

20 June 2023

Agreement

Concerning the Adoption of Harmonized Technical United Nations Regulations for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these United Nations Regulations*

(Revision 3, including the amendments which entered into force on 14 September 2017)

Addendum 82 – UN Regulation No. 83

Revision 5 - Amendment 15

Supplement 15 to the 07 series of amendments – Date of entry into force: 5 June 2023

Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements

This document is meant purely as documentation tool. The authentic and legal binding text is: ECE/TRANS/WP.29/2022/136.



UNITED NATIONS

* Former titles of the Agreement:

Agreement concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, done at Geneva on 20 March 1958 (original version); Agreement concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, done at Geneva on 5 October 1995 (Revision 2).



Paragraph 9.3.5.1., amend to read:

"9.3.5.1. When applying the statistical procedure defined in Appendix 4 to this Regulation (i.e. for tailpipe emissions), the number of sample lots shall depend on the annual production volume of an in-service family intended for sales in the contracting parties that apply this Regulation, as defined in Table 4.

Table 4
Sample size

<i>Production Volume</i> - per calendar year (for tailpipe emission tests), - of vehicles of an OBD family with IUPR in the sampling period	<i>Number of sample lots</i>
Up to 100,000	1
100,001 to 200,000	2
Above 200,000	3

"

Add new paragraph 9.3.5.3., to read:

"9.3.5.3. In-service conformity checks for the Type I test (i.e. for tailpipe emissions) shall not be mandatory if the annual production volume of an in-service family intended for sales in the contracting parties that apply this Regulation was less than 5 000 vehicles for the previous year."

Appendix 2, paragraph 6., amend to read:

"6. Remarks

The following recursive formulae are useful for computing successive values of the test statistic:

$$\bar{d}_n = \left(1 - \frac{1}{n}\right) \bar{d}_{n-1} + \frac{1}{n} d_n$$

$$V_n^2 = \left(1 - \frac{1}{n}\right) V_{n-1}^2 + \frac{(\bar{d}_n - d_n)^2}{n-1}$$

$$(n = 2, 3, \dots; \bar{d}_1 = d_1; V_1 = 0)$$

..."

Annex 2

Paragraph 2.4., amend to read:

"2.4. Smoke opacity test results^{1,6}

2.4.1. At steady speeds: See technical service test report number (if any):

2.4.2. Free acceleration tests

2.4.2.1. Measured value of the absorption coefficient (if any): m⁻¹

2.4.2.2. Corrected value of the absorption coefficient: m⁻¹

2.4.2.3. Location of the absorption coefficient symbol on the vehicle:.....

⁶ Smoke opacity values according to provisions laid out in UN Regulation No. 24. "

Annex 4a

Appendix 1, paragraph 1., amend to read:

"1. Specification

1.1. General requirements

For test and measurement equipment that is compliant with the technical requirements of UN Regulation No. 154 original series or later version, the requirements on the technical equipment described in UN Regulation No. 154 may be followed, in all other cases the following requirements shall apply:

- 1.1.1. The dynamometer shall be capable of simulating road load within one of the following classifications: ..."

Appendix 2, paragraph 1.2., amend to read:

- "1.2. General requirements

For test and measurement equipment that is compliant with the technical requirements of UN Regulation No. 154 original series or later version, the requirements on the technical equipment described in UN Regulation No. 154 may be followed, in all other cases the following requirements shall apply:

..."

Appendix 3, paragraph 1., amend to read:

- "1. Specification

For test and measurement equipment that is compliant with the technical requirements of UN Regulation No. 154 original series or later version, the requirements on the technical equipment described in UN Regulation No. 154 may be followed, in all other cases the following requirements shall apply:

..."

Appendix 4, paragraph 1., amend to read:

- "1. Specification

For test and measurement equipment that is compliant with the technical requirements of UN Regulation No. 154 original series or later version, the requirements on the technical equipment described in UN Regulation No. 154 may be followed, in all other cases the following requirements shall apply:

..."

Appendix 5, paragraph 1., amend to read:

- "1. Specification

For test and measurement equipment that is compliant with the technical requirements of UN Regulation No. 154 original series or later version, the requirements on the technical equipment described in UN Regulation No. 154 may be followed, in all other cases the following requirements shall apply:

..."

Appendix 6, paragraph 1., amend to read:

- "1. Object

The method described in this appendix makes it possible to check that the simulated total inertia of the dynamometer is carried out satisfactorily in the running phase of the operating cycle. The manufacturer of the dynamometer shall specify a method for verifying the specifications according to paragraph 3. of this appendix.

In case of the equipment that meets UN Regulation No. 154 requirements, this application may not be required."

Annex 7

Paragraph 4., amend to read:

- "4. Test equipment for evaporative test

For test and measurement equipment that is compliant with the technical requirements of UN Regulation No. 154 original series or later version, the requirements on the technical equipment described in UN Regulation No. 154 may be followed, in all other cases the following requirements shall apply:

4.1. Chassis dynamometer

The chassis dynamometer shall meet the requirements of Appendix 1 to Annex 4a to this Regulation.

..."

Appendix 1, paragraph 1., amend to read:

"1. Calibration frequency and methods

For test and measurement equipment that is compliant with the technical requirements of UN Regulation No. 154 original series or later version, the requirements on the technical equipment described in UN Regulation No. 154 may be followed, in all other cases the following requirements shall apply:

..."

Annex 11,

Paragraph 3.2.1.2., amend to read:

"3.2.1.2. A manufacturer may disable any specific OBD monitor for a given driving cycle for ambient or engine temperatures below 266 K (-7° C) or at elevations over 2,500 metres above sea level provided the manufacturer submits data and/or an engineering evaluation which adequately demonstrate that monitoring would be unreliable when such conditions exist. A manufacturer may also request disablement of any specific OBD monitor at other ambient temperatures or other elevations if they demonstrate to the authority with data and/or an engineering evaluation that misdiagnosis would occur under such conditions. It is not necessary to illuminate the Malfunction Indicator (MI) if OBD thresholds are exceeded during a regeneration provided no defect is present. "

Appendix 1, paragraph 6.5.3.2., amend to read:

"6.5.3.2. Standards used for the transmission of OBD relevant information:

- (a) ISO 15031-5 "Road vehicles - communication between vehicles and external test equipment for emissions-related diagnostics – Part 5: Emissions-related diagnostic services", dated 1 April 2011 or SAE J1979 dated 23 February 2012;
- (b) ISO 15031-4 "Road vehicles – Communication between vehicle and external test equipment for emissions related diagnostics – Part 4: External test equipment", dated 1 June 2005 or SAE J1978 dated 30 April 2002;
- (c) ISO 15031-3 "Road vehicles – Communication between vehicle and external test equipment for emissions related diagnostics Part 3: Diagnostic connector and related electrical circuits: specification and use", dated 1 July 2004 or SAE J 1962 dated 26 July 2012;
- (d) ISO 15031-6 "Road vehicles – Communication between vehicle and external test equipment for emissions related diagnostics – Part 6: Diagnostic trouble code definitions", dated 13 August 2010 or SAE J2012 dated 7 March 2013;
- (e) ISO 27145 "Road vehicles – Implementation of World-Wide Harmonized On-Board Diagnostics (WWH-OBD)" dated 2012-08-15 with the restriction, that only 6.5.3.1.(a) may be used as a data link;

- (f) SAE J 1979-2 "E/E Diagnostic Test Modes: OBDonUDS", April 2021.
The standards (e) or (f) may be used as an option instead of (a)."
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