COMMISSION DIRECTIVE

of 13 April 1981

adapting to technical progress Council Directive 70/157/EEC on the approximation of the laws of the Member States relating to the permissible sound level and the exhaust system of motor vehicles

(81/334/EEC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES

Having regard to the Treaty establishing the European Economic Community,

Having regard to Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers [1], as last amended by Directive 80/1267/EEC [2], and in particular Article 13 thereof,

Having regard to Council Directive 70/157/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the permissible sound level and the exhaust system of motor vehicles [3], as last amended by Directive 77/212/EEC [4], and in particular Article 3 thereof,

Whereas, as a result of experience gained in this field, and bearing in mind the present state of the art, it is now possible to amend the requirements relating to the method of measuring the noise of moving and stationary vehicles in order to bring them more into line with real operating conditions;

Whereas the provisions of Article 3 of Directive 70/157/EEC exclude the modification of the limit values from the procedure of adaptation to technical progress; whereas it is appropriate to insert, for information, in this Directive the limit values such as they appear in Directive 77/212/EEC; whereas, however, it is planned to lower those values, in due time, in conformity with the procedure provided for this matter;

Whereas both exhaust systems and certain components thereof are marketed separately as spare parts; whereas, in so far as they can also be checked before being fitted to a vehicle, their free movement could be facilitated by the establishment of an EEC type-approval procedure in respect of these separate systems considered as separate technical units within the meaning of Article 9a inserted into Directive 70/156/EEC by Directive 78/315/EEC [5];

Whereas the provisions of this Directive are in accordance with the opinion of the Committee on the Adaptation to Technical Progress of the Directives aimed at the Removal of Technical Barriers to Trade in the Motor Vehicles Sector,

HAS ADOPTED THIS DIRECTIVE:

Article 1

Directive 70/157/EEC is hereby amended as follows:

1. Article 2 shall be replaced by the following:

'*Article 2*

No Member State may, on grounds relating to the permissible sound level and the exhaust system, refuse to grant EEC or national type-approval in respect of a type of motor vehicle or type of exhaust system or component of such a system regarded as a separate technical unit,

— if the vehicle satisfies the requirements of Annex I as regards the sound level and exhaust system,

— if the exhaust system or any component thereof, considered as a separate technical unit within the meaning of Article 9a of Directive 70/156/EEC satisfies the requirements of Annex II.'

2. Article 2a shall be replaced by the following:

'*Article 2a*

1. No Member State may, on grounds relating to the permissible sound level and the exhaust system,

(1) OJ No L 42, 23. 2. 1970, p. 1.
(1) OJ No L 375, 31. 12. 1980, p. 34.
(3) OJ No L 42, 23. 2. 1970, p. 16.
(4) OJ No L 66, 12. 3. 1977, p. 33.
(5) OJ No L 81, 28. 3. 1978, p. 1.

refuse or prohibit the sale, registration, entry into service or use of any vehicle in which the sound level and the exhaust system satisfy the requirements of Annex I.

2. No Member State may, on grounds relating to the permissible sound level and the exhaust system, prohibit the placing on the market of an exhaust system or any component thereof considered as a separate technical unit within the meaning of Article 9a of Directive 70/156/EEC if, within the meaning of Article 2, it is of a type in respect of which a type-approval has been granted.'

3. In Article 3, 'items I.1 and I.4.1.4' shall be replaced by 'items 5.2.2.1 and 5.2.2.5 of Annex I'.

4. The Annex shall be replaced by Annexes I, II, III and IV to this Directive.

Article 2

1. With effect from 1 January 1982, no Member State may, on grounds relating to the permissible sound level and the exhaust system:

— refuse to grant EEC type-approval, to issue the document referred to in the last indent of Article 10 (1) of Directive 70/156/EEC or to grant national type-approval, in respect of a type of motor vehicle, or

— prohibit the entry into service of vehicles,

if the sound level and the exhaust system of this type of vehicle, or the vehicles concerned, comply with the provisions of Directive 70/157/EEC, as amended by the present Directive.

2. With effect from 1 October 1984, a Member State:

— shall no longer issue the document referred to in the last indent of Article 10 (1) of Directive 70/156/EEC in respect of a type of motor vehicle in which the sound level and exhaust system do not comply with the provisions of Directive 70/157/EEC, as amended by the present Directive,

— may refuse to grant national type-approval in respect of a type of motor vehicle in which the sound level and exhaust system do not comply with the provisions of Directive 70/157/EEC, as amended by the present Directive.

3. With effect from 1 October 1985, Member States may prohibit the entry into service of vehicles in which the sound level and exhaust system do not comply with the provisions of Directive 70/157/EEC, as amended by the present Directive.

Article 3

By 1 January 1982, Member States shall apply the provisions necessary to comply with this Directive. They shall forthwith inform the Commission thereof.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, 13 April 1981.

For the Commission

Karl-Heinz NARJES

Member of the Commission

ANNEX I

EEC TYPE-APPROVAL IN RESPECT OF THE SOUND LEVEL OF A TYPE OF MOTOR VEHICLES

1. DEFINITIONS

1.1. **Type of vehicle for the purposes of EEC type-approval as regards its sound level**

For the purposes of this Directive, 'type of vehicle' means vehicles which do not differ essentially as regards the following parts:

1.1.1. the shape or materials of the bodywork (particularly the engine compartment and its soundproofing);

1.1.2. the length and width of the vehicle;

1.1.3. the type of engine (two- or four-stroke, reciprocating or rotary piston, number and capacity of cylinders, number and type of carburettors or injection systems, arrangement of valves, rated maximum power and corresponding engine speed (S));

1.1.4. the transmission system, particularly the number of gears and their ratios;

1.1.5. the number, type and arrangement of the exhaust systems;

1.1.6. the number, type and arrangement of the intake systems.

