

Regulation (EU) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles (Text with EEA relevance)

CHAPTER III

SUBSTANTIVE REQUIREMENTS

Article 18

General substantive requirements

1 L-category vehicles and systems, components and separate technical units intended for such vehicles shall comply with the requirements listed in Annexes II to VIII applicable to the relevant vehicle (sub-)categories.

2 L-category vehicles or their systems, components or separate technical units, whose electromagnetic compatibility is covered by the delegated acts referred to in paragraph 3 of this Article regarding vehicle construction and the implementing acts adopted pursuant to this Regulation, shall not be subject to Directive 2004/108/EC of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility⁽¹⁾.

3 In order to complete the L-category vehicle type-approval requirements laid down in this Regulation, the Commission shall adopt delegated acts in accordance with Article 75 concerning the detailed technical requirements and test procedures as summarised in Annex II (A), (B) and (C), thereby ensuring a high level of safety and environmental protection as defined in the relevant provisions of this Regulation. The first such delegated acts shall be adopted by 31 December 2014.

Article 19

Prohibition of defeat devices

The use of defeat devices that reduce the effectiveness of safety, electromagnetic compatibility, the on-board diagnostics system, sound abatement or pollutant emission abatement systems shall be prohibited. An element of design shall not be considered a defeat device if any of the following conditions is met:

- (a) the need for the device is justified in terms of protecting the engine against damage or accident and ensuring safe operation of the vehicle;
- (b) the device does not function beyond the requirements of engine starting;
- (c) the operating conditions are included to a substantial extent in the test procedures for verifying if the vehicle complies with this Regulation and with the delegated and implementing acts adopted pursuant to this Regulation.

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Article 20

Measures for manufacturers regarding modifications to the powertrain of vehicles

1 Vehicle manufacturers shall equip L-category vehicles with the exception of subcategories L3e-A3 and L4e-A3, with designated features to prevent tampering of a vehicle's powertrain, by means of a series of technical requirements and specifications with the aim:

- a to prevent modifications that may prejudice safety, in particular by increasing vehicle performance through tampering with the powertrain in order to increase the maximum torque and/or power and/or maximum design vehicle speed which have been duly established during the type-approval procedure as followed by the manufacturer of the vehicle; and/or
- b to prevent damage to the environment.

2 The Commission shall adopt delegated acts in accordance with Article 75 concerning the specific requirements regarding the measures referred to in paragraph 1 and in order to facilitate compliance with paragraph 4. The first such delegated acts shall be adopted by 31 December 2014.

3 After a modification of the powertrain, a vehicle shall comply with the technical requirements of the initial vehicle category and subcategory, or, if applicable, the new vehicle category and subcategory, which were in force when the original vehicle was placed on the market, registered or entered into service, including the latest amendments to the requirements.

Where the vehicle manufacturer designs the powertrain of a vehicle type in such a way as to allow for its modification so that a vehicle no longer conforms to the approved type, but would correspond to an additional variant or version, the vehicle manufacturer shall include the relevant information for each variant or version so created in the application and each variant or version shall be explicitly type-approved. If the modified vehicle falls into a new category or subcategory, application shall be made for a new type-approval.

4 Without prejudice to paragraph 1, in order to avoid modifications or adjustments with adverse effects on the functional safety or on the environmental performance of the vehicle, the manufacturer shall endeavour, through the use of best engineering practice, to prevent such modifications or adjustments from being technically possible, unless such modifications or adjustments are explicitly declared and contained in the information folder and thus covered by the type-approval.

[^{F1}Article 21

General requirements of on-board diagnostic systems

1 L-category vehicles, with the exception of L1e, L2e and L6e vehicles, shall be equipped with an OBD system which complies with the functional requirements and test procedures laid down in the delegated acts referred to in paragraph 8 and as from the application dates set out in Annex IV.

2 From the dates set out in point 1.8.1 of Annex IV, vehicle categories and subcategories L3e, L4e, L5e-A and L7e-A shall be equipped with an OBD stage I system which monitors any electric circuit and electronics failure of the emission control system and reports those failures which result in the emission thresholds laid down in Annex VI (B1) being exceeded.

