

Proposal for a Directive of the European Parliament and of the Council amending Directive 97/24/EC on certain components and characteristics of two or three-wheel motor vehicles

(2000/C 337 E/20)

(Text with EEA relevance)

COM(2000) 314 final — 2000/0136(COD)

(Submitted by the Commission on 22 June 2000)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the Economic and Social Committee,

Acting in accordance with the procedure laid down in Article 251 of the Treaty,

Whereas:

- (1) The fifth programme of action of the European Community on protection of the environment, which in its general approach was approved by the Council in its Resolution of 1 February 1993 ⁽¹⁾, provides for additional efforts to be made for a considerable reduction in the present level of emissions of pollutants from motor vehicles.
- (2) Directive 97/24/EC of the European Parliament and of the Council ⁽²⁾ is one of the separate Directives under the type-approval procedure laid down by Council Directive 92/61/EEC of 30 June 1992 relating to the type-approval of two and three-wheel vehicles ⁽³⁾, as last amended by Directive 2000/7/EC of the European Parliament and of the Council ⁽⁴⁾.
- (3) Under Article 5 of Directive 97/24/EC, the Commission is required to submit, within 24 months from the date of adoption of the said Directive, to the European Parliament and the Council, a proposal prepared on the basis of research and an assessment of the costs and benefits deriving from the application of tightened-up limit values and laying down a subsequent stage during which measures will be adopted aimed at further tightening of the limit values for pollutants of the vehicles concerned; such action is limited to motorcycles, since a subsequent stage entailing tighter limit values for mopeds, to be applied from 17 June 2002, is already provided for in Directive 97/24/EC.
- (4) On the basis of the assessment of the technical feasibility and cost-effectiveness, a single set of new Type I test limits, applicable from 2003 for all motorcycles, is identified, corresponding to a reduction of 60% for hydrocarbons and carbon monoxide for four-stroke motorcycles, and 70% for hydrocarbons and 30% for carbon monoxide for two-stroke motorcycles; for four-stroke motorcycles, further reductions in nitrogen oxides were not considered feasible with the envisaged technologies; for two-stroke motorcycles, the application of advanced direct engine technology, which has the greatest reduction potential in terms of carbon monoxide and hydrocarbons, is inevitably linked to a moderate increase of the nitrogen oxides limit, relative to the present-day limit value, bringing the limit in line with four-stroke motorcycles; on the basis of the emission inventory, which confirms the marginal share of motorcycles in total road-transport emissions of nitrogen oxides, this is regarded as acceptable.
- (5) Inspection and maintenance are regarded as essential to ensure that emission levels of new vehicles do not fall in-use below acceptable levels; in this respect, and in line with the provisions for passenger cars, the requirements for type II testing, and in particular the limit for carbon monoxide content of 4,5 % by volume, should be replaced by requirements to measure and record the necessary data for the purpose of roadworthiness testing.
- (6) Tricycles and quadricycles are equipped either with spark ignition or compression ignition engines; in line with emission limits for passenger cars, each category requires a separate set of limit values.
- (7) The characteristics of the reference fuels used for emission testing should be aligned with those applicable to passenger cars, thereby reflecting the changes in the specifications of market fuel in accordance with the Community legislation on the quality of petrol and diesel fuels.
- (8) Member States should be allowed, by way of tax incentives, to expedite the placing on the market of vehicles which satisfy the requirements adopted at Community level and to promote more environmentally advanced technologies on the basis of permissive emission values; such incentives should satisfy certain conditions intended to avoid distortions of the internal market; this Directive does not affect the Member States' right to include emissions of pollutants and other substances in the basis for calculating road traffic taxes on two and three-wheel vehicles.

⁽¹⁾ OJ C 138, 17.5.1993, p. 1.

⁽²⁾ OJ L 226, 18.8.1997, p. 1.

⁽³⁾ OJ L 225, 10.8.1992, p. 72.

⁽⁴⁾ OJ L 106, 3.5.2000, p. 1.

