vehicle is fed into the taximeter in the form of a number of revolutions of its main shaft (drive shaft at point of entry to the instrument);
- (b) in pulses per indicated kilometre (pulse/km) if this information is fed in in the form of electric signals.

According to the way in which the instrument is constructed, constant  $k$  may be invariable or variable by fixed amounts.

1.2.2. Characteristic coefficient  $w$ , of the vehicle

The characteristic coefficient of a vehicle is a quantity indicating the type and number of signals intended to drive the taximeter and displayed at the corresponding part provided for this purpose in the vehicle, for 1 kilometre of distance travelled.

This coefficient  $w$  is expressed :

- (a) in revolutions per kilometre travelled (rev/km), or
- (b) in pulses per kilometre travelled (pulse/km), depending on whether the information relating to the distance travelled by the vehicle is in the form of the number of revolutions of the part driving the taximeter or in the form of electric signals.

This coefficient varies as a function of several factors, in particular the wear and pressure of the tyres, the load carried by the vehicle and the conditions in which the journey is made. It must be determined under the standard testing conditions for the vehicle (Section 1.2.6.).

1.2.3. Effective circumference  $u$ , (mm) of the wheels

Effective circumference  $u$ , of the wheel of the vehicle which drives the taximeter directly or indirectly is the distance travelled by the vehicle during one complete revolution of this wheel. When two wheels drive the taximeter jointly, the effective circumference is the mean of the effective circumferences of each of the two wheels, expressed in millimetres.

Effective circumference  $u$ , is correlated with characteristic coefficient  $w$ , of the vehicle (Section 1.2.2.), and consequently this circumference, if it is necessary to know it, must also be determined under the conditions given in Section 1.2.6.

1.2.4. Adapting device

In accordance with the definitions given above for  $k$  (Section 1.2.1.) and for  $w$  (Section 1.2.2.), the values of these quantities must be equal if the taximeter is to record correctly the distances travelled.

A special device enables one of the two values to be adjusted to the other.

### 1.2.5. Errors and dispersion of readings

The dispersions and errors mentioned in Section 5 are instrumental dispersions and errors, i.e. they originate solely from the instruments independently of the vehicles.

The spread (range of dispersion) of the readings is expressed as the greatest difference between the readings from a taximeter which correspond to a given value of the quantity measured.

### 1.2.6. Standard testing conditions for the vehicle (where inspection of taximeters is concerned)

The "standard testing conditions for the vehicle" are fulfilled when :

- (a) The tyres fitted to the wheel or wheels driving the taximeter are of the model which has the same effective circumference value  $u$ , as the wheels that were used to determine characteristic coefficient  $w$ .

They must be in good condition and be inflated to the pressure prescribed by the manufacturer.

- (b) The load carried by the vehicle is 150 kg, which corresponds by convention to the weight of two adults, including the driver.
- (c) The vehicle, propelled by its engine, travels in a straight line on flat, horizontal ground at a speed of 40 km/h.

Where the tests are carried out under different conditions (e.g. at different weights, different speeds, bench tests, etc.), their results will be corrected by the coefficients for conversion needed to convert their value to that which would have been obtained under the "normal test conditions" defined above.

## 2. Authorized units of measurement

The following units of measurement are authorized for the readings avoided or displayed by taximeters :

- the metre or the kilometre, for distance. However, until expiry of the transitional period during which the use of measurement units under the Imperial System, given in Annex II to the Council Directive of 18 October 1971 on units of measurement, is authorized within the Community, distances may be expressed in yards or miles in the United Kingdom or Ireland if those countries so desire;

- the second, the minute, or the hour, for time.

The fare must be expressed in currency which is legal tender in the country where the vehicle is registered.

3. Technical characteristics

3.1. Measuring device and calculating device

3.1.1. The taximeter must be so constructed as to calculate and indicate the fare solely on the basis of :

(a) the distance travelled (distance-based drive) when the vehicle is moving at a speed greater than a given speed (speed at which the drive base changes);

(b) the time (time-based drive) when the vehicle is moving at a speed below this given speed.

The speed at which the drive base changes is that corresponding to the fare rate applied in the case of time-based drive, divided by the rate applied when the taximeter is operating in the distance-based mode.

The above-mentioned speed at which the drive base changes varies as a function of the rates per hour and per kilometre, which may be modified in accordance with Section 3.1.5.

3.1.2. The distance-based drive must be effected by the wheels, but reversing the vehicle must not result in a reduction in the fare or distance indicated.

The time-based drive must be effected by a mechanical or electrical clockwork movement which can be activated only by operating the control switch of the taximeter.

If the mechanical clockwork movement is manually wound, it must function for eight hours at least without having to be rewound, or for two hours if there is a winding system connected with each manual movement leading to activation of the taximeter.

If the mechanical clockwork movement is electrically wound, the process must be automatic.

The electrical clockwork movement must be constantly ready to function.

