

COMMISSION DIRECTIVE 97/20/EC

of 18 April 1997

adapting to technical progress Council Directive 72/306/EEC on the approximation of the laws of the Member States relating to the measures to be taken against the emission of pollutants from diesel engines for use in vehicles

(Text with EEA relevance)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

HAS ADOPTED THIS DIRECTIVE:

Having regard to the Treaty establishing the European Community,

Article 1

Having regard to Council Directive 72/306/EEC of 2 August 1972 on the approximation of the laws of the Member States relating to the measures to be taken against the emission of pollutants from diesel engines for use in vehicles⁽¹⁾, as last amended by Commission Directive 89/491/EEC⁽²⁾, and in particular Article 4 thereof,

Directive 72/306/EEC is hereby amended as follows:

1. Article 1 is replaced by the following:

'Article 1

For the purposes of this Directive "vehicle" means any vehicle with a diesel engine, intended for use on the road, with or without bodywork, having at least four wheels and a maximum design speed exceeding 25 km/h, with the exception of vehicles which run on rails and of agricultural and forestry tractors and of all mobile machinery.;

Whereas Directive 72/306/EEC is one of the separate directives in the EC type-approval procedure established by Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of Member States relating to the type-approval of motor vehicles and their trailers⁽³⁾, as last amended by Directive 96/79/EC of the European Parliament and of the Council⁽⁴⁾; whereas, consequently, the provisions laid down in Directive 70/156/EEC relating to vehicle systems, components and separate technical units apply to Directive 72/306/EEC;

2. in Article 2, 'Annexes I, II, III, IV and VI' are replaced by 'the requirements of the relevant Annexes to this Directive';
3. in Article 3, 'item 2.2' is replaced by 'item 1.1';
4. the Annexes are amended in accordance with the Annex to this Directive.

Whereas, in particular, pursuant to Articles 3(4) and 4(3) of Directive 70/156/EEC, it is necessary that each separate directive has attached to it an information document incorporating the relevant items of Annex I to Directive 70/156/EEC and also a type-approval certificate based on Annex VI to Directive 70/156/EEC in order that type-approval may be computerized;

Article 2

With effect from 1 October 1997, Member States:

Whereas these amendments relate only to the administrative provisions contained in Directive 72/306/EEC, whereas it is not necessary therefore to invalidate existing approvals pursuant to Directive 72/306/EEC nor to prevent the registration, sale and entry into service of new vehicles covered by such approvals;

— shall no longer grant EC type-approval pursuant to Article 4(1) of Directive 70/156/EEC, and

— may refuse national type-approval,

Whereas the measures provided for in this Directive are in accordance with the opinion of the Committee for Adaptation to Technical Progress established by Directive 70/156/EEC,

for a new type of vehicle on grounds relating to the emission of pollutants from diesel engines if it fails to comply with the provisions of Directive 72/306/EEC, as amended by this Directive.

This Directive shall not invalidate any approval previously granted pursuant to Directive 72/306/EEC nor prevent extensions of such approvals under the terms of the Directive under which they were originally granted.

⁽¹⁾ OJ No L 190, 20. 8. 1972, p. 1.

⁽²⁾ OJ No L 238, 15. 8. 1989, p. 43.

⁽³⁾ OJ No L 42, 23. 2. 1970, p. 1.

⁽⁴⁾ OJ No L 18, 21. 1. 1997, p. 7.

Article 3

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 30 September 1997. They shall forthwith inform the Commission thereof.

When Member States adopt these provisions, these shall contain a reference to this Directive or shall be accompanied by such reference at the time of their official publication. The procedure for such reference shall be adopted by Member States.

2. Member States shall communicate to the Commission the texts of the main provisions of national law which they adopt in the field covered by this Directive.

Article 4

This Directive shall enter into force on the 20th day following its publication in the *Official Journal of the European Communities*.

Article 5

This Directive is addressed to the Member States.

Done at Brussels, 18 April 1997.

