Commission Delegated Regulation (EU) 2018/295 of 15 December 2017 amending Delegated Regulation (EU) No 44/2014, as regards vehicle construction and general requirements, and Delegated Regulation (EU) No 134/2014, as regards environmental and propulsion unit performance requirements for the approval of two- or three-wheel vehicles and quadricycles

COMMISSION DELEGATED REGULATION (EU) 2018/295

of 15 December 2017

amending Delegated Regulation (EU) No 44/2014, as regards vehicle construction and general requirements, and Delegated Regulation (EU) No 134/2014, as regards environmental and propulsion unit performance requirements for the approval of two- or three-wheel vehicles and quadricycles

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard 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[(1)], and in particular Articles 18(3), 21(5)and 23(12) thereof,

Whereas:

(1) On the basis of the Commission report to the European Parliament and the Council on the comprehensive effect study of the environmental step Euro 5 for L-category vehicles[(2)] in accordance with Article 23(4) of Regulation (EU) No 168/2013, and taking into account issues encountered by approval authorities and stakeholders in applying Regulation (EU) No 168/2013, Commission Delegated Regulation (EU) No 44/2014[(3)] and Commission Delegated Regulation (EU) No 134/2014[(4)], certain changes and clarifications should be made in the Delegated Regulations in order to ensure their smooth application.

(2) In order to ensure effective functioning of the EU type-approval system for L-category vehicles, the technical requirements and test procedures set out in Delegated Regulations (EU) No 44/2014 and (EU) No 134/2014 should be continuously improved and adapted to technical progress.

(3) Annex IV to Delegated Regulation (EU) No 44/2014 contains the equation to be used for checking compliance of produced vehicles, systems, components and separate technical units with the approved type. The equation should be amended to ensure clarity. Annex XII to Delegated Regulation (EU) No 44/2014 should be amended with respect to the engine operation window for misfire detection to ensure that the imposed requirements are technically feasible. Annex XII should also be amended to enable a technical upgrade to new standards developed for the interface between generic scan tools and the vehicle with respect to the on-board diagnostic (OBD) systems. Appendix 2 to Annex XII should be amended to provide clarification on several items that are monitored with

Changes to legislation: *There are currently no known outstanding effects for the Commission Delegated Regulation (EU) 2018/295. (See end of Document for details)*

respect to the OBD requirements set out therein. New appendices should be added to Annex XII to ensure the correct implementation of in-use performance ratios.

(4) Certain equations should be adapted in Annexes II, III and IV to Delegated Regulation (EU) No 134/2014 to provide more clarity. Annex VI to that Delegated Regulation should be amended to ensure the correct application of test requirements regarding the durability of pollution control devices. The classification requirements of the Standard Road Cycle for L-Category Vehicles (SRC-LeCV) in Annex VI should be adapted to ensure the correct application of those requirements during testing. The use of the Approved Mileage Accumulation (AMA) cycle laid down in Annex VI for class III vehicles should be phased out in accordance with the conclusions of the comprehensive environmental effect study. Annex VI should also be amended to allow the use of bench ageing as an alternative to the actual physical durability testing with full or partial mileage accumulation.

(5) One of the measures against excessive hydrocarbon emissions from L-category vehicles is to limit the evaporative emissions of those vehicles. For that purpose, Annex VI(C) to Regulation (EU) No 168/2013 lays down hydrocarbon mass limits for vehicle categories L3e, L4e, L5e-A, L6e-A and L7e-A. The evaporative emissions of those vehicles are measured at type-approval. One of the requirements of the type IV Sealed House evaporative Emission Determination (SHED) test is either to fit a rapidly aged carbon canister or to apply an additive deterioration factor when fitting a degreened carbon canister. The comprehensive environmental effect study investigated whether or not it was cost beneficial to apply SHED testing to vehicle categories L1e, L2e, L5e-B, L6e-B, L7e-B and L7e-C. As the result of the study demonstrated that that method was not cost beneficial, Annex V to Delegated Regulation (EU) No 134/2014 should be amended to allow the continuous use of the already established alternative and more cost beneficial method of permeation testing in the Euro 5 step for manufactures of category L1e, L2e, L5e-B, L6e-B, L7e-B and L7e-C vehicles.