- 3.1.3. With distance-based drive, the first change in reading must take place after an initial distance, laid down in accordance with the tariff regulations in the various Member States, has been covered. The subsequent changes on the indicator must correspond to equal distance intervals.

With time-based drive, the first change in reading must take place after an initial time lapse laid down in accordance with the national tariff regulations. The subsequent changes on the indicator must correspond to equal time intervals.

Without any change in the drive base, the ratio between the initial distance and the subsequent distances must be the same as that between the initial time lapse and the subsequent time lapses, whatever tariff is used.

- 3.1.4. An adapting device (speed conversion device), must enable constant  $k$  of the taximeter to be adapted to characteristic value  $w$  of the vehicle to which it is fitted. This device must be so constructed that no access to other parts of the taximeter can be gained by opening the housing.

- 3.1.5. The taximeter must be designed in such a way that any modifications to the calculating device which are necessary to comply with rate changes required by the tariff regulations in the various Member States can be easily effected.

When the instrument is equipped to deal with a wider range of rates than is currently in force, the taximeters must, in all the supernumerary positions, calculate and indicate a fare based on one of the rates authorized by the tariff regulations in the various Member States.

### 3.2. Control switch

- 3.2.1. The mechanism of the taximeter must not be capable of functioning until it has been activated by a single control switch turned to one of the following authorized positions :

#### 3.2.2. "FOR HIRE" position

In the "FOR HIRE" position :

- (a) There shall be no indication of a fare to be paid, or this indication shall be equivalent to zero;
- (b) The distance-based drive and the time-based drive must not affect the device indicating the fare to be paid;

- (c) The odometer indicating the total distance travelled (Section 3.3.6(a)), if one has been installed, must remain in operation;
- (d) Any device to indicate possible surcharges (Section 3.4.(a)) must be blank or indicate "zero".

### 3.2.3. Other positions

The control switch must be such that, starting from the "FOR HIRE" position, the taximeter can be switched in succession to the following operating positions :

- (a) various operating positions corresponding to the different fare rates in force in ascending order of magnitude or in another order authorized by the national tariff regulations in the various Member States; in these positions, the time-based drive, the distance-based drive and any surcharge indicator must be switched on.
- (b) a "FARE" position fixing the final amount to be paid by the passenger for the journey, exclusive of any surcharge. In this position, the time-based drive must be disconnected and the distance-based drive must be switched to the rate authorized by the relevant regulations in the Member States.

### 3.2.4. Operation of the control switch is subject to the following restrictions :

- (a) starting from an operating position at any fare rate, the taximeter must not be capable of being returned to the "FOR HIRE" position without passing through the "FARE" position. However, transition from one rate to another must still be possible;
- (b) starting from the "FARE" position, the taximeter must not be capable of being returned to the operating position at any fare rate without passing through the "FOR HIRE" position;
- (c) the taximeter must be so designed that switching from one rate to another by passing through the "FOR HIRE" position is possible only if the conditions laid down for the control switch in respect of this position (Section 3.2.2.) are completely fulfilled when the switch passes through this position;
- (d) it must be impossible to position the control switch such that it remains in positions other than those defined above.

### 3.2.5. Special provisions

Irrespective of the requirements set out above, movement through the series of different positions may also be effected automatically as a function of a given distance travelled or of a time during which the vehicle was occupied, as laid down by the tariff regulations of the various Member States.

### 3.3. Indicator

- 3.3.1. The "dial" or "read-out" of the taximeter must be so constructed that such information as interests the passenger can be easily read by him either by day or by night.
- 3.3.2. The fare to be paid, exclusive of any surcharge, must be ascertainable simply by reading a display comprising a row of figures having a minimum height of 10 mm.

When the control switch is operated to switch the instrument from the "FOR HIRE" position, a fixed amount corresponding to the minimum charge must appear on the indicator.

Thereafter, when the minimum charge has been exceeded, the indication of the fare read-out must register at intervals successive increments of a constant monetary value.

- 3.3.3. The taximeter must be fitted with a device which constantly indicates the selected operating position on the dial in compliance with the national requirements.
- 3.3.4. The taximeter must be so design as to allow a control switch repeater which indicates on the outside of the vehicle the operating position or the rate in use, to be fitted.

The repeater must in no case disturb the correct functioning of the instrument or enable access to be gained to the mechanism or to the drive of the taximeter.

- 3.3.5. If the obligatory indications on the dial are not presented in the form of luminous figures or letters, the taximeter must incorporate a device to illuminate these indications which does not dazzle but is strong enough to enable them to be read easily.

It must be possible to replace the light source without opening the sealed parts of the instrument.

3.3.6. The taximeter must incorporate counters giving a read-out, in rows of figures at least 4 mm high, of :

- (a) the total distance travelled by the vehicle;
- (b) the total distance travelled with passengers;
- (c) the total number of journeys with passengers;
- (d) the number of fare increment transitions registered in accordance with national regulations.