For the Commission

Martin BANGEMANN

Member of the Commission

ANNEX

AMENDMENTS TO THE ANNEXES TO DIRECTIVE 72/306/EEC

1. A list of Annexes is inserted between the Articles and Annex I to read as follows:

'LIST OF ANNEXES

Annex I: Definitions, application for EC type-approval, granting of EC type-approval, symbol of the corrected absorption coefficient, specifications and tests, modifications of the type, conformity of production

Appendix 1: Information document

Appendix 2: Type-approval certificate

Annex II: Example of the symbol of the corrected absorption coefficient

Annex III: Test at steady speeds over the full-load curve

Annex IV: Test under free acceleration

Annex V: Technical characteristics of reference fuel

Annex VI: Limit values applicable in the test at steady speeds

Annex VII: Characteristics of opacimeters

Annex VIII: Installation and use of the opacimeter.'

ANNEX 1

2. The index letter 'a' in the headline and the pertaining footnote are deleted.
3. The title reads as follows:

'DEFINITIONS, APPLICATION FOR EC TYPE-APPROVAL, GRANTING OF EC TYPE-APPROVAL, SYMBOL OF THE CORRECTED ABSORPTION COEFFICIENT, SPECIFICATIONS AND TESTS, MODIFICATIONS OF THE TYPE, CONFORMITY OF PRODUCTION'.

4. Item 2 becomes item 1.
5. Items 2.2 to 2.5 become items 1.1 to 1.4.
6. In item 1.1 (former item 2.2):
'Annex II' is replaced by 'Appendix 1'.
7. Item 3 becomes item 2.
8. Item 3.1 becomes item 2.1 and reads as follows:
'2.1. The application for EC type-approval pursuant to Article 3 (4) of Directive 70/156/EEC of a vehicle type with regard to its emission of pollutants from diesel engines shall be submitted by the manufacturer.'
9. Item 3.2 becomes item 2.2 and reads as follows:
'2.2. A model for the information document is given in Appendix 1.'
10. Items 3.2.1 and 3.2.2 are deleted.
11. In item 3.3:
— item 3.3 becomes item 2.3.
— 'Annex II to the Regulation' is replaced by 'Appendix 1'.

12. Item 3a becomes item 3 and reads as follows:
 3. GRANTING OF EC TYPE-APPROVAL
 - 3.1. If the relevant requirements are satisfied, EC type-approval pursuant to Article 4 (3) and, if applicable, Article 4 (4) of Directive 70/156/EEC shall be granted.
 - 3.2. A model for the EC type-approval certificate is given in Appendix 2.
 - 3.3. An approval number in accordance with Annex VII to Directive 70/156/EEC shall be assigned to each type of vehicle approved. The same Member State shall not assign the same number to another type of vehicle.
13. Items 4.4 to 4.6 becomes items 4.1 to 4.3.
14. In item 4.1 (former item 4.4):

'Annex to the type-approval certificate shown in Annex X' is replaced by 'Addendum to the type-approval certificate shown in Appendix 2'.
15. In item 4.3 (former item 4.6):

'Annex IX' is replaced by 'Annex II'.
16. Item 6 reads as follows:
 6. MODIFICATIONS OF THE TYPE AND AMENDMENTS TO APPROVALS
 - 6.1. In the case of modifications of the type approved pursuant to this Directive, the provisions of Article 5 of Directive 70/156/EEC shall apply.
17. Item 7.1 reads as follows:
 - 7.1. Measures to ensure the conformity of production shall be taken in accordance with the provisions laid down in Article 10 of Directive 70/156/EEC.
18. Item 7.3 becomes item 7.2 and reads as follows:
 - 7.2. In particular, conformity of the vehicle with the approved type as regards the emission of pollutants from diesel engines shall be verified on the basis of the results listed in the Addendum to the type-approval certificate shown in Appendix 2. In addition:
19. Items 7.3.1, 7.3.1.1 and 7.3.1.2 become items 7.2.1, 7.2.1.1 and 7.2.1.2.
20. Item 7.2.1.2 (former item 7.3.1.2):
 - in the English version: '7.3.1' is replaced by '7.2.1.1'
 - in the other versions: '7.3.1.1' is replaced by '7.2.1.1'
21. Items 8 and 9 are deleted.
22. The following Appendices 1 and 2 are added to read:

'Appendix 1

INFORMATION DOCUMENT NO ...

pursuant to Annex I to Council Directive 70/156/EEC(*) relating to EC type-approval of a vehicle with respect to the measures to be taken against the emission of pollutants from diesel engines

(Directive 72/306/EEC, as last amended by Directive .../.../EEC)

The following information, if applicable, must be supplied in triplicate and include a list of contents. Any drawings must be supplied in appropriate scale and in sufficient detail on size A4 or on a folder of A4 format. Photographs, if any, must show sufficient detail.

If the systems, components or separate technical units have electronic controls, information concerning their performance must be supplied.

(*) The item numbers and footnotes used in this information document correspond to those set out in Annex I to Directive 70/156/EEC. Items not relevant for the purpose of this Directive are omitted.

- 0. GENERAL
 - 0.1. Make (trade name of manufacturer):
 - 0.2. Type and general commercial description(s):
 - 0.3. Means of identification of type, if marked on the vehicle^(b):
 - 0.3.1. Location of that marking:
 - 0.4. Category of vehicle^(c):
 - 0.5. Name and address of manufacturer:
 - 0.8. Address(es) of assembly plant(s):
- 1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE
 - 1.1. Photographs and/or drawings of a representative vehicle:
- 3. POWER PLANT^(a)
 - 3.1. Manufacturer:
 - 3.1.1. Manufacturer's engine code (as marked on the engine, or other means of identification):
 - 3.2.1.1. Working principle: positive ignition/compression ignition, four stroke/two stroke⁽¹⁾
 - 3.2.1.2. Number and arrangement of cylinders:
 - 3.2.1.2.1. Bore⁽¹⁾: mm
 - 3.2.1.2.2. Stroke⁽¹⁾: mm
 - 3.2.1.2.3. Firing order:
 - 3.2.1.3. Engine capacity^(c): cm³
 - 3.2.1.4. Volumetric compression ratio⁽²⁾
 - 3.2.1.5. Drawings of combustion chamber, piston crown and, in the case of positive ignition engines, piston rings:
 - 3.2.1.6. Idling speed⁽²⁾: min⁻¹
 - 3.2.1.8. Maximum net power⁽¹⁾: kW at min⁻¹ (manufacturer's declared value)
 - 3.2.1.9. Maximum permitted engine speed as prescribed by the manufacturer: min⁻¹
 - 3.2.4. Fuel feed
 - 3.2.4.2. By fuel injection (compression ignition only): yes/no⁽¹⁾
 - 3.2.4.2.1. System description:
 - 3.2.4.2.2. Working principle: direct injection/pre-chamber/swirl chamber⁽¹⁾
 - 3.2.4.2.3. Injection pump
 - 3.2.4.2.3.1. Make(s):
 - 3.2.4.2.3.2. Type(s):
 - 3.2.4.2.3.3. Maximum fuel delivery⁽¹⁾⁽²⁾: mm³/stroke or cycle at a pump speed of: min⁻¹ or, alternatively, a characteristic diagram:
 - 3.2.4.2.3.4. Injection timing⁽²⁾:
 - 3.2.4.2.3.5. Injection advance curve⁽²⁾:
 - 3.2.4.2.3.6. Calibration procedure: test bench/engine⁽¹⁾
 - 3.2.4.2.4. Governor
 - 3.2.4.2.4.1. Type:
 - 3.2.4.2.4.2. Cut-off point
 - 3.2.4.2.4.2.1. Cut-off point under load: min⁻¹
 - 3.2.4.2.4.2.2. Cut-off point without load: min⁻¹
 - 3.2.4.2.5. Injection piping