(6) On the basis of the comprehensive environmental effect study, the Commission concluded that the mathematical procedure for the verification of durability requirements set out in Article 23(3) of Regulation (EU) No 168/2013 should be phased out by 2025. The study pointed out that that theoretical procedure did not ensure that the durability requirements set out in Regulation (EU) No 168/2013 were met in reality. To mitigate the impact of phasing out that method, the study proposed to introduce bench ageing as an alternative procedure to the actual durability testing procedure with full mileage and partial mileage accumulation. Bench ageing is a well-established procedure often applied to vehicles falling within the scope Directive 2007/46/EC of the European Parliament and of the Council[(5)]. Annex VI to Delegated Regulation (EU) No 134/2014 should be amended to introduce the bench ageing procedure derived from the requirements set out in Commission Regulation (EC) No 692/2008[(6)] and UNECE Regulation No 83[(7)] and adapted to fit the requirements needed for L-category vehicles.

(7) Delegated Regulation (EU) No 44/2014 and Delegated Regulation (EU) No 134/2014 should be amended at the same time to ensure that the Euro 5 step can be correctly

implemented for all the L-category vehicles concerned as laid down in the table of Annex IV to Regulation (EU) No 168/2013.

(8) Delegated Regulation (EU) No 44/2014 and Delegated Regulation (EU) No 134/2014 should therefore be amended accordingly,

HAS ADOPTED THIS REGULATION:

Article 1

Amendments to Delegated Regulation (EU) No 44/2014

Delegated Regulation (EU) No 44/2014 is amended as follows:

(1) in Article 2, point 42 is replaced by the following:

(42) ‘driving cycle’ means a test cycle consisting of engine key-on, driving mode where a malfunction would be detected if present, and engine key-off;;

(2) Annexes IV and XII are amended in accordance with Annex I to this Regulation.

Article 2

Amendments to Delegated Regulation (EU) No 134/2014

Annexes II to VI, Annex VIII and Annex X to Delegated Regulation (EU) No 134/2014 are amended in accordance with Annex II to this Regulation.

Article 3

Entry into force

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

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 15 December 2017.

For the Commission

The President

Jean-Claude JUNCKER

Changes to legislation: *There are currently no known outstanding effects for the Commission Delegated Regulation (EU) 2018/295. (See end of Document for details)*

ANNEX I

Amendments to Delegated Regulation (EU) No 44/2014

Annexes IV and XII to Delegated Regulation (EU) No 44/2014 are amended as follows:

1. In Annex IV, points 4.1.1.3.1.1.1.1.1., 4.1.1.3.1.1.1.1.2. and 4.1.1.3.1.1.1.1.3. are replaced by the following:

4.1.1.3.1.1.1.1.1. If the durability method set out in Article 23(3)(a) of Regulation (EU) No 168/2013 is applicable, the deterioration factors shall be calculated from the type I emission test results up to and including full distance referred to in Annex VII(A) to Regulation (EU) No 168/2013 and in accordance with the linear calculation method referred to in point 4.1.1.3.1.1.1.1.2. resulting in slope and offset values per emission constituent. The CoP pollutant emission results shall be calculated with the formula: *Equation 4-1:*

Yfull = a (Xfull – XCoP) + YCoP

where:

a	=	slope value ((mg/km)/km) determined in accordance with test type V set out in Annex V(A) to Regulation (EU) No 168/2013;
XFull	=	durability mileage (km) as set out in Annex VII to Regulation (EU) No 168/2013;
XCoP	=	Mileage of the CoP vehicle at moment of Type I CoP test;
Yfull	=	CoP emission result per pollutant emission constituent in mg/km. The average CoP results shall be lower than the pollutant emission limits set out in Annex VI(A) to Regulation (EU) No 168/2013;
YCoP	=	pollutant emission (THC, CO, NO_x, NMHC and PM if applicable) test result (mg/km) per emission constituent of test type I with CoP vehicle.

4.1.1.3.1.1.1.1.2 If the durability method set out in Article 23(3)(b) of Regulation (EU) No 168/2013 is applicable, the deterioration trend shall consist of the slope value a, as is reflected in point 4.1.1.3.1.1.1.1.1, per emission constituent calculated to comply with test type V in accordance with Annex V(A) to Regulation (EU) No 168/2013. Equation 4-1 shall be used to calculate the CoP emission results per pollutant emission constituent (Yfull).

