



WWH-OBD

GLOBAL TECHNICAL REGULATION (GTR)
DRAFT PROPOSAL

A. STATEMENT OF TECHNICAL RATIONALE AND JUSTIFICATION

A. A summary of the report that the working group is required to prepare when it recommends the global technical regulations (gtr), including a synopsis of the gtr's:

1. Technical and economic feasibility;
2. Anticipated benefits; and
3. Potential cost effectiveness.

B. TEXT OF REGULATION

1. SCOPE AND PURPOSE

1.1. Scope and Purpose

A simple statement that appears at the beginning of the gtr that describes the particular aspect of environmental performance addressed by the gtr.

1.2. General appraisal of OBD benefits

(maintenance, role of OBD in Inspection & Maintenance and in in use compliance)

2. APPLICATION

2.1. Application

A clear description of the types of vehicles that are subject to the gtr.

2.2. Routes for certification

- certification of the engine as a separate technical unit
- certification of the installation of the engine on the vehicle
- certification of the engine and its installation

2.3. Applicable conditions (temperature, altitude, etc...)

3. DEFINITIONS

3.1. OBD

"On Board Diagnostic system (OBD)" means a system on-board a vehicle or engine which has the capability of detecting malfunctions or failures, of indicating their occurrence by means of a malfunction indicator, and of identifying the likely area of malfunction by means of fault codes stored in computer memory;

Note: For the present stage of the GTR, OBD definition is restricted to emission related malfunctions /failures of the engine system;-

3.2. Engine System

"Engine System" means the engine itself, as well as the emission control system, incl. the after treatment systems, in the same lay-out as considered during the "engine" certification process on an emission engine test-bench, the interface and any emission related information exchanged between the engine and the other powertrain and vehicle components;-

3.3. Malfunction

"Malfunction" means

o any deterioration or failure, including electrical failures, of the engine system, that would result in emissions exceeding the OBD threshold limit set by the legislator, or, when applicable, in failing to reach the range of functional performance approved by the certification authority.

o any case where the OBD system is not able to fulfil the monitoring requirements of this GTR.-

3.4. OBD specific definitions

3.4.1. Malfunction indicator

"Malfunction indicator (MI)" means a visual indicator that clearly informs the driver of the vehicle in the event of a malfunction in the sense of this GTR-

3.4.2. Operating sequence

"An operating sequence" means the sequence used for determining the conditions for extinguishing the MI. It consists of an engine start-up, an operating period, an engine shut-off, and the time until the next start-up, where the OBD monitoring is running and a malfunction would be detected if present; -

3.4.3. OBD test-cycle

"OBD test-cycle" means the operation of the engine system on an engine test-bed used for demonstrating the conformity of the OBD system in view of the certification of the engine system as a separate technical unit when performing a fault testing of the engine system;-

3.4.4. Deteriorated component

"Deteriorated component/system" means a component/system of the engine system that has been intentionally deteriorated and/or manipulated for the purpose of conducting a certification test on the OBD system -

3.4.5. Standardised information

"Standardised" means that all emission related OBD data (i.e. stream information in the case a scanning tool is used), including all fault codes used, shall be produced only in accordance with industry standards which, by virtue of the fact that their format and the permitted options are clearly defined, provide for a maximum level of harmonisation in the motor vehicle industry, and whose use is expressly permitted in this GTR-

3.4.6. Unrestricted information

"Unrestricted" means:

access not dependent on an access code obtainable only from the manufacturer, or a similar device, or,
access allowing evaluation of the data produced without the need for any unique decoding information, unless that information itself is standardised-

4. GENERAL REQUIREMENTS

4.1. Requirements to be met for certification

- certification of the engine as a separate technical unit
- certification of the installation of the engine on the vehicle
- certification of the engine and its installation

4.2. Small batch production4.3. Electronic security4.4. Deficiencies4.5. Virtual engines (alternative settings)4.6. Operational OBD strategies4.6.1. defeat strategies are not allowed4.6.2. public / confidential information4.7. Service / repair information to third parties

5. OBD PERFORMANCE REQUIREMENTS

5.1. THRESHOLDS5.2. Malfunctions types5.2.1. Malfunctions to be detected by the OBD system5.2.2. Malfunction classifications (type of monitoring)5.3. Durability of the OBD system5.4. Malfunction indication5.4.1. MI specification5.4.2. MI Activation / De-activation5.5. temporary disablement of the OBD system5.6. OBD information5.6.1. Readiness information5.6.2. Diagnostic information (fault codes, freeze frame, etc...)5.6.3. When and how the information should be available5.6.4. Hours counted with DTC5.7. Information Storage / Erasing5.8. Access to OBD information5.8.1. Diagnostic connector5.8.2. Location of the diagnostic connector5.8.3. Communication Protocols5.8.4. Scan Tool specifications5.8.5. On-Board visual display

6. TEST CONDITIONS

6.1. Test procedure

6.1.1. Selection of malfunctions

Electronic simulation of a failure

6.1.2. Preconditioning

6.1.3. Testing and evaluation of the test results

6.2. OBD engine family

6.3. Test Protocol

7. TEST PROCEDURES

7.1. WHOC - World Harmonised OBD Test Cycle

7.2. Test operating conditions

7.3. Test measurement devices and procedures

8. ANNEX

8.1. General Annex

8.1.1. Documentation on the OBD system

8.1.2. Conformity of production of the OBD system

8.1.3. Guidelines for using OBD information during vehicle inspection

8.2. Specific annex (58 agreement)

8.2.1. Marking etc...

8.2.2. Penalties in case of non CoP