- 3.2.4.2.5.1. Length: mm
- 3.2.4.2.5.2. Internal diameter: mm
- 3.2.4.2.6. Injector(s)
- 3.2.4.2.6.1. Make(s):
- 3.2.4.2.6.2. Type(s):
- 3.2.4.2.6.3. Opening pressure⁽²⁾: kPa or characteristic diagram⁽²⁾:
- 3.2.4.2.7. Cold start system
- 3.2.4.2.7.1. Make(s):
- 3.2.4.2.7.2. Type(s):
- 3.2.4.2.7.3. Description:
- 3.2.4.2.9. Electronic control unit
- 3.2.4.2.9.1. Make(s):
- 3.2.4.2.9.2. Description of the system:
- 3.2.4.4. Feed pump
- 3.2.4.4.1. Pressure⁽²⁾: kPa or characteristic diagram⁽²⁾:
- 3.2.7. Cooling system (liquid/air)⁽¹⁾
- 3.2.8. Intake system
- 3.2.8.1. Pressure charger: yes/no⁽¹⁾
- 3.2.8.1.1. Make(s):
- 3.2.8.1.2. Type(s):
- 3.2.8.1.3. Description of the system (e.g. maximum charge pressure: Pa, wastegate if applicable):
- 3.2.8.2. Intercooler: yes/no⁽¹⁾
- 3.2.8.3. Intake depression at rated engine speed and at 100 % load
 minimum allowable: kPa
 maximum allowable: kPa
- 3.2.8.4. Description and drawings of inlet pipes and their accessories (plenum chamber, heating device, additional air intakes, etc.):
- 3.2.8.4.1. Intake manifold description (include drawings and/or photos):
- 3.2.8.4.2. Air filter, drawings:, or
- 3.2.8.4.2.1. Make(s):
- 3.2.8.4.2.2. Type(s):
- 3.2.8.4.3. Intake silencer, drawings:, or
- 3.2.8.4.3.1. Make(s):
- 3.2.8.4.3.2. Type(s):
- 3.2.9. Exhaust system
- 3.2.9.1. Description and/or drawing of the exhaust manifold:
- 3.2.9.2. Description and/or drawing of the exhaust system:
- 3.2.9.3. Maximum allowable exhaust back pressure at rated engine speed and at 100 % load: kPa
- 3.2.10. Minimum cross-sectional areas of inlet and outlet ports:
- 3.2.11. Valve timing or equivalent data
- 3.2.11.1. Maximum lift of valves, angles of opening and closing, or timing details of alternative distribution systems, in relation to dead-centres:
- 3.2.11.2. Reference and/or setting ranges⁽¹⁾:
- 3.2.12. Measures taken against air pollution
- 3.2.12.2. Additional anti-pollution devices (if any, and if not covered by another heading)
- 3.2.12.2.1. Catalytic converter: yes/no⁽¹⁾
- 3.2.12.2.1.1. Number of catalytic converters and elements:

- 3.2.12.2.1.2. Dimensions, shape and volume of the catalytic converter(s):
- 3.2.12.2.1.3. Type of catalytic action:
- 3.2.12.2.1.4. Total charge of precious metals:
- 3.2.12.2.1.5. Relative concentration:
- 3.2.12.2.1.6. Substrate (structure and material):
- 3.2.12.2.1.7. Cell density:
- 3.2.12.2.1.8. Type of casing for the catalytic converter(s):
- 3.2.12.2.1.9. Location of the catalytic converter(s) (place and reference distance in the exhaust line):
.....
- 3.2.12.2.4. Exhaust gas recirculation: yes/no⁽¹⁾
- 3.2.12.2.4.1. Characteristics (flow rate, etc.):
- 3.2.12.2.6. Particulate trap: yes/no⁽¹⁾
- 3.2.12.2.6.1. Dimensions, shape and capacity of the particulate trap:
- 3.2.12.2.6.2. Type and design of the particulate trap:
- 3.2.12.2.6.3. Location (reference distance in the exhaust line):
- 3.2.12.2.6.4. Method or system of regeneration, description and/or drawing:
-
- 3.2.12.2.7. Other systems (description and operation):
- 3.2.13. Location of the absorption coefficient symbol (compression ignition engines only):
-
4. TRANSMISSION^(v)
- 4.3. Moment of inertia of engine flywheel:
- 4.3.1. Additional moment of inertia with no gear engaged:
-
- (Date, file)

⁽¹⁾ Delete where not applicable.