Changes to legislation: There are currently no known outstanding effects for the Regulation (EU) No 168/2013 of the European Parliament and of the Council, CHAPTER III. (See end of Document for details)

3 From the dates set out in point 1.8.2 of Annex IV, vehicle categories and subcategories L3e, L4e, L5e and L7e shall be equipped with an OBD stage I system which monitors any electric circuit and electronics failure of the emission control system and which triggers a report when the emission thresholds laid down in Annex VI (B1) are exceeded. OBD stage I systems for those vehicle categories and subcategories shall also report the triggering of any operating mode which significantly reduces engine torque.

4 From the dates set out in point 1.8.3 of Annex IV, vehicle categories L3e, L4e, L5e and L7e shall be equipped with an OBD stage I system which monitors any electric circuit and electronics failure of the emission control system and which triggers a report when the emission thresholds laid down in Annex VI (B2) are exceeded. OBD stage I systems for those vehicle categories shall also report the triggering of any operating mode which significantly reduces engine torque.

5 From the dates set out in point 1.8.4 of Annex IV, vehicle categories and subcategories L3e, L4e, L5e-A and L7e-A shall in addition be equipped with an OBD stage II system which monitors and reports emission control system failures and degradation, with the exception of catalyst monitoring, which result in the OBD emission thresholds laid down in Annex VI (B1) being exceeded.

6 From the dates set out in point 1.8.5 of Annex IV, vehicle categories and subcategories L3e, L4e, L5e-A and L7e-A shall in addition be equipped with an OBD stage II system which monitors and reports emission control system failures and degradation which result in the OBD emission thresholds laid down in Annex VI (B2) being exceeded.

7 Paragraphs 5 and 6 shall not apply to enduro motorcycles in subcategory L3e-AxE and trial motorcycles in subcategory L3e-AxT.

8 In order to harmonise the OBD system reporting of functional safety or emission control system faults and facilitate effective and efficient repair of a vehicle, the Commission is empowered to adopt delegated acts in accordance with Article 75 supplementing this Regulation by laying down the detailed technical requirements related to on-board diagnostics with respect to vehicle categories and subcategories as set out in Annex II, C1 – Vehicle construction and general type-approval requirements, the row relating to No 11, including functional OBD requirements and test procedures for the subjects listed in paragraphs 1 to 7 of this Article, and the detailed technical requirements related to test type VIII referred to in Annex V.]

Textual Amendments

- F1** Substituted by [Regulation \(EU\) 2019/129 of the European Parliament and of the Council of 16 January 2019 amending Regulation \(EU\) No 168/2013 as regards the application of the Euro 5 step to the type-approval of two- or three-wheel vehicles and quadricycles.](#)

Article 22

Requirements for the functional safety of vehicles

1 Manufacturers shall ensure that vehicles are designed, constructed and assembled so as to minimise the risk of injury to the vehicle occupants and to other road users.

2 The manufacturer shall ensure that the functional safety of the vehicle shall endure throughout the normal life of the vehicle if used under normal conditions and serviced in accordance with the manufacturer's recommendations. The manufacturer shall provide a

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statement in the information folder confirming that the endurance of the systems, parts and equipment critical for functional safety is ensured through appropriate testing and use of good engineering practice.

3 Manufacturers shall ensure that vehicles, systems, components and separate technical units comply with the relevant requirements set out in Annexes II and VIII and comply with the test procedures and performance requirements as laid down in a delegated act adopted pursuant to paragraph 5.

4 Components of vehicles, whose hazards of an electrical nature are covered by the delegated or implementing acts adopted pursuant to this Regulation, shall not be subject to Directive 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits⁽²⁾.

5 In order to ensure that a high level of functional safety is attained, the Commission shall adopt delegated acts in accordance with Article 75 on the specific requirements listed in Annex II (B) regarding the functional safety of vehicles and where applicable, base itself on the enhanced functional safety requirements laid down in Annex VIII. The first such delegated acts shall be adopted by 31 December 2014.

