

World-Wide Harmonised Heavy-Duty OBD (WWH-OBD)

Proposed terms of reference for a GRPE ad hoc working group

WP29 decided in November 2001 a GTR will be made, dealing with "On Board emission Diagnostic systems for Heavy duty vehicles and engines". A two years working plan is proposed to GRPE for having a first complete GTR proposal available in May 2004.

Scope of the GTR proposal

The GTR proposal will concern the exhaust emissions of regulated pollutants from those Heavy Duty vehicles and engines that are homologated against regulative provisions requesting the measurement of their exhaust emissions on an engine test-bed.

It will concern Diesel fuelled compression ignition engines. Vehicles / engines fuelled with alternative fuels as well as hybrid vehicles will be addressed by further amendments to the GTR.

The OBD system will detect failures from the engine itself, as well as from the exhaust after-treatment systems fitted downstream the engine. The package of information exchanged with the vehicle and the powertrain will be part of the monitored elements.

The proposal will be based on the technologies expected to be industrially available at the time it will be enforced, and will particularly take into account the expected state of the electronics in the 2005-2008's years and the expected newest engine and after-treatment technologies.

Content of the GTR proposal - Tasks of the working group

Having precisely defined its specific vocabulary, the GTR proposal will address the following issues:

- the failures to be detected by the OBD system
- the information to be made available by the OBD system
- the homologation procedure of the OBD system

Failures

The OBD system has to detect emission related malfunctions.

The task of the WWH-OBD working group is to transform this assertion into a realistic and operational proposal under the continuous arbitrage of GRPE.

The proposal will address the interrelation between regulated emissions limits and the concepts of OBD thresholds limits and functional failures. In that respect the expected monitoring capability of the OBD system at the time the GTR will be enforced will be taken into account and regarded as an input data.

Information

The OBD system has to alert and to inform about emission related malfunctions.

The task of the WWH-OBD working group is to propose to GRPE possible alert and information principles and to generate the rules associated with the GRPE guidance / decisions.

The working group will address particularly the following issues:

- the communication protocols between the system and the outside world (ISO contribution ?)
- the telecommunication between the OBD system and remote stations (feasibility in the committed time frame ?)
- the recording of engine/vehicle data under a failure event (which priority among the failures ?)

Homologation

The OBD system has to be homologated against the GTR requirements.

The task of the WWH-OBD ad-hoc group is to propose an effective test procedure for this homologation, including an eventually specific OBD test-cycle, in coherence with the work performed by both the "WHDC" and the "Off-cycle" GRPE working groups.

This includes the development of adequate specific provisions, should GRPE decide to request from the OBD system a permanent self evaluation of its in-use detection rate (cf. GM presentation in the SAE Topotech meeting –Pasadena 2001).

"WWH – OBD" ad hoc GRPE working group - proposed time-schedule