- (9) A new type-approval test cycle should be introduced which will allow a more representative evaluation of the emissions performance, in test conditions that more closely resemble those encountered by vehicles in use, and which takes into account the difference in driving patterns between small and large motorcycles; additional development work is in progress in order to support the introduction of a new test cycle in a scientifically sound manner.
- (10) It is necessary to establish a further stage of emission limits, comprising further substantial reductions with respect to the limit values for 2003; such limit values can be developed in detail only when the current test cycle has been revised and after further study of the technical feasibility and emission-reduction potential of the technology.
- (11) In accordance with the principles of subsidiarity and proportionality as set out in Article 5 of the Treaty, the objective of the proposed action, namely the reduction of the level of pollutant emissions from two and three-wheel vehicles, cannot be sufficiently achieved by the Member States and can therefore be better achieved by the approximation of the laws of the Member States on the subject: this Directive confines itself to the minimum required in order to achieve that objective and does not go beyond what is necessary for that purpose.
- (12) Directive 97/24/EC should be amended accordingly,

HAVE ADOPTED THIS DIRECTIVE:

Article 1

Chapter 5 of Directive 97/24/EC is amended in accordance with the text in the Annex hereto.

Article 2

1. With effect from 1 January 2002, no Member State may, on grounds relating to the measures to be taken against air pollution:

— refuse to grant EC type-approval pursuant to Article 4(1) of Directive 92/61/EEC,

or

— prohibit the registration, sale or entry into service of vehicles,

if the measures to be taken against air pollution comply with the requirements of Directive 97/24/EC, as amended by this Directive.

2. With effect from 1 January 2003, Member States shall refuse to grant EC type-approval pursuant to Article 4(1) of Directive 92/61/EEC for any type of vehicle on grounds relating

to the measures to be taken against air pollution, if it fails to comply with the provisions of Directive 97/24/EC, as amended by this Directive.

For the type I test, the limit values set out in row A of the Table in Chapter 5, Annex II to Directive 97/24/EC, as amended by this Directive, shall be used.

3. With effect from 1 January 2004, Member States shall:

— consider certificates of conformity which accompany new vehicles pursuant to Directive 92/61/EEC as no longer valid, and

— refuse the registration, sale or entry into service of new vehicles which are not accompanied by a certificate of conformity in accordance with Directive 92/61/EEC,

on grounds relating to the measures to be taken against air pollution, if the vehicles fail to comply with the provisions of Directive 97/24/EC, as amended by this Directive.

For the type I test, the limit values set out in row A of the Table in Chapter 5, Annex II to Directive 97/24/EC, as amended by this Directive, shall be used.

Article 3

1. Member States may make provision for tax incentives only in respect of vehicles which comply with Directive 97/24/EC, as amended by this Directive. Such incentives shall comply with either of the following conditions:

(a) they shall apply to all new vehicles offered for sale on the market of a Member State which comply in advance with the mandatory limit values set out in row A of the Table in Chapter 5, Annex II to Directive 97/24/EC, as amended by this Directive; they shall be terminated with effect from the mandatory application of the emission limit values laid down in Article 2(3) for new vehicles; or

(b) they shall apply to all new vehicles offered for sale on the market of a Member State which comply with the permissive limit values set out in row B of the Table in Chapter 5, Annex II to Directive 97/24/EC, as amended by this Directive.

2. For each type of vehicle referred to in paragraph 1, the tax incentives shall be for an amount lower than the additional cost of obtaining and fitting on the vehicle the technical solutions introduced to ensure compliance with the values set in either row A or row B of the Table in Chapter 5, Annex II to Directive 97/24/EC, as amended by this Directive.

3. The Commission shall be informed in sufficient time of plans to create or change the tax incentives referred to in paragraph 1, so that it can submit its observations.

Article 4

1. The Commission shall consider a further tightening of the emission standards of vehicles falling within the scope of this Directive, taking into account:

- (a) technical developments in the field of emission control technology and their technical and economic feasibility with regard to their application to motorcycles;
- (b) the advances in the development of a more representative test cycle for motorcycles which remedies the current limitations of the current test cycle, such as cold start and high driving dynamics;
- (c) the opportunity to harmonise the test cycle on a world-wide basis;
- (d) the correlation of limit values between the current and the new test cycle.