6 The Commission shall adopt in a second step by 31 December 2020 a delegated act in accordance with Article 75, in order to harmonise the normal life requirements and tests to ensure vehicle structure integrity as listed in [X1 Annex II (B) 18.]

7 The Commission may adopt implementing acts in order to lay down a template for the manufacturer's statement. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 73(2).

Editorial Information

- X1** Substituted by [Corrigendum to Regulation \(EU\) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles \(Official Journal of the European Union L 60 of 2 March 2013\)](#).

Article 23

Requirements for environmental performance

1 Manufacturers shall ensure that vehicles are designed, constructed and assembled so as to minimise the impact on the environment. Manufacturers shall ensure that type-approved vehicles meet the environmental performance requirements as set out in Annexes II, V and VI and within the durability mileage as set out in Annex VII.

2 Manufacturers shall ensure that vehicles, systems, components and separate technical units comply with the test procedures and test requirements as set out in Annex V within the application dates set out in Annex IV to be laid down in a delegated act adopted pursuant to paragraph 12 of this Article.

3 Manufacturers shall ensure that type-approval requirements for verifying durability requirements are met. At the choice of the manufacturer one of the following durability test procedures shall be used to provide evidence to the approval authority that the environmental performance of a type-approved vehicle is durable:

- a actual durability testing with full mileage accumulation:

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The test vehicles shall physically accumulate the full distance set out in Annex VII (A) and shall be tested in accordance with the procedure laid down in test type V as set out in the delegated act adopted pursuant to paragraph 12 of this Article. The emission test results up to and including the full distance set out in Annex VII (A) shall be lower than the [X¹environmental performance test limits] set out in Annex VI (A);

- b actual durability testing with partial mileage accumulation:

The test vehicles shall physically accumulate a minimum of 50 % of the full distance set out in Annex VII (A) and shall be tested in accordance with the procedure laid down in test type V as set out in the delegated act adopted pursuant to paragraph 12 of this Article. As specified in that act, the test results shall be extrapolated up to the full distance set out in Annex VII (A). Both the test results and the extrapolated results shall be lower than the [X¹environmental performance test limits] set out in Annex VI (A);

- [F¹c mathematical durability procedure:

Until 31 December 2024, for each emission constituent, the product of the multiplication of the deterioration factor set out in Annex VII (B) and the environmental performance test result of a vehicle which has accumulated more than 100 km after it was first started at the end of the production line shall be lower than the environmental performance test limit set out in Annex VI (A).

Notwithstanding the first subparagraph, for new types of vehicles from 1 January 2020 and for existing types of vehicles from 1 January 2021 until 31 December 2024, for each emission constituent the product of the multiplication of the deterioration factor set out in Annex VII (B) and the environmental performance test result of a vehicle which has accumulated more than 2 500 km for a vehicle with a maximum design vehicle speed of < 130 km/h and 3 500 km for a vehicle with a maximum design vehicle speed of ≥ 130 km/h after it was first started at the end of the production line shall be lower than the tailpipe emission limit set out in Annex VI (A).]

- 4 By 1 January 2016, the Commission shall carry out a comprehensive environmental effect study. The study shall evaluate the air quality and the share of pollutants contributed by L-category vehicles and shall cover the requirements of test types I, IV, V, VII and VIII listed in Annex V.

It shall collate and evaluate the latest scientific data, scientific research findings, modelling and cost efficiency with a view to establishing definitive policy measures by confirmation and final establishment of the Euro 5 enforcement laid down in Annex IV and the Euro 5 [X¹environmental performance requirements] laid down in Annex V, in Annex VI (A2), (B2) and (C2) and in Annex VII concerning Euro 5 durability mileages and deterioration factors.

- 5 Based on the findings referred to in paragraph 4, the Commission shall by 31 December 2016 present to the European Parliament and the Council a report on the following:

- a the enforcement dates of the Euro 5 level referred to in Annex IV;
- b the Euro 5 emission limits referred to in Annex VI (A2) and the OBD thresholds in Annex VI (B2);
- c that all new types of vehicles in (sub-)categories L3e, L5e, L6e-A and L7e-A shall, in addition to OBD stage I, also be equipped with OBD stage II at the Euro 5 level;
- d the durability mileages for the Euro 5 level referred to in Annex VII (A) and the deterioration factors for the Euro 5 level referred to in Annex VII (B).

