

Proposal for amendments to the 03 series of amendments to UN Regulation No. 24 (Visible pollutants, measurement of power of Compression Ignition engine (Diesel smoke))

The text reproduced below was prepared by the expert from CITA proposing to amend the 03 series of amendments to UN Regulation No. 24, improving the design of vehicles to make tampering of emissions systems more difficult and to facilitate its detection.

I. Proposal

Paragraph 5.7., amend to read:

“5.7 The approval mark shall be placed close to the engine identification figures provided by the manufacturer. **The approval mark shall be completely visible without dismantling.**“

Paragraph 14.6., amend to read:

“14.6 The approval mark and the additional symbol shall be clearly legible **without dismantling** and be indelible.“

Paragraph 15.1., amend to read:

“15.1. to comply with the provisions of this Regulation.

It shall be possible to inspect the vehicle in roadworthiness by determining its performance in relation to the data