

**Comments to the proposal for an amendment to Regulation
No. 49 (Re: ECE/TRANS/WP.29/GRPE/2011/16)**

amendments are provided in blue italic double underlined

I. Justification

1. Editorial amendments:

All amendments proposed by the Re document should be bold marked. Some are not.
They concern paragraphs 4.3, 4.6.4 (b)

2. Malfunction indicator, paragraph 4.6.1:

The yellow and amber colours are not defined in Annex 5 but in the core of Regulation 37

3. Ambient temperature and altitude conditions, paragraph 5.2.2:

One of the purpose of the amendment is to clarify the expression "ambient engine start" temperature. See also justification §3 (a) of the amendment. The word "engine start shall be deleted".

3. Reference to ISO 13400, Appendix 6:

Details regarding the Re standard shall be introduced at this stage.

3. Reference to the SAE J3939 series of standard, paragraph 4.7.3:

there is no need to reference -71 separately, as -73 already sufficiently references -71
J1939 example is added to provide a description of SAE J1939-type fault codes.

4. Definition of 'Driving cycle'

the precision "(of the vehicle)" should apply to the operation , not to the engine !

II. Proposal

Annex 9

Paragraph 4.3., amend to read:

"4.3. Requirements for recording OBD information

.....

In case a malfunction with the previously active status occurs again, that malfunction may at the choice of manufacturer be directly given the "Pending DTC " and "confirmed and active DTC" status. ~~Without~~ **without** having been given the "potential DTC" status. If that malfunction is given the potential status, it shall also keep the previously active status during the time it is not yet confirmed and active.

....."

Paragraph 4.6.1., amend to read:

"4.6.1 MI specification

The malfunction indicator shall be a visual signal that is perceptible under all lighting conditions. The malfunction indicator shall comprise a yellow (~~as defined in Annex 5 to UNECE Regulation No. 7~~) or amber (as defined in Annex 5 to UNECE Regulation No. 37) warning signal identified by the ~~E01 0640~~ symbol in accordance with ISO standard ~~2575:2004~~ **7000:2004**.

Paragraph 4.6.4., amend to read:

"4.6.4. MI activation at key-on/engine-off

The MI activation at key-on/engine-off shall consist of two sequences separated by a 5 seconds MI off:

- (a) the first sequence is designed to provide an indication of the MI functionality and the readiness of the monitored components;
- (b) the second sequence is designed to provide an indication of the presence of a malfunction.

The second sequence is repeated until engine is started 1 (engine-on) or the key is set to the key-off position.

At the request of the manufacturer, this activation may only occur once during an operating sequence (for example in case of start-stop systems)."

Paragraph 4.7.3., amend to read:

"4.7.3. Access to OBD information

.....

Access to OBD information shall be provided using, at least one of the following series of standards mentioned in Appendix 6:

¹ An engine may be considered started during the cranking phase.

- (a) ~~ISO/PAS 27145~~ **ISO 27145 with ISO 15765-4** (CAN-based)
- (b) **ISO 27145 with ISO 13400** (TCP/IP-based)
- (c) ~~SAE J1939-71 and~~ **SAE J1939-73**

Manufacturers shall use appropriate ISO or SAE-defined fault codes (for example, P0xxx, P2xxx, etc...) whenever possible. If such identification is not possible, the manufacturer may use diagnostic trouble codes according to the relevant clauses in ISO 27145 or SAE J1939. The fault codes must be fully accessible by standardized diagnostic equipment complying with the provisions of this annex.

The manufacturer shall provide the ISO or SAE standardization body through the appropriate ISO or SAE process with emission-related diagnostic data not specified by ISO 27145 or SAE J1939 but related to this annex."

Paragraph 5.2.2., amend to read:

"5.2.2. Ambient temperature and altitude conditions

~~Manufacturers may request approval to disable OBD system monitors at ambient engine start temperatures below 266 K (-7 degrees Celsius or 20 degrees Fahrenheit) or above 308 K (35 degrees Celsius or 95 degrees Fahrenheit), or at elevations above 2,500 meters (8,202 feet) above sea level.~~

- (a) **at ambient engine start temperatures below 266 K (-7 degrees Celsius) in the case where the coolant temperature has not reached a minimum temperature of at least 333 K (60 degrees Celsius), or**
- (b) **at ambient temperatures below 266K (-7 degrees Celsius) in the case of frozen reagent, or**
- (c) **at ambient temperatures above 308 K (35 degrees Celsius), or**
- (d) **at elevations above 2,500 meters above sea level.**

A manufacturer may further request approval that an OBD system monitor be **temporarily** disabled at other ambient ~~engine start~~ temperatures **and altitude conditions** upon determining that the manufacturer has demonstrated with data and/or an engineering evaluation that misdiagnosis would occur at those ambient conditions because of its effect on the component itself (e.g. component freezing, **effect on the compatibility with sensor tolerances**).

Notes:"

Paragraph 5.2.3., in the table, the text of row (b), amend to read:

- "(b) The low fuel pressure in the tank considered for such a disablement shall not exceed 20 per cent of the **usable range of fuel tank pressure.**"

Appendix 6, amend to read:

" **Reference standard documents**

This appendix contains the references to the industry standards that are to be used in accordance to the provisions of this annex to provide the serial communications interface to the vehicle/engine. There are **two allowed solutions identified:**

ISO 15765-4 or SAE J1939-73 or ISO/PAS 27145.

- (a) ISO 27145 with either ISO 15765-4 (CAN based) with either ISO 15765-4 (CAN based) or with ISO 13400 (TCP/IP based),
- (b) SAE J1939-73.

In addition there are other ISO or SAE standards that are applicable in accordance with the provisions of this annex.

Reference by this annex to ISO 27145 means reference to:

- (a) ISO 27145-1 Road vehicles — Implementation of WWH-OBD communication requirements — Part 1 — General Information and use case definitions
- (b) ISO 27145-2 Road vehicles — Implementation of WWH-OBD communication requirements — Part 2 — Common emissions-related data dictionary;
- (c) ISO 27145-3 Road vehicles — Implementation of WWH-OBD communication requirements — Part 3 — Common message dictionary;
- (d) ISO 27145-4 Road vehicles — Implementation of WWH-OBD communication requirements — Part 4 — Connection between vehicle and test equipment.

Reference by this annex to J1939-73 means reference to:

[J1939-73 "APPLICATION LAYER - DIAGNOSTICS", dated on year 2011.](#)

[Reference by this annex to ISO 13400 means reference to:](#)

[\(a\) FDIS 13400-1: 2011 Road vehicles — Diagnostic communication over Internet Protocol \(DoIP\) — Part 1: General information and use case definition;](#)

[\(b\) FDIS 13400-3: 2011 Road vehicles — Diagnostic communication over Internet Protocol \(DoIP\) — Part 2 — Network and transport layer requirements and services;](#)

[\(c\) FDIS 13400-3: 2011 Road vehicles — Diagnostic communication over Internet Protocol \(DoIP\) — Part 3: IEEE 802.3 based wired vehicle interface;](#)

[\(d\) not yet finalised \[13400-4: 2011 Road vehicles — Diagnostic communication over Internet Protocol \(DoIP\) — Part 4: Ethernet-based high-speed data link connector\].](#)

Annex 9C

[Paragraph 3.7., amend to read](#)

["3.7 A "driving cycle" means a sequence consisting of an engine start, an operating period \(of the vehicle\), an engine shut-off, and the time until the next engine start.](#)