Commission Regulation (EU) 2017/1221 of 22 June 2017 amending Regulation (EC) No 692/2008 as regards the methodology for the determination of evaporative emissions (Type 4 test) (Text with EEA relevance)

COMMISSION REGULATION (EU) 2017/1221

of 22 June 2017

amending Regulation (EC) No 692/2008 as regards the methodology for the determination of evaporative emissions (Type 4 test)

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

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

Having regard to Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information[(1)], and in particular Article 14(3) thereof,

Whereas:

(1) Regulation (EC) No 715/2007 requires new light-duty vehicles to comply with certain emission limits including evaporative emissions. The specific technical provisions necessary to implement that Regulation were adopted by Commission Regulation (EC) No 692/2008[(2)].

(2) The Commission established a working group in March 2011 involving all interested stakeholders for reviewing the existing methodology for measuring evaporative emissions and developing a new one, addressing mainly the issues of purging strategy, effect of ethanol on canister working capacity, durability, fuel permeation and refuelling emissions.

(3) The working group based its work on many elements contained in two reports published by the Joint Research Centre of the Commission entitled ‘Estimating the Costs and Benefits of Introducing a new European Evaporative Emissions Test Procedure’ and ‘Review of the European Test Procedure for Evaporative Emissions: Main Issues and Proposed Solutions’.

(4) The analysis of the working group has identified a number of shortfalls which undermine the efficacy of the evaporative emissions control and need to be remedied in order to ensure an satisfactory level of environmental protection. It is therefore appropriate to introduce two new procedures for aging of the carbon canister and for the definition of a permeability of the fuel system in the existing type-approval procedure.

(5) The addition of ethanol in the European petrol fuels, especially when splash-blended has an effect in the vapour pressure of the fuel. The E10 reference fuel should therefore be used in testing in order to better reflect the currently used fuel in the Union.

Changes to legislation: *There are currently no known outstanding effects for the Commission Regulation (EU) 2017/1221. (See end of Document for details)*

(6) Monolayer plastic tanks are still being sold in the Union and are expected to be a significant part of the European fleet until the year 2030. However, such tanks are permeable to ethanol, which is thus emitted in the environment. Therefore, a dedicated procedure to measure the permeation of ethanol is needed in order to take into account this effect.

(7) The addition of ethanol was also proven to affect the durability of carbon canisters in studies performed by the Swedish Road Administration and TUV Nord. For this reason, a new procedure should be added in order to age the canister. The aged canister should then be used in the tested vehicle during the SHED test.

(8) The current purging strategies employed in vehicles in the Union are not adequate especially for urban driving and thus may lead to increased bleed emissions. Therefore, the test drive before the SHED test was reviewed and the duration of the diurnal test should be increased to 48 hours.

(9) Regulation (EC) No 692/2008 should therefore be amended accordingly.

(10) The measures provided for in this Regulation are in accordance with the opinion of the Technical Committee — Motor Vehicles,

HAS ADOPTED THIS REGULATION:

Article 1

Amendments to Regulation (EC) No 692/2008

Regulation (EC) No 692/2008 is amended as follows:

(1) In Article 2, the following points 45 to 48 are added:

45. "Fuel Storage System" means devices which allow storing the fuel, comprising of the fuel tank, the fuel filler, the filler cap and the fuel pump;

46. "Permeability Factor (PF)" means the hydrocarbon emissions as reflected in the permeability of the fuel storage system;

47. "Monolayer tank" means a fuel tank constructed with a single layer of material;

48. "Multilayer tank" means a fuel tank constructed with at least two different layered materials, one of which is impermeable to hydrocarbons, including ethanol.

(2) In Article 17, the following paragraph is inserted after the second subparagraph:

Annex VI as amended by Commission Regulation (EU) 2017/1221[(3)] shall apply from 1 September 2019 to all new vehicles registered on and after that date..

(3) Annex VI is replaced by the text set out in the Annex to this Regulation.

Article 2

Entry into force and application

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

[[F1]It shall apply from 1 September 2019.**]**

Textual Amendments

F1 Inserted by Commission Regulation (EU) 2017/1347 of 13 July 2017 correcting Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EU) No 582/2011 and Commission Regulation (EU) 2017/1151 supplementing Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information, amending Directive 2007/46/EC of the European Parliament and of the Council, Commission Regulation (EC) No 692/2008 and Commission Regulation (EU) No 1230/2012 and repealing Regulation (EC) No 692/2008 (Text with EEA relevance).

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

Changes to legislation: *There are currently no known outstanding effects for the Commission Regulation (EU) 2017/1221. (See end of Document for details)*

ANNEX

ANNEX VI

1. **Introduction**

1.1. This Annex describes the procedure for the Type 4 test, which determines the emission of hydrocarbons by evaporation from the fuel systems of vehicles with positive ignition engines.

2. **Technical requirements**

2.1. Introduction

The procedure includes the evaporative emissions test and two additional tests, one for the aging of the carbon canister, as described in point 5.1, and one for the permeability of the fuel storage system, as described in point 5.2.

The evaporative emissions test (Figure 1) is designed to determine hydrocarbon evaporative emissions as a consequence of diurnal temperatures fluctuation, hot soaks during parking, and urban driving.

2.2 The evaporative emissions test consists of:

(a) Test drive including an urban (Part One) and an extra-urban (Part Two) driving cycle, followed by two urban (Part One) driving cycles,

(b) Hot soak loss determination,

(c) Diurnal loss determination.

The mass emissions of hydrocarbons from the hot soak and the diurnal loss phases are added up together with the permeability factor to provide an overall result for the test.

