II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 16 June 1983

amending Council Directive 70/220/EEC on the approximation of the laws of the Member States relating to measures to be taken against air pollution by gases from positive-ignition engines of motor vehicles

(83/351/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 (1),

Having regard to the opinion of the European Parliament (2),

Having regard to the opinion of the Economic and Social Committee (3),

Whereas the first programme of action of the European Community on the protection of the environment, approved by the Council on 22 November 1973, called for account to be taken of the latest scientific advances in combating atmospheric pollution caused by gases emitted from motor vehicles, and amended the Directives already adopted to that end;

Whereas Directive 70/220/EEC (4) lays down the limit values for carbon monoxide and unburnt hydrocarbon emissions from such engines; whereas these limit values were first reduced by Directive 74/290/EEC (5) and supplemented, in accordance with Directive 77/102/EEC (6), by limit values for permissible emissions of nitrogen oxides; whereas the limit values for these three pollutants were further lowered by Directive 78/665/EEC (7);

Whereas advances in motor vehicle design now enable a reduction in these limit values; whereas this appears desirable as a precaution against possible adverse effects on the environment; whereas during the period under consideration such a reduction will not jeopardize the aims of Community policy in other fields, and in particular in that of the rational use of energy;

Whereas, in view of the increasing use of diesel engines in cars and light commercial vehicles, it is advisable to reduce not only soot emissions, which are covered by Directive 72/306/EEC (8), but also the carbon monoxide, unburnt hydrocarbon and nitrogen oxide emissions from such engines; whereas bringing such engines within the scope of Directive 70/220/EEC involves an amendment to the operative part of the said Directive; whereas that amendment also has an effect on the content of the technical Annexes; whereas the Commission has proposed to the Council that in the present Directive it adopt at the same time the amendments to the technical Annexes, by way of derogation from Article 5 of Directive 70/220/EEC,

(1) OJ No C 181, 19. 7. 1982, p. 30.
(2) Opinion delivered on 10 June 1983 (not yet published in the Official Journal).
(3) OJ No C 346, 31. 12. 1982, p. 2.
(4) OJ No L 76, 6. 4. 1970, p. 1.
(5) OJ No L 159, 15. 6. 1974, p. 61.
(6) OJ No L 32, 3. 2. 1977, p. 32.
(7) OJ No L 223, 14. 8. 1978, p. 48.
(8) OJ No L 190, 20. 8. 1972, p. 1.

HAS ADOPTED THIS DIRECTIVE:

Article 1

Directive 70/220/EEC is hereby amended as follows:

1. The title of Directive 70/220/EEC shall be replaced by the following:

   'Directive 70/220/EEC on the approximation of the laws of the Member States relating to measures to be taken against air pollution by gases from engines of motor vehicles'.

2. Article 1 is replaced by the following:

   'Article 1

   For the purposes of this Directive, "vehicle" means any vehicle with a positive-ignition engine or with a compression-ignition engine, intended for use on the road, with or without bodywork, having at least four wheels, a permissible maximum mass of at least 400 kg and a maximum design speed equal to or exceeding 50 km/h, with the exception of agricultural tractors and machinery and public works vehicles.'

3. The Annexes are replaced by the Annexes to this Directive.

Article 2

1. From 1 December 1983, no Member State may, on grounds relating to air pollution by gases from an engine:

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

— prohibit the entry into service of such vehicles,

where the level of gaseous pollutants emitted from this type of motor vehicle or from such vehicles meets the requirements of Directive 70/220/EEC, as amended by this Directive.

2. From 1 October 1984, Member States:

— may no longer issue the document provided for in the last indent of Article 10 (1) of Directive 70/156/EEC in respect of a type of motor vehicle which emits gaseous pollutants at levels which do not meet the requirements of Directive 70/220/EEC, as amended by this Directive,

— may refuse national type-approval for a type of motor vehicle which emits gaseous pollutants at levels which do not meet the requirements of Directive 70/220/EEC, as amended by this Directive.

