

GFV-TF – amendments to R49  
"OBD for EURO VI gas-fuelled engines"

Informal document No. GRPE-57-34  
(57th GRPE, 13-16 January 2009,  
agenda item 2)

# UN-ECE GFV informal group Task-Force "OBD for gas fuelled engines"

Status Report to GRPE  
15 January 2009

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## GFV Sept.08 decision

- Launch a dedicated Task-Force to adapt Annex 9B of R49 rev.4 to gas engines;
- Present an informal amending proposal to GRPE (January 2009);
- Have the final amendments approved:
  - By GRPE in June 2009;
  - By WP29 in November 2009.

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## TF Meetings

- 13 November 2008 phone conference
  - Review of the technical work to be achieved
  - Share of the work
- 03 and 04 December 2008 Brussels meeting
  - Elaboration of the amendments to Annex 9B
  - Editorial modifications to Annex 9B
  - *Draft informal GRPE document 15*
- Participants
  - Chair: André Rijnders (Netherlands)
  - Secretary: Jean-Francois Renaudin (OICA/Volvo)
  - Commission: Petter Asman, José Laguna, Klaus Steininger
  - TNO representative
  - OICA, CLEPA, AECC and NGVA-EU representatives

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## Amendments considered necessary

- Applicability of Annex 9B (section 1)
- Amendments outside the GFV scope
- Amendments to permit gas fuelled engines
  - Some of them need advice from the Contracting Parties having undersigned Regulation 49

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## Applicability of Annex 9B

- The TF agreed to limit its contribution to (mono-fuelled) gas engines and not to address dual- or bi-fuelled engines
- The Commission formulates its expectation to further extend Annex 9B to other fuels such as gasoline and ethanol
  - Agreed the lay-out of the modifications introduced for gas fuelled engines will address the Commission needs
  - Note: the Commission may decide to request a further extension of Annex 9B at the January 2009 GRPE
- The simultaneous applicability of Annexes 9A and 9B creates an administrative difficulty
  - The TF recommends to involve GRPE secretariat in solving the issue
  - The TF recommends the Applicability of Annexes 4A and 4B shall be solved at the same time

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## Amendments outside the scope

- Editorial mistakes in Annex 9B
  - The TF took the initiative to correct editorial mistakes
  - WWH-OBD chairman and secretary will be kept informed in case these errors would also exist in GTR#5
- Concept of performance monitoring
  - The performance monitoring concept like specified in GTR #5 appeared quite difficult to understand.
  - The group recommends some examples be given in a dedicated appendix to Annex 9B to provide clarification and guidance during the certification process.

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## Proposed amendments

- Adaptation to gas engines of the monitoring requirements as regards
  - Fuel injection systems
  - Oxygen sensors
  - Three-way catalysts
  - EGR flow and turbo boost (pending).
- Adaptation of the temporary disablement requirements to gas engines as regards
  - Low fuel level
  - Refuelling
- A new section is added concerning the selection of the reference fuel in the case of a gas engine

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## Amendments needing further consideration

- Adaptation to gas engines of the monitoring requirements as regards EGR flow and turbo boost
  - Diesel engines require emission threshold monitoring
  - A scenario requesting performance monitoring instead of threshold monitoring has been considered (for cost-efficiency reasons)
  - Comments from CPs are requested (to be sent to chair and secretary)
- Introduction for gas engines of requirements for monitoring misfiring
  - A scenario requesting monitoring misfire that may cause catalyst damage (e.g. by monitoring a certain percentage of misfiring in a certain period of time) via performance monitoring has been considered
  - Comments from CPs are requested (to be sent to chair and secretary)

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## Conclusion

- GFV recommendations for adapting Annex 9B of R49 to gas engines are included in informal Document 15.
- Some issues remain to be solved that need further consideration from the Contracting Parties
- Some issues are clearly outside the mandate of GFV
- GRPE guidance is very welcome