II

(Acts whose publication is not obligatory)

COUNCIL

COUNCIL DIRECTIVE

of 13 March 1989

amending Directive 78/1015/EEC on the approximation of the laws of the Member States on the permissible sound level and exhaust systems of motorcycles

(89/235/EEC)

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100a thereof,

Having regard to the proposal from the Commission (1),

In cooperation with the European Parliament (2),

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

Whereas it is important to adopt measures with the aim of progressively establishing the internal market over a period expiring on 31 December 1992; whereas the internal market shall comprise an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured;

Whereas Directive 78/1015/EEC (4), as last amended by Directive 87/56/EEC (5), lays down limits for the sound level of motorcycles and provisions governing exhaust systems fitted as original equipment to motorcycles;

Whereas replacement exhaust systems very frequently differ from original equipment; whereas this situation therefore has, among other things, adverse effects on the sound emissions of motorcycles; whereas an EEC type-approval procedure for such replacement devices, making it possible to establish that a type of device meets the technical requirements and checks laid down at Community level, is likely to be an adequate means of reducing the sound level of motorcycles in use and of affording the population additional protection against noise nuisances caused by such vehicles;

Whereas, to that end, Directive 78/1015/EEC should be amended by including provisions on exhaust systems as separate technical units to be marketed and used as replacement parts, so that such equipment may be regulated by Community requirements for ensuring effective protection against noise nuisances,

HAS ADOPTED THIS DIRECTIVE:

Article 1

Directive 78/1015/EEC is hereby amended as follows:

1. Article 2 is replaced by the following:

'*Article 2*

For the purposes of this Directive:

(a) "national type-approval" means the administrative procedure known as:

— "agréation par type" and "aanneming", in Belgian law,

— "standardtypegodkendelse", in Danish law,

— "allgemeine Betriebserlaubnis", in German law,

— "εγκριση τυπου" in Greek law,

(1) OJ No C 44, 17. 2. 1988, p. 5.
(2) OJ No C 262, 10. 10. 1988, p. 86 and OJ No 47, 27. 2. 1989.
(3) OJ No C 175, 4. 7. 1988, p. 8.
(4) OJ No L 349, 13. 12. 1978, p. 21.
(5) OJ No L 24, 27. 1. 1987, p. 42.

— "homologación de tipo", in Spanish law,

— "réception par type", in French law,

— "type-approval", in Irish law,

— "omologazione" or "approvazione del tipo", in Italian law,

— "agréation", in Luxembourg law,

— "typegoedkeuring", in Dutch law,

— "aprovação de marca e modelo", in Portuguese law,

— "type-approval", in United Kingdom law;

(b) "EEC type-approval of replacement exhaust systems or components thereof as separate technical units" means the measure whereby a Member State established that a type of replacement exhaust system or type of component thereof meets the technical requirements and successfully undergoes the checks set out in Annex II.'

2. In the second subparagraph of Article 3 (1), the reference to Annex II is replaced by a reference to Annex III.

3. The following Article is inserted:

'Article 6a

Articles 3 to 6 shall apply *mutatis mutandis* to the EEC type-approval of replacement exhaust systems or components thereof as separate technical units as defined in Article 2 (b).

In such cases, the model certificate referred to in Article 3 shall be replaced by the model EEC type-approval certificate set out in Annex IV and the modification of one of the components or characteristics mentioned in Annex I, section 1.1, as referred to in Article 6, shall be replaced by the modification of one of the characteristics referred to in Annex I, section 1.3.'

4. The Annexes are amended and supplemented in accordance with the Annex hereto.

Article 2

1. As from 1 October 1989:

(a) no Member State may, on grounds concerning the permissible sound level and the original equipment exhaust system, refuse national type-approval for a type of motorcycle or EEC type-approval or national type-approval for a type of replacement exhaust system or type of component of such a system where such systems or components are regarded as separate technical units:

— if the motorcycle complies with the requirements of Annex I to Directive 78/1015/EEC, as amended by this Directive, regarding the sound level and original equipment exhaust system,

— if the replacement exhaust system or components thereof as separate technical units comply with the requirements of Annex II to Directive 78/1015/EEC, as amended by this Directive;

(b) no Member State may, on grounds concerning the permissible sound level and the original equipment exhaust system, refuse or prohibit the sale, registration, putting into service or use of motorcycles, or refuse or prohibit the placing on the market or use of replacement exhaust systems or components thereof as separate technical units:

— if the motorcycles comply with the requirements of Annex I to Directive 78/1015/EEC, as amended by this Directive, regarding the sound level and original equipment exhaust system,

— if the replacement exhaust systems or components thereof as separate technical units comply with the requirements of Annex II to Directive 78/1015/EEC, as amended by this Directive.

2. As from 1 October 1990:

(a) Member States may no longer issue the certificate provided for in Article 3 (1) of Directive 78/1015/EEC for a type of motorcycle regarding the permissible sound level and original equipment exhaust system, nor the certificate provided for *mutatis mutandis* in that same paragraph of the Directive concerned, for a type of replacement exhaust system or component thereof as separate technical units, if they do not comply with the provisions of Directive 78/1015/EEC, as amended by this Directive;

(b) — Member States may, on grounds concerning the permissible sound level and original equipment exhaust system, refuse national type-approval for a type of motorcycle or type of replacement exhaust system or type of component of such a system as separate technical units, if they do not comply with the provisions of Directive 78/1015/EEC, as amended by this Directive,

— Member States may, on grounds concerning the permissible sound level and the original equipment exhaust system, refuse or prohibit the sale, registration, putting into service or use of motorcycles, or the placing on the market and use of replacement exhaust systems or components thereof as separate technical units, if they do not comply with the provisions of Directive 78/1015/EEC, as amended by this Directive.