3. **Vehicle and fuel**

3.1. Vehicle

3.1.1. The vehicle shall be in good mechanical condition and have been run in and driven at least 3 000 km before the test. For the purpose of the determination of evaporative emissions, the mileage and the age of the vehicle used for certification shall be recorded. The evaporative emission control system shall be connected and have been functioning correctly over the run in period and the carbon canister(s) shall have been subject to normal use, neither undergoing abnormal purging nor abnormal loading. The carbon canister(s) aged according to the Procedure set out in point 5.1 shall be connected as described in Figure 1.

3.2. Fuel

3.2.1. The Type I E10 reference fuel specified in Annex IX to Regulation (EC) No 692/2008 shall be used. For the purposes of this Regulation, E10 reference shall mean the Type I reference fuel, except for the canister aging, as set out in point 5.1.

4. **Test equipment for evaporative test**

4.1. Chassis dynamometer

The chassis dynamometer shall meet the requirements of Appendix 1 of Annex 4a to UN/ECE Regulation No 83.

***Changes to legislation:** There are currently no known outstanding effects for the Commission Regulation (EU) 2017/1221. (See end of Document for details)*

4.2. Evaporative emission measurement enclosure

The evaporative emission measurement enclosure shall meet the requirements of paragraph 4.2 of Annex 7 to UN/ECE Regulation No 83.

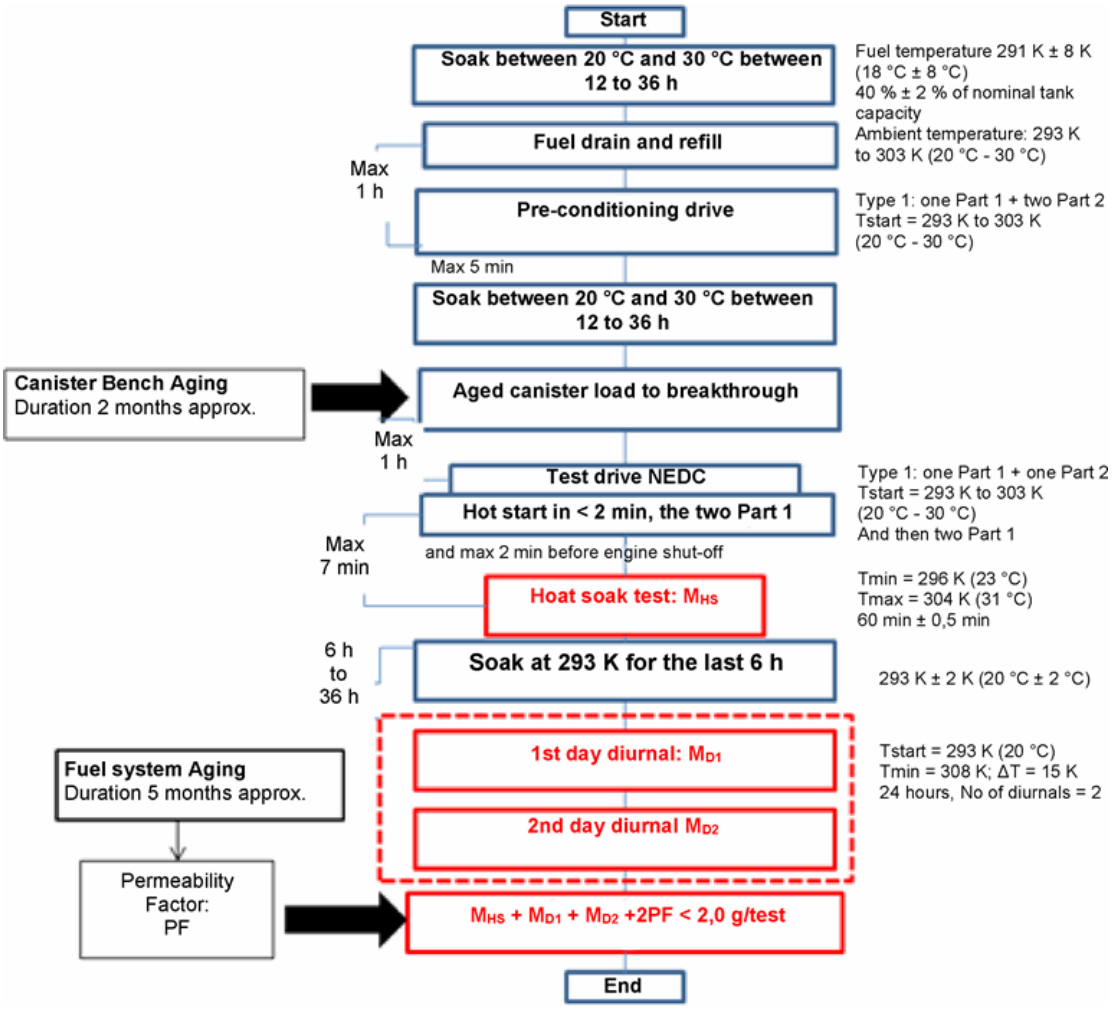
Figure 1 **Determination of evaporative emissions**

3 000 km run-in period (no excessive purge/load)

Use of aged of canister(s)

Steam-clean of vehicle (if necessary)

Reducing or removing non-fuel background emission sources (if agreed)



Notes:

4.3. Analytical systems

The analytical systems shall meet the requirements of paragraph 4.3 of Annex 7 to UN/ECE Regulation No 83.

4.4. Temperature recording