3. From 1 October 1986, Member States may prohibit the entry into service of vehicles which emit gaseous pollutants at levels which do not meet the requirements of Directive 70/220/EEC, as amended by this Directive.

Article 3

Member States shall bring into force the necessary provisions in order to comply with this Directive not later than 30 November 1983 and shall forthwith inform the Commission thereof.

Article 4

This Directive is addressed to the Member States.

Done at Luxembourg, 16 June 1983.

For the Council

The President

C.-D. SPRANGER

ANNEX I

SCOPE, DEFINITIONS, APPLICATION FOR EEC TYPE-APPROVAL, EEC TYPE-APPROVAL, SPECIFICATIONS AND TESTS, EXTENSION OF EEC TYPE-APPROVAL, CONFORMITY OF PRODUCTION, TRANSITIONAL PROVISIONS

1. SCOPE

This Directive applies to the emission of gaseous pollutants from all motor vehicles equipped with positive-ignition engines and from vehicles of categories M_1 and N_1 (1) equipped with compression-ignition engines, covered by Article 1.

2. DEFINITIONS

For the purposes of this Directive:

2.1. 'Vehicle type', with regard to the emission of gaseous pollutants from the engine, means a category of power-driven vehicles which do not differ in such essential respects as:

2.1.1. the equivalent inertia determined in relation to the reference mass as prescribed in 5.1 of Annex III; and

2.1.2. the engine and vehicle characteristics as defined in 1 to 6 and 8 of Annex II and Annex VII.

2.2. 'Reference mass' means the mass of the vehicle in running order less the uniform mass of the driver of 75 kg and increased by a uniform mass of 100 kg.

2.2.1. 'Mass of the vehicle in running order' means the mass defined under 2.6 of Annex I to Directive 70/156/EEC.

2.3. 'Maximum mass' means the mass defined under 2.7 of Annex I to Directive 70/156/EEC.

2.4. 'Gaseous pollutants' means carbon monoxide, hydrocarbons (assuming a ratio of $CH_{1,85}$), and oxides of nitrogen, the latter being expressed in nitrogen dioxide (NO_2) equivalent.

2.5. 'Engine crankcase' means the spaces in or external to an engine which are connected to the oil sump by internal or external ducts through which gases and vapours can escape.

2.6. 'Cold start device' means a device which enriches the air/fuel mixture of the engines temporarily, thus assisting the engine to start.

2.7. 'Starting aid' means a device which assists the engine to start without enrichment of the air/fuel mixture of the engine, e.g. glow plugs, modifications to the injection timing.

3. APPLICATION FOR EEC TYPE-APPROVAL

3.1. The application for approval of a vehicle type with regard to the emission of gaseous pollutants from its engine is submitted by the vehicle manufacturer or by his authorized representative.

3.2. It is accompanied by the following documents in triplicate and by the following particulars:

(1) As defined in 0.4 of Annex I to Directive 70/156/EEC (OJ No L 42, 23. 2. 1970, p. 1).

3.2.1. a description of the engine type comprising all the particulars referred to in Annex II;

3.2.2. drawings of the combustion chamber and of the piston, including the piston rings;

3.2.3. maximum lift of valves and angles of opening and closing in relation to dead centres.

3.3. A vehicle representative of the vehicle type to be approved is submitted for the tests described in 5 of this Annex to the technical service responsible for the type-approval tests.

4. EEC TYPE-APPROVAL

4.1. A form conforming to the model set out in Annex VII must be attached to the EEC type-approval certificate.

5. REQUIREMENTS AND TESTS

5.1. **General**

The components liable to affect the emission of gaseous pollutants must be so designed, constructed and assembled as to enable the vehicle, in normal use, to comply with the requirements of this Directive, despite the vibration to which they may be subjected.

5.2. **Description of tests**

5.2.1. The vehicle must, according to its category, be subjected to tests of different types, as specified below. The tests are:

— type I, II and III if powered by a positive-ignition engine, and

— type I if powered by a compression-ignition engine.