3. As from 1 October 1991, Member States may prohibit the initial putting into service of motorcycles the sound level

and original equipment exhaust system of which do not comply with the provisions of Annex I to Directive 78/1015/EEC, as amended by this Directive.

Article 3

By 1 October 1989, Member States shall adopt and publish the provisions necessary to comply with this Directive. They shall forthwith inform the Commission thereof.

They shall apply those provisions from 1 October 1989.

Article 4

This Directive is addressed to the Member States.

Done at Brussels, 13 March 1989.

For the Council
The President
P. SOLBES

ANNEX

Annex I is amended as follows:

Sections 3.2 to 3.4.3 are replaced by the following:

'3.2. A diagram of the exhaust system must be attached to the certificate referred to in Annex III.

3.3. Every silencer must bear markings and inscriptions that comply with point 3 of Annex II.

3.4. Fibrous absorbent material must be asbestos-free and may be used in the construction of silencers only if suitable devices ensure that the fibrous absorbent material is kept in place for the whole time that the silencer is being used and it meets the requirements of any one of sections 3.4.1, 3.4.2 or 3.4.3.

3.4.1. After removal of the fibrous material, the sound level must comply with the requirements of 2.1.1.

3.4.2. The fibrous absorbent material may not be placed in those parts of the silencer through which the exhaust gases pass and must comply with the following requirements.

3.4.2.1. The material must be heated at a temperature of 650 ± 5 °C for four hours in a furnace without reduction in average length, diameter or bulk density of the fibre.

3.4.2.2. After heating at 650 ± 5 °C for one hour in a furnace, at least 98 % of the material must be retained in a sieve of nominal aperture size 250 µm complying with ISO standard 3310/1 when tested in accordance with ISO standard 2599.

3.4.2.3. The loss in weight of the material must not exceed 10,5 % after soaking for 24 hours at 90 ± 5 °C in a synthetic condensate of the following composition:

1 N hydrobromic acid (HBr): 10 ml
1 N sulphuric acid (H_2SO_4): 10 ml
Distilled water to make up to 1 000 ml.

Note: The material must be washed in distilled water and dried for one hour at 105 °C before weighing.

3.4.3. Before the system is tested in accordance with section 2.1 of this Annex, it must be put into a normal state for road use by one of the following conditioning methods:

3.4.3.1. conditioning by continuous road operation

3.4.3.1.1. according to the classes of motorcycles, the minimum distances to be completed during conditioning are:

Class of motorcycle according to cylinder capacity in cm^3	Distance (km)
1. ⩽ 80	4 000
2. > 80 ⩽ 175	6 000
3. > 175	8 000

3.4.3.1.2. 50 % ± 10 % of this conditioning cycle consists of town driving and the remainder of long-distance runs at high speed; the continuous road cycle may be replaced by a corresponding test-track programme.

3.4.3.1.3. The two speed regimes must be alternated at least six times.

3.4.3.1.4. The complete test programme must include a minimum of 10 breaks of at least three hours' duration in order to reproduce the effects of cooling and condensation.

3.4.3.2. Conditioning by pulsation

3.4.3.2.1. The exhaust system or components thereof must be fitted to the motorcycle or to the engine. In the former case, the motorcycle must be mounted on a roller dynamometer. In the second case, the engine must be mounted on a test bench.

The test apparatus, a detailed diagram of which is shown in Figure 1, is fitted at the outlet of the exhaust system. Any other apparatus providing equivalent results is acceptable.

3.4.3.2.2. The test equipment must be adjusted so that the flow of exhaust gases is alternatively interrupted and restored 2 500 times by a rapid-action valve.

3.4.3.2.3. The valve must open when the exhaust gas back-pressure, measured at least 100 mm downstream of the intake flange, reaches a value of between 0,35 and 0,40 bar. Should such a figure be unattainable because of the engine characteristics, the valve must open when the gas back-pressure reaches a level equivalent to 90 % of the maximum that can be measured before the engine stops. It must close when this pressure does not differ by more than 10 % from its stabilized value with the valve open.

3.4.3.2.4. The time-delay switch must be set for the duration of exhaust gases calculated on the basis of the requirements of 3.4.3.2.3.

3.4.3.2.5. Engine speed must be 75 % of the speed (S) at which the engine develops maximum power.

3.4.3.2.6. The power indicated by the dynamometer must be 50 % of the full-throttle power measured at 75 % of engine speed (S).

3.4.3.2.7. Any drainage holes must be closed off during the test.

3.4.3.2.8. The entire test must be completed within 48 hours. If necessary, a cooling period must be allowed after each hour.

3.4.3.3. Conditioning on a test bench

3.4.3.3.1. The exhaust system must be fitted to an engine representative of the type fitted to the motorcycle for which the system is designed, and mounted on a test bench.

3.4.3.3.2. Conditioning consists of the specified number of test bench cycles for the class of motorcycle for which the exhaust system was designed. The number of cycles for each class of motorcycle is:

Class of motorcycle according to cylinder capacity in cm^3	Number of cycles
1. $\leqslant$ 80	6
2. > 80 $\leqslant$ 175	9
3. > 175	12

3.4.3.3.3. Each test-bench cycle must be followed by a break of at least six hours in order to reproduce the effects of cooling and condensation.

3.4.3.3.4. Each test-bench cycle consists of six phases. The engine conditions for and the duration of each phase are:

Phase	Conditions	Duration of phase	
		Engines of less than 175 cm^3	Engines of not less than 175 cm^3
		(minutes)	(minutes)
1	Idling	6	6
2	25 % load at 75 % S	40	50
3	50 % load at 75 % S	40	50
4	100 % load at 75 % S	30	10
5	50 % load at 100 % S	12	12
6	25 % load at 100 % S	22	22
	Total time	2,5 hours	2,5 hours