2. On the elements referred to in paragraph 1, the Commission shall submit, if necessary, a proposal to the European Parliament and the Council, containing *inter alia*:

- (a) a new dedicated test cycle to be used for the measurement of emissions in the type I test;

(b) mandatory emission limit values to be applied from 2006.

Article 5

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 2001 at the latest. They shall forthwith inform the Commission thereof.

When Member States adopt those provisions, they shall contain a reference to this Directive or be accompanied by such a reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

Article 6

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

Article 7

This Directive is addressed to the Member States.

 ANNEX

Chapter 5 of Directive 97/24/EC is amended as follows:

1. Annex II is amended as follows:

(a) Section 1.4 is replaced by the following:

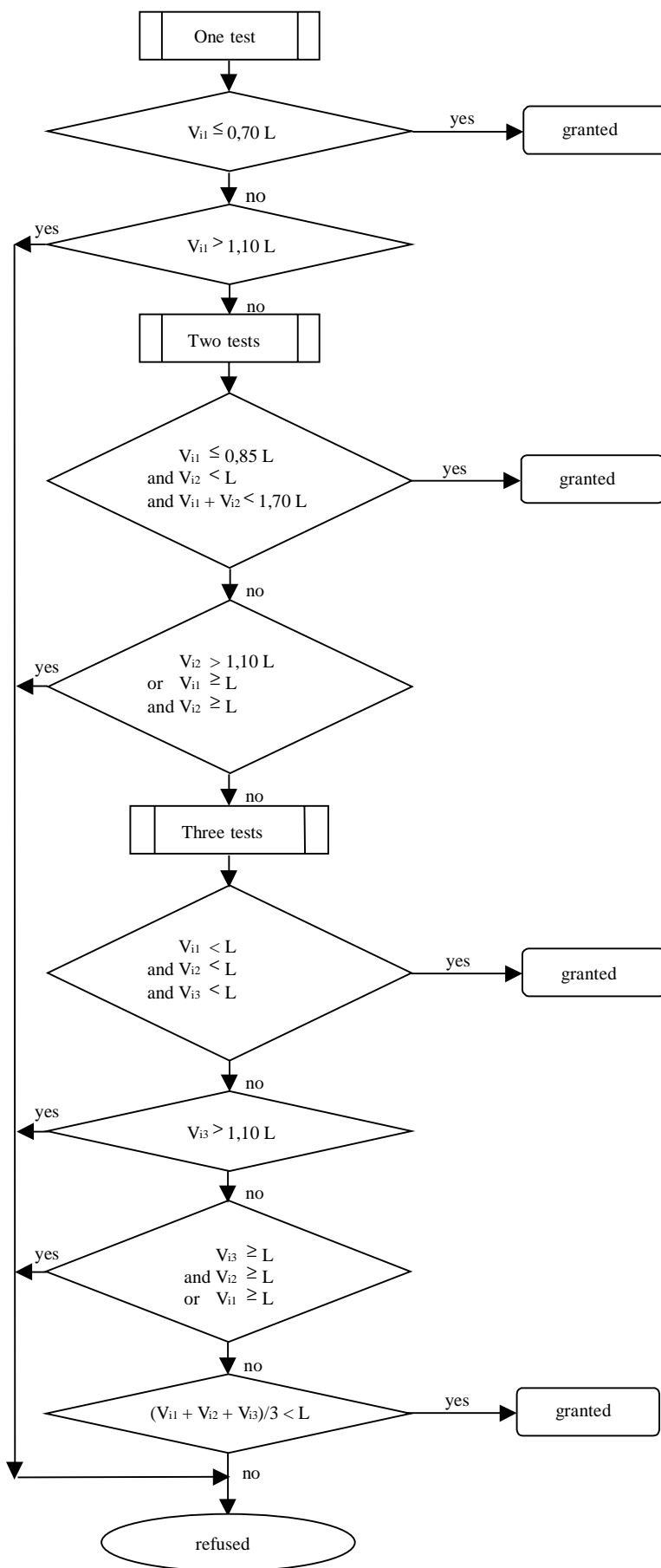
'1.4. "Gaseous pollutants" means the exhaust gas emissions of carbon monoxide, oxides of nitrogen expressed in terms of nitrogen dioxide (NO₂) equivalent, and hydrocarbons, assuming a ratio of:

- C₁H_{1,85} for petrol;
- C₁H_{1,86} for diesel.'