4.1.1.3.1.1.1.1.3. If the durability method set out in Article 23(3)(c) of Regulation (EU) No 168/2013 is applicable, the fixed deterioration factors set out in Annex VII(B) to Regulation (EU) No 168/2013 shall be multiplied by the type test I result of the CoP vehicle (Ycop) to calculate the average CoP emission results per pollutant emission constituent (Yfull)..

2. Annex XII is amended as follows:

(a) the following point 3.2.3.is inserted:

3.2.3. Identification of deterioration or malfunctions may also be done outside a driving cycle (e.g. after engine shutdown).;

(b) point 3.3.2.2. is replaced by the following:

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3.3.2.2. Engine misfire

The presence of engine misfire in the engine operating region bounded by the following lines:

(a) low speed limit: A minimum speed of 2 500 min^{-1} or normal idle speed + 1 000 min^{-1}, whichever is the lower

(b) high speed limit: A maximum speed of 8 000 min^{-1} or 1 000 min^{-1} greater than the highest speed occurring during a type I test cycle or maximum design engine speed minus 500 min^{-1}, whichever is lower

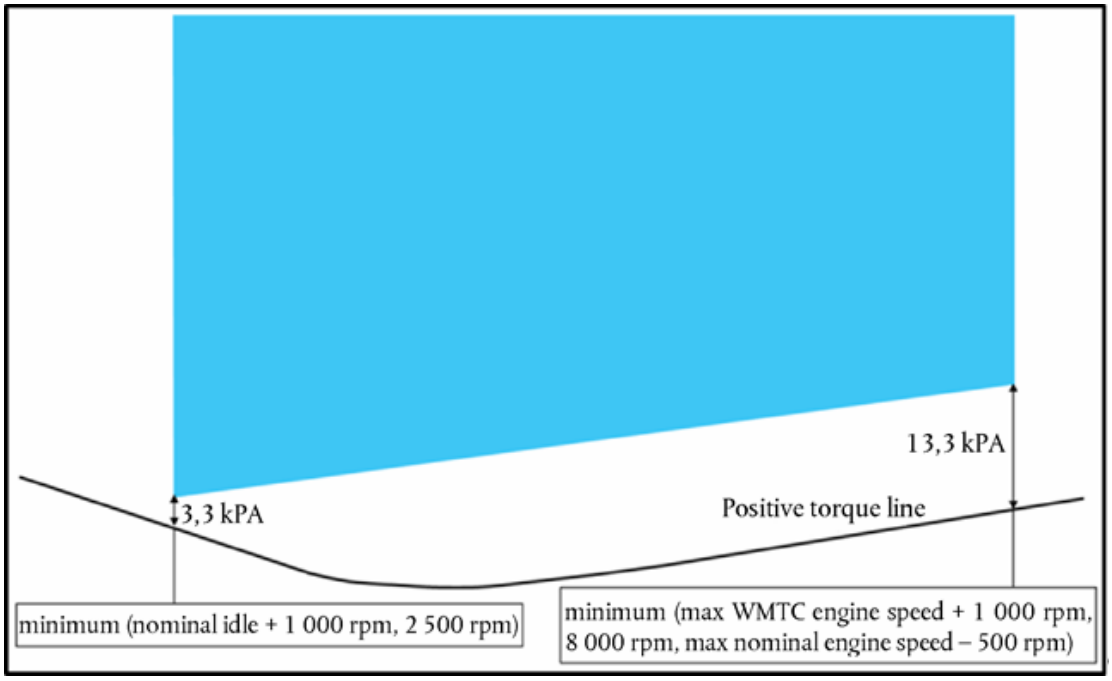
(c) a line joining the following engine operating points:

(i) a point on the low speed limit defined in (a) with the engine intake vacuum at 3,3 kPa lower than that at the positive torque line;

(ii) a point on the high speed limit defined in (b) with the engine intake vacuum at 13,3 kPa lower than that at the positive torque.

The engine operation region for misfire detection is reflected in Figure 10-1.

Figure 10-1 **Operating region for misfire detection**



(c) the following point 3.10. is inserted:

3.10. Additional provisions for vehicles employing engine shut-off strategies.

3.10.1. Driving cycle