⁽²⁾ If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this type-approval certificate such characters shall be represented in the documentation by the symbol: '?' (e.g. ABC??123??).

Addendum to Appendix 1

INFORMATION ON TEST CONDITIONS

1. LUBRICANT USED
- 1.1. Make:
- 1.2. Type:
- (state percentage of oil in mixture if lubricant and fuel mixed)

2. ENGINE PERFORMANCES

2.1. Power at the six points of measurement referred to in 2.1 of Annex III:

2.1.1. Power of the engine measured on the test bench:

2.1.2. Power measured on the wheels of the vehicle:

Engine speed (min ⁻¹)	Measured power (kW)
1.
2.
3.
4.
5.
6.

Appendix 2

MODEL

(maximum format: A4 (210 × 297 mm))

EC TYPE-APPROVAL CERTIFICATE

Stamp of administration

Communication concerning the:

- type-approval⁽¹⁾,
- extension of type-approval⁽¹⁾,
- refusal of type-approval⁽¹⁾,
- withdrawal of type-approval⁽¹⁾

of a type of a vehicle/component/separate technical unit⁽¹⁾ with regard to Directive .../.../EEC, as last amended by Directive .../.../EC.

Type-approval number:

Reason for extension:

SECTION I

0.1. Make (trade name of manufacturer):

0.2. Type and general commercial description(s):

- 0.3. Means of identification of type if marked on the vehicle/component/separate technical unit⁽¹⁾(²):.....
- 0.3.1. Location of that marking:.....
- 0.4. Category of vehicle⁽¹⁾(³):.....
- 0.5. Name and address of manufacturer:.....
- 0.7. In the case of components and separate technical units, location and method of affixing of the EC approval mark:
- 0.8. Address(es) of assembly plant(s):.....

SECTION II

- 1. Additional information (where applicable): see Addendum
- 2. Technical service responsible for carrying out the tests:.....
- 3. Date of test report:
- 4. Number of test report:.....
- 5. Remarks (if any): see Addendum
- 6. Place:.....
- 7. Date:.....
- 8. Signature:.....
- 9. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

⁽¹⁾ Delete where not applicable.

⁽²⁾ If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this type-approval certificate such characters shall be represented in the documentation by the symbol: '?' (e.g. ABC??123??).

⁽³⁾ As defined in Annex II A to Directive 70/156/EEC.

Addendum to EC type-approval certificate No ...

concerning the type-approval of a vehicle with regard to Directive 72/306/EEC, as last amended by Directive .../.../EC

- 1. Additional information
 - 1.1. Power plant
 - 1.1.1. Manufacturer's engine code (as marked on the engine, or other means of identification):....
.....

1.2. Test results

1.2.1. At steady speeds:

Engine speed (min ⁻¹)	Nominal flow G (litres/second)	Limit absorption values (m ⁻¹)	Measured absorption values (m ⁻¹)
1.
2.
3.
4.
5.
6.

1.2.2. Under free acceleration

1.2.2.1. Measured value of the absorption coefficient: m⁻¹

1.2.2.2. Corrected value of the absorption coefficient: m⁻¹

1.2.2.3. Location of the absorption coefficient symbol on the vehicle:
.....

5. Remarks:

ANNEX II

23. Annex II is deleted.

ANNEX III

24. Item 3.1.2:

'Annex II' is replaced by 'Appendix 1 to Annex I'.

25. Item 3.1.3:

'Annex II' is replaced by 'Appendix 1 to Annex I'.

ANNEX V

26. In the table, the limit value for the sulphur content shall read as follows:

'max. 0,05 % mass'.

ANNEX IX

27. Annex IX becomes Annex II.

ANNEX X

28. Annex X is deleted.