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The Commission shall make any appropriate legislative proposals in the light of that report.

6 Basing itself on the results of the environmental effect study, the Commission shall adopt a delegated act in accordance with Article 75 determining which of the (sub-)categories L1e-A, L1e-B, L2e, L5e-B, L6e-B, L7e-B and L7e-C for the Euro 5 level are to be subject to SHED testing or to fuel tank and tubing permeation testing, with the test limits listed in Annex VI (C2).

7 Manufacturers shall ensure that L- category vehicles comply with the applicable test requirements regarding environmental performance for approval and extensions as laid down in Annex V (A).

8 With regards to test type I, the relevant emission limit for L3e-AxE (Enduro, x = 1, 2 or 3) and L3e-AxT (Trial, x = 1, 2 or 3) motorcycles shall be the sum of L₂ (THC) and L₃ (NO_x) of Annex VI (A). The emission test results (NO_x + THC) shall be smaller than or equal to this limit (L₂ + L₃).

9 Vehicles of category L4e shall meet the [^{X1}environmental performance requirements] laid down in Annex V for vehicles of category L3e, whereby for test types I, IV, VII and VIII of Annex V either the complete assembly of the base powered vehicle is tested with the sidecar being fitted or only the base powered vehicle without the side car being fitted as appropriate.

10 Manufacturers shall ensure that all replacement pollution control devices placed on the market or at the entry into service in the Union, are type-approved in accordance with this Regulation.

11 The requirements referred to in paragraphs 1 to 10 shall apply to vehicles, systems, components and separate technical units in accordance with Annex II.

12 In order to ensure a high level of environmental protection, the Commission shall be empowered to adopt delegated acts in accordance with Article 75 concerning the detailed technical specifications on [^{X1}environmental performance requirements] for the subjects referred to in paragraphs 1, 2, 3, 6 and 7 of this Article including test procedures.

Editorial Information

X1 Substituted by [Corrigendum to Regulation \(EU\) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles \(Official Journal of the European Union L 60 of 2 March 2013\)](#).

Textual Amendments

F1 Substituted by [Regulation \(EU\) 2019/129 of the European Parliament and of the Council of 16 January 2019 amending Regulation \(EU\) No 168/2013 as regards the application of the Euro 5 step to the type-approval of two- or three-wheel vehicles and quadricycles](#).

Article 24

Additional [^{X1}environmental performance requirements] with regards to greenhouse gas emissions, fuel consumption and electric energy consumption and electric range

1 CO₂ (carbon dioxide) emissions shall be determined in the applicable laboratory emission test cycle by the manufacturer and reported by the manufacturer to the approval authority. Fuel consumption and/or electric energy consumption and electric range shall be

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either calculated based on the type-approval emission laboratory test results or measured, witnessed by the technical service and reported to the approval authority.

2 The CO₂ measurement result, the calculated or measured fuel consumption, electric energy consumption and electric range shall be included in the information folder as specified in the implementing act referred to in Article 27(4), and the relevant information shall also be indicated on the certificate of conformity.

In addition to the indication on the certificate of conformity, the manufacturers shall ensure that the CO₂ emission, fuel consumption, electric energy consumption and electric range data are provided to the buyer of the vehicle at the time of purchase of a new vehicle, in a format which they consider appropriate.

3 The Commission shall be empowered to adopt delegated acts in accordance with Article 75 concerning test type VII test procedure requirements regarding CO₂ emission measurement, fuel consumption, electric energy consumption and electric range calculation and measurement methods.

Editorial Information

- X1** Substituted by [Corrigendum to Regulation \(EU\) No 168/2013 of the European Parliament and of the Council of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles \(Official Journal of the European Union L 60 of 2 March 2013\)](#).

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- (1) [OJ L 390, 31.12.2004, p. 24.](#)
- (2) [OJ L 374, 27.12.2006, p. 10.](#)

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