5.2.1.1. *Type I test* (verifying the average emission of gaseous pollutants after a cold start)

5.2.1.1.1. This test must be carried out on all vehicles referred to in 1, of a maximum mass not exceeding 3,5 tonnes.

5.2.1.1.2. The vehicle is placed on a dynamometer bench equipped with a means of load and inertia simulation. A test lasting a total of 13 minutes and comprising four cycles is performed without interruption. Each cycle comprises 15 phases (idling, acceleration, steady speed, deceleration, etc.). During the test the exhaust gases are diluted and a proportional sample collected in one or more bags. The exhaust gases of the vehicle tested are diluted, sampled and analyzed following the procedure described below; the total volume of the diluted exhaust is measured.

5.2.1.1.3. The test is carried out by the procedure described in Annex III. The methods used to collect and analyze the gases must be those prescribed. Other analysis methods may be approved if it is found that they yield equivalent results.

5.2.1.1.4. Subject to the requirements of 5.2.1.1.4.2 and 5.2.1.1.5, the test is repeated three times. For a vehicle of a given reference mass, the mass of the carbon monoxide and the combined mass of the hydrocarbons and of the nitrogen oxides obtained in the test must be less than the amounts shown in the table below:

Reference mass RW (kg)	Carbon monoxide L_1 (g/test)	Combined emission of hydrocarbons and oxides of nitrogen L_2 (g/test)
RW ≤ 1 020	58	19,0
1 020 < RW ≤ 1 250	67	20,5
1 250 < RW ≤ 1 470	76	22,0
1 470 < RW ≤ 1 700	84	23,5
1 700 < RW ≤ 1 930	93	25,0
1 930 < RW ≤ 2 150	101	26,5
2 150 < RW	110	28,0

5.2.1.1.4.1. Nevertheless, for each of the pollutants referred to in 5.2.1.1.4, one of the three results obtained may exceed by not more than 10 % the limit prescribed in that section for the vehicle concerned, provided the arithmetical mean of the three results is below the prescribed limit. Where the prescribed limits are exceeded for more than one pollutant (i.e. carbon monoxide and the combined mass of hydrocarbons and nitrogen oxides) it is immaterial whether this occurs in the same test or in different tests (1).

5.2.1.1.4.2. The number of tests prescribed in 5.2.1.1.4 may, on the request of the manufacturer, be increased to 10 tests provided that the arithemtic mean ($\bar{x}_i$) of the three results performed for carbon monoxide and/or for the combined emissions of hydrocarbons and of oxides of nitrogen falls between 100 and 110 % of the limit. In this case, the decision, after testing, depends exclusively on the average results obtained from all 10 tests ($\bar{x} < L$).

5.2.1.1.5. The number of tests prescribed in 5.2.1.1.4 is reduced in the conditions hereinafter defined, where V_1 is the result of the first test and V_2 the result of the second test for each of the pollutants referred to in 5.2.1.1.4.

5.2.1.1.5.1. Only one test is performed if V_1 readings of carbon monoxide as well as the combined hydrocarbon and oxides of nitrogen reading are less than or equal to 0,70 L.

5.2.1.1.5.2. Only two tests are performed if the results of both the carbon monoxide and the combined value of hydrocarbons and oxides of nitrogen are $V_1 \leq 0{,}85$ L, and if, at the same time, one of these values is $V_1 > 0{,}70$ L. In addition, the V_2 readings of both the carbon monoxide emissions and the combined emissions of hydrocarbon and oxides of nitrogen must satisfy the requirement that $V_1 + V_2 \leq 1{,}70$ L, and $V_2 \leq L$.

(1) If one of the three results obtained of each of the pollutants exceeds by more than 10 % the limit prescribed in 5.2.1.1.4 for the vehicle concerned, the test may be continued as specified in 5.2.1.1.4.2.