(b) Section 2.2.1.1. is replaced by the following:

- '2.2.1.1. Type I test (checking the average value of tailpipe emissions in a congested urban area)
 - 2.2.1.1.1. The test is carried out by the procedure described in Appendix 1. The methods used to collect and analyse the gaseous pollutants are those laid down.
 - 2.2.1.1.2. Figure I.2.2 illustrates the routes for type I test.
 - 2.2.1.1.3. The vehicle is placed on a chassis dynamometer equipped with a means of load and inertia simulation

Figure I.2.2. Flow chart for the type I test



2.2.1.1.4. 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 analysed, following the procedure described below, and the total volume of the diluted exhaust is measured.

2.2.1.1.5. Subject to the requirements of 2.2.1.1.6, the test must be repeated three times. The resulting masses of gaseous emissions obtained in each test must be less than the limits shown in the table below (row A):

	Class	Mass of carbon monoxide (CO)	Mass of hydrocarbons (HC)	Mass of oxides of nitrogen (NO _x)
		L ₁ (g/km)	L ₂ (g/km)	L ₃ (g/km)
Limit values for motorcycles (two-wheel) for type approval and conformity of production				
A (2003)	all	5,5	1,2	0,3
B ⁽¹⁾	I (≤ 150 cc)	2,0	0,8	0,2
	II (> 150 cc)	2,0	0,3	0,1
Limit values for tricycles and quadricycles for type approval and conformity of production (positive ignition)				
A (2003)	all	7,0	1,5	0,4
Limit values for tricycles and quadricycles for type approval and conformity of production (compression ignition)				
A (2003)	all	2,0	1,0	0,65

⁽¹⁾ The values in row B are permissive and applicable for the purposes of Article 3 of the Directive.

Notwithstanding the requirements of 2.2.1.1.5, for each pollutant or combination of pollutants, one of the three resulting masses obtained may exceed, by not more than 10 %, the limit prescribed, provided the arithmetical mean of the three results is below the prescribed limit. Where the prescribed limits are exceeded for more than one pollutant it is immaterial whether this occurs in the same test or in different tests.

2.2.1.1.6. The number of tests prescribed in 2.2.1.1.5 is reduced in the conditions hereinafter defined, where V₁ is the result of the first test and V₂ the result of the second test for each pollutant.

2.2.1.1.6.1. Only one test is performed if the result obtained for each pollutant is less than or equal to 0,70 L (i.e. V₁ ≤ 0,70 L).

2.2.1.1.6.2. If the requirement of 2.2.1.1.6.1 is not satisfied, only two tests are performed if, for each pollutant the following requirements are met:

$$V_1 \leq 0,85 \text{ L and } V_1 + V_2 \leq 1,70 \text{ L and } V_2 \leq 1,0 \text{ L.}$$

(c) Table I and Table II in Section 2.2 are deleted.

(d) Section 2.2.1.2 is replaced by the following:

2.2.1.2. Type II test (test of carbon monoxide at idling speed) and emissions data required for roadworthiness testing

2.2.1.2.1. This requirement applies to all vehicles powered by a positive-ignition engine for which EC type-approval is sought in accordance with this Directive.

2.2.1.2.2. When tested in accordance with Appendix 2 (type II test) at normal idling speed:

- The carbon monoxide content by volume of the exhaust gases emitted is recorded.
- The engine speed during the test must be recorded, including any tolerances.

