COUNCIL DIRECTIVE

of 12 June 1978

on the approximation of the laws of the Member States relating to heating systems for the passenger compartment of motor vehicles

(78/548/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,

Having regard to the opinion of the European Parliament (1),

Having regard to the opinion of the Economic and Social Committee (2),

Whereas the technical requirements which motor vehicles must satisfy pursuant to national laws relate *inter alia* to heating systems for the passenger compartment of motor vehicles;

Whereas these requirements differ from one Member State to another; whereas it is therefore necessary that all Member States adopt the same requirements either in addition to or in place of their existing rules in order, in particular, to allow the EEC type-approval procedure, which was the subject of 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 (3), as last amended by Directive 78/547/EEC (4), to be introduced in respect of each type of vehicle;

Whereas the approximation of national laws relating to motor vehicles entails the mutual recognition by Member States of the inspections carried out by each of them on the basis of the common requirements,

HAS ADOPTED THIS DIRECTIVE:

Article 1

For the purposes of this Directive, 'vehicle' means any motor vehicle in category M_1 (as defined in Annex I to Directive 70/156/EEC) designed for use on the road, having at least four wheels and a maximum design speed exceeding 25 km/h.

Article 2

No Member State may refuse to grant EEC type-approval or national type-approval of a vehicle on grounds relating to the heating system for the passenger compartment if the system satisfies the requirements laid down in Annex I.

Article 3

No Member State may refuse or prohibit the sale, registration, entry into service or use of any vehicle on grounds relating to the heating system for the passenger compartment if the system satisfies the requirements laid down in Annex I.

Article 4

Any amendments necessary to adapt the provisions of the Annexes to take account of technical progress shall be adopted in accordance with the procedure laid down in Article 13 of Directive 70/156/EEC.

This procedure shall also apply to the introduction into this Directive of provisions on auxiliary heating systems intended to be permanently installed in the vehicle.

Article 5

1. Member States shall bring into force the provisions necessary in order to comply with this Directive within 18 months of its notification and shall forthwith inform the Commission thereof.

2. Member States shall ensure that the texts of the main provisions of national law which they adopt in the

(1) OJ No C 118, 16. 5. 1977, p. 29.
(2) OJ No C 114, 11. 5. 1977, p. 6.
(3) OJ No L 42, 23. 2. 1970, p. 1.
(4) See page 39 of this Official Journal.

field covered by this Directive are communicated to the Commission.

Article 6

This Directive is addressed to the Member States.

Done at Luxembourg, 12 June 1978.

For the Council

The President

K. OLESEN

ANNEX I

1. DEFINITION

For the purposes of this Directive, 'heating system for the passenger compartment of the vehicle' means any system which can raise the temperature in the space reserved for the occupants of the vehicle and which uses heat from the engine for this purpose.

2. REQUIREMENTS

2.1. All vehicles must be fitted with a system for heating the passenger compartment.

2.2. In vehicles fitted with a system for heating the passenger compartment using heat either from the exhaust gases or from the engine cooling air, this system must be designed in such a way that:

2.2.1. the heated air entering the passenger compartment does not contain more exhaust gases than the ambient air at the air inlet on the exterior of the vehicle;

2.2.2. the occupants of the vehicle cannot, during normal road use of the vehicle, come into contact with any parts of the device liable to cause burns. This condition shall be considered to be satisfied if the parts do not reach a temperature of 80 ° C;

2.2.3. the hot air entering the passenger compartment cannot reach temperatures which are liable to cause burns to the occupants. This condition shall be considered fulfilled if the difference between the temperature of the hot air entering the passenger compartment and the ambient temperature does not exceed 110 ° C.