#### 3.4. Optional supplementary devices

A taximeter may be fitted inter alia with such supplementary devices as :

- (a) a surcharge indicator independent of the fare indicator mentioned in Section 3.2.2. which automatically returns to zero in the "FOR HIRE" position;
- (b) recording devices of interest to the vehicle owner from a supervisory point of view;
- (c) card-stamping or tape-printing devices indicating the fares to be paid.
- (d) a control switch repeater which indicates on the outside of the vehicle the operating position or the rate in use.

#### 3.5. Construction

3.5.1. Taximeters must be robust and well built. Their essential components must be made of materials that guarantee adequate robustness and stability.

3.5.2. The housing of the taximeter itself and of any adapter, and the cladding of the drive mechanisms must be so constructed that the essential components of the mechanism cannot be interfered with from outside and are protected against dust and moisture.

Access to the setting mechanisms without damaging the guarantee seals must be made impossible (Section 6).

#### 4. Markings

##### 4.1. General markings

Every taximeter must bear the following markings, easily visible and legible under normal conditions of installation, on the dial or a sealed in plate :

- (a) the manufacturer's name and address or mark;
- (b) the pattern designation of the instrument, its number and year of manufacture;
- (c) the EEC pattern approval mark;
- (d) its constant ,k, expressed in rev/km or pulse/km (Section 1.2.1.).

#### 4.2. Identification and supervision

There must be spaces on every taximeter for the following :

- (a) additional information, where necessary, on the instrument or the vehicle in accordance with the provisions of the national regulations;
- (b) the EEC partial initial verification marks and periodic verification marks, if necessary.

#### 4.3. Special markings

- 4.3.1. The meaning of the values indicated must be displayed clearly, legibly and unambiguously in the vicinity of all indicator read-out faces.
- 4.3.2. The name or symbol of the monetary unit must be displayed next to the indication of the fare or surcharge due.

#### 5. Maximum spread of readings and maximum permissible errors

For the test bench inspection of a time-distance meter which is ready for installation and has been fitted with its accessories, the true value shall be that which corresponds to the k value displayed on the instrument and to the fare rate for which the instrument has been set, this rate being selected, so as not to introduce any systematic error.

- 5.1. With distance-based drive, the spread of readings for any given distance travelled must not exceed :
  - (a) for the initial distance : 2 % of the true value; however, for initial distances of less than 1 000 metres, a spread of 20 metres is acceptable;
  - (b) for subsequent distances : 2 % of the true value.
- 5.2. With time-based drive, the spread of the readings for a given period must not exceed :

- (a) for the initial period : 3 % of the true value; however, for initial periods of less than 10 minutes, a spread of 20 seconds is acceptable;
- (b) for subsequent periods : 3 % of the true value.

5.3. The true value must fall within the spread of readings.

National regulations shall stipulate whether the complete measurement system (taximeter + vehicle) must be adjusted in such a way that the permissible spread of readings is symmetric or asymmetric in relation to the true value, which, for distance-based drive, is that which corresponds to the actual distance travelled by the vehicle.

6. Protective and guarantee seals

6.1. The following taximeter components must be so constructed that they can be sealed with a seal mark :

- (a) the housing in which the internal mechanism of the taximeter is enclosed;
- (b) the housing of the adapter;
- (c) the cladding of the mechanical or electrical devices which link the input of the taximeter with the corresponding attachment provided on the vehicle for the connection of the instrument, including the detachable parts of the adapter;
- (d) when the clockwork mechanisms are electrically wound and the taximeter control switch is electrically driven : the electric connection cable;
- (e) any plates for obligatory markings or for fixing verification marks.

6.2. These seals must be such that all access to the protected components, particularly to the setting components, is impossible without damaging a seal mark.

6.3. The EEC pattern approval shall lay down where the seals shall be placed and, whenever necessary, the nature and form of the sealing devices.

7. Inspection and installation

7.1. The EEC initial verification of a taximeter shall be carried out in several stages.

7.2. First stage : the taximeter shall be accorded the EEC partial initial verification mark when :

- (a) its pattern has received EEC pattern approval;
- (b) the instrument conforms to the approved pattern and, in particular bears the markings required by Section 4.1. of this Annex;
- (c) the true value of constant  $k$  is equal to the value of  $k$  for an instrument which is at least accurate to within 0.2 %;
- (d) the spread of readings for a given value of the quantity being measured complies with the provisions in Sections 5.1. and 5.2. of this Annex.

7.3. Supplementary operations

These shall be the responsibility of the authorities in the country where the taximeter is to be used.

They include

- prior to installation on the vehicle :

(a) regulation of the instrument in such a way that the range of values within which the permitted readings fall shall be set in relation to the "true value" indicated by the instrument in compliance with the national regulations (Section 5.3. of this Annex);

(b) regulation and inspection of the fare rates in compliance with the regulations in force.

- after installation on the vehicle :

inspection of the measuring assembly thus constructed.