1.2. **Exhaust and intake systems**

1.2.1. 'Exhaust system' means a complete set of parts necessary to reduce the noise produced by the vehicle's engine exhaust.

1.2.2. 'Intake system' means a complete set of parts necessary to reduce the noise produced by the vehicle's engine intake.

1.2.3. For the purposes of this Directive, these systems do not include the manifolds.

1.3. **Different types of exhaust or intake system**

'Different types of exhaust or intake system' means systems characterized by fundamental differences, such as the following:

1.3.1. systems bearing different trade marks or trade names;

1.3.2. systems in which the characteristics of the materials of a component differ, or in which the components are of different shape or size; a change in the plating procedure (galvanization, aluminium coating, etc.) is not deemed to produce a difference of type;

1.3.3. systems in which the operating principles of at least one component differ;

1.3.4. systems in which the components are combined differently.

1.4. **Component of an exhaust or intake system**

'Component of an exhaust or intake system' means one of the separate components which together form the exhaust system (e.g. exhaust pipes, the silencer proper) or the intake system (e.g. air filter).

2. APPLICATION FOR EEC TYPE-APPROVAL

2.1. The application for EEC type-approval in respect of the sound level of a type of motor vehicle must be submitted by the manufacturer of the vehicle or his authorized representative.

2.2. It must be accompanied by the undermentioned documents in triplicate and the following information:

2.2.1. a description of the type of vehicle with reference to the points mentioned in item 1.1 above. The numbers and/or symbols identifying the engine type and vehicle type must be indicated;

2.2.2. a list, with appropriate identification, of the component parts of the exhaust and intake systems;

2.2.3. a drawing of the entire exhaust system with an indication of its position on the vehicle;

2.2.4. a detailed drawing of each component so that it can be easily located and identified, and an indication of the materials used.

2.3. A vehicle representative of the type in respect of which type-approval is sought must be submitted to the technical service responsible for the tests by the vehicle manufacturer or his authorized representative.

2.4. At the request of the technical service, a specimen of the exhaust system and an engine of at least the same cylinder capacity and rated maximum power as that fitted to the vehicle in respect of which type-approval is sought must also be submitted.

3. MARKINGS

3.1. The exhaust and intake system components, excluding fixing hardware and pipes, must bear:

3.1.1. the trade mark or name of the manufacturer of the systems and their components;

3.1.2. the manufacturer's trade description.

3.2. These markings must be clearly legible and indelible.

4. EEC TYPE-APPROVAL

4.1. If an application within the meaning of item 2.1 is approved, the competent authority will draw up a certificate, corresponding to the type which appears in Annex III, to be attached to the EEC vehicle type-approval certificate.

5. SPECIFICATIONS

5.1. **General specifications**

5.1.1. The vehicle, its engine and exhaust and intake systems must be designed, constructed and mounted such that, under normal conditions of use and notwithstanding the vibrations to which they may be subject, the vehicle satisfies the requirements of this Directive.

5.1.2. The systems must be designed, constructed and mounted so that reasonable resistance to the corrosion phenomena to which they are exposed is obtained having regard to the conditions of use of the vehicle.

5.2. **Specifications relating to sound levels**

5.2.1. *Method of measurement*

5.2.1.1. The sound emitted by the type of vehicle submitted for EEC type-approval must be measured in accordance with each of the two methods described in item 5.2.2.4 in the case of moving vehicles and item 5.2.3.4 in the case of stationary vehicles, respectively (1).

5.2.1.2. The two values measured as specified in item 5.2.1.1, above, must be recorded in the test report and in a certificate corresponding to the model shown in Annex III.

5.2.2. *Sound level of moving vehicles*

5.2.2.1. Limiting values

The sound level measured in accordance with items 5.2.2.2 to 5.2.2.5, inclusive, of this Annex shall not exceed the following limits:

	Vehicle categories	Values expressed in dB(A) (decibels (A))
5.2.2.1.1.	Vehicles intended for the carriage of passengers, and comprising not more than nine seats including the driver's seat	80
5.2.2.1.2.	Vehicles intended for the carriage of passengers, comprising more than nine seats including the driver's seat and having a maximum permissible mass not exceeding 3·5 tonnes	81
5.2.2.1.3.	Vehicles intended for the carriage of goods, and having a maximum permissible mass not exceeding 3·5 tonnes	81
5.2.2.1.4.	Vehicles intended for the carriage of passengers, comprising more than nine seats including the driver's seat and having a maximum permissible mass exceeding 3·5 tonnes	82
5.2.2.1.5.	Vehicles intended for the carriage of goods and having a maximum permissible mass exceeding 3·5 tonnes	86
5.2.2.1.6.	Vehicles intended for the carriage of passengers, comprising more than nine seats including the driver's seat and having an engine power equal to or exceeding 147 kW	85
5.2.2.1.7.	Vehicles intended for the carriage of goods, having an engine power equal to or exceeding 147 kW and a maximum permissible mass exceeding 12 tonnes	88

5.2.2.2. Measuring instruments

5.2.2.2.1. Acoustic measurements

The apparatus used for measuring the noise level must be a precision sound-level meter of the type described in Publication 179 'Precision sound level meters', second edition, of the International Electrotechnical Commission (IEC). Measurements must be carried out using the 'fast' response of the sound-level meter and the 'A' weighting curve which are also described in that publication.

At the beginning and end of each set of measurements, the sound-level meter must be calibrated according to the manufacturer's instructions by means of an appropriate sound source (e.g. a pistonphone). The test must be considered invalid if the sound-level meter errors registered during this calibration exceed 1 dB.

(1) A stationary vehicle test is conducted in order to establish a reference value for the authorities which employ this method for the inspection of vehicles in service.