2.3. The requirements set out in 2.2.1 are considered to be fulfilled in respect of heating systems which include a heat exchanger, the primary circuit of which is passed over by exhaust gases or polluted air, provided that the following conditions are met:

2.3.1. the walls of the primary circuit of the exchanger must be leaktight at any pressure up to and including 2 bar;

2.3.2. the walls of the primary circuit of the heat exchanger must not include any detachable components;

2.3.3. the part of the exhaust-gas heat exchanger wall where the heat exchange takes place must be at least 2 mm thick if made of non-alloy steels;

2.3.3.1. in cases where other materials are used (including composite or coated materials), the thickness of the wall must be such as to ensure that the heat exchanger has the same service life as in the case referred to in 2.3.3;

2.3.3.2. if the part of the exchanger where the heat transfer takes place is enamelled, the wall where such enamel has been applied must be at least 1 mm thick. This coating must be durable and leaktight, and must not be porous;

2.3.4. the pipe conducting the exhaust gases must include a corrosion test zone at least 30 mm long; this zone must be situated directly downstream of the heat exchanger. It must remain uncovered and be easily accessible;

2.3.4.1. the wall of this zone must not be thicker than the pipes for the exhaust gases situated inside the heat exchanger and the materials and surface properties of this section must be comparable with those of these pipes;

2.3.4.2. if the heat exchanger forms a single unit with the vehicle exhaust silencer, the external wall of the latter must be regarded as the zone complying with 2.3.4.1 where any corrosion should occur.

2.4. For heating systems using the cooling air of the engine for heating purposes, the conditions of 2.2.1 are considered to be met provided that the following requirements are complied with:

2.4.1. whatever cooling air comes into contact only with surfaces of the engine which do not include any detachable parts, may be used as heating air without a heat exchanger being required; the connections between the walls of this cooling air circuit and the surfaces used for the transfer of heat must be gastight and oil-resistant. These requirements are considered to be satisfied if, for example,

2.4.1.1. a sheath around each sparking plug draws off any gas leaks outside the heating air circuit;

2.4.1.2. the joint between the cylinder head and the exhaust manifold is situated outside the heating air circuit;

2.4.1.3. there is double leak protection between the cylinder head and the cylinder and any leaks from the first joint are drawn off outside the heating air circuit,

or:

the leak protection between the cylinder head and the cylinder still holds when the cylinder head nuts are cold-tightened at one-third of the nominal torque prescribed by the manufacturer,

or:

the area where the cylinder head is joined to the cylinder is situated outside the heating air circuit.

3. APPLICATION FOR EEC TYPE-APPROVAL

3.1. The application for EEC type-approval of a vehicle type with regard to the passenger compartment heating system must be submitted by the vehicle manufacturer or his authorized representative.

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

3.2.1. in the case of heating systems using heat from the engine cooling fluid:

— a brief description of the vehicle type with regard to the heating system for the passenger compartment; the engine type and the heating system must be specified;

3.2.2. in the case of heating systems using heat from the exhaust gases or the engine cooling air:

— a detailed description of the vehicle type with regard to the heating system for the passenger compartment; the engine type must be specified;

— layout drawing of the heating system showing its position in the vehicle.

3.3. In the case of a heating system as defined in 2.3, the technical service may require a sample of the heat exchanger used in this type of system and/or any document showing that the exchanger complies with the requirements of 2.3.

3.4. In the case of a heating system as defined in 2.3 and 2.4, a vehicle representative of the type of vehicle to be approved must be submitted to the technical service responsible for conducting type-approval test.

ANNEX II

MODEL

(Maximum format: A4 (210 × 297 mm)

Name of administration

ANNEX TO THE EEC VEHICLE TYPE-APPROVAL CERTIFICATE WITH REGARD TO THE HEATING SYSTEM FOR THE PASSENGER COMPARTMENT

(Articles 4 (2) and 10 of 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).

EEC type-approval No .....

1. Trade name or mark of the vehicle .....

   .....

2. Vehicle type .....

3. Manufacturer's name and address .....

   .....

   .....

4. Where applicable, name and address of manufacturer's authorized representative .....

   .....

   .....

5. Heating system using heat from the engine cooling fluid/heating system using heat from the exhaust gases or the engine cooling air (1)

6. Where applicable, date on which vehicle submitted for type-approval .....

7. Where applicable, technical service conducting type-approval tests .....

8. Where applicable, date of test report issued by that service .....

   .....

9. Where applicable, date of test report issued by that service .....

   .....

10. Type-approval in respect of heating system granted/refused (1)

11. Place .....

12. Date .....

13. Signature .....

14. The following documents bearing the type-approval number shown above are annexed to this certificate: a brief/detailed (1) description and a sketch of the passenger compartment heating system and of other parts of the vehicle relevant for the purposes of this Directive.

15. Remarks .....

(1) Delete where inapplicable.