- 2.2.1.2.3. When tested at "high idle" speed (i.e. > 2000 min⁻¹):
- The carbon monoxide content by volume of the exhaust gases emitted is recorded.
 - The engine speed during the test must be recorded, including any tolerances.
- 2.2.1.2.4. The engine oil temperature at the time of the test must be measured and recorded.
- 2.2.1.2.5. The recorded data are completed in the relevant Sections of the document, referred to in Annex VII of 92/61/EEC, as last amended.'
- (e) A new Section 3.1.1 is added, to read as follows:
- '3.1.1. A vehicle is taken from the series and subjected to the test described in 2.2.1.1. The limit values for checking conformity of production are those indicated in the table in Section 2.2.1.1.5'
- (f) The former Section 3.1.1 is renumbered as 3.1.2 and amended as follows:
- the words 'Tables I and II' are replaced by 'the Table in Section 2.2.1.1.5'.
 - the words 'the tables referred to in 2.2.1.1.2' are replaced by 'the Table in Section 2.2.1.1.5'.
- (g) Section 3.1.3 of Appendix 1 is replaced by the following:
- '3.1.3. The tightness of the intake system may be checked to ensure the carburation is not affected by an accidental intake of air.'
- (h) In Section 5.3.1 of Appendix 1, the last sentence is amended, to read as follows:
- 'Two complete pre-conditioning cycles are performed before the exhaust gases are collected.'
- (i) Section 6.1.3 of Appendix 1 is replaced by the following:
- '6.1.3. Prior to the initiation of the first pre-conditioning cycle, a flow of air of variable speed is directed at the motorcycle or motor tricycle. Two complete cycles are then performed during which no exhaust gases are collected. The ventilation system must include a mechanism controlled by the speed of the bench roller so that, in the range from 10 km/h to 50 km/h, the linear air speed at the blower outlet is equal to the relative speed of the roller with an approximation of 10 %. For roller speeds below 10 km/h, the air speed may be zero. The end Section of the air blower device must have the following characteristics:
- (i) surface area of at least 0,4 m²;
 - (ii) lower edge between 0,15 and 0,20 m above ground level;
 - (iii) distance from the leading edge of the motorcycle or motor tricycle between 0,3 and 0,45 m.'
- (j) In Section 6.2.2 of Appendix 1, the first sentence is deleted.
- (k) Section 7.2.1 of Appendix 1 is replaced by the following:
- '7.2.1. After two pre-conditioning cycles (first moment of the first cycle), the operation specified in 7.2.2 to 7.2.5 are performed simultaneously.'
- (l) Section 7.4 of Appendix 1 is replaced by the following:
- 7.4 Analysis
- 7.4.1. The exhaust gases contained in the bag must be analysed as soon as possible and in any event not later than 20 minutes after the end of the test cycle.
- 7.4.2. Prior to each sample analysis the analyser range to be used for each pollutant must be set to zero with the appropriate zero gas.

- 7.4.3. The analysers are then set to the calibration curves by means of span gases of nominal concentrations of 70 to 100 % of the range.
- 7.4.4. The analysers' zeros are then rechecked. If the reading differs by more than 2 % of range from that set in 7.4.2, the procedure is repeated.
- 7.4.5. The samples are then analysed.
- 7.4.6. After the analysis, zero and span points are rechecked using the same gases. If these rechecks are within 2 % of those in 7.4.3, the analysis is considered acceptable.
- 7.4.7. At all points in this Section the flow-rates and pressures of the various gases must be the same as those used during calibration of the analysers.
- 7.4.8. The figure adopted for the concentration of each pollutant measured in the gases is that read off after stabilisation on the measuring device.'
2. Annex IV is replaced by the following:

'ANNEX IV

SPECIFICATIONS FOR THE REFERENCE FUEL (PETROL)

The reference fuel used is the one described in ANNEX IX, Section 1, of Directive 70/220/EEC.

SPECIFICATIONS FOR THE REFERENCE FUEL (DIESEL)

The reference fuel used is the one described in ANNEX IX, Section 2, of Directive 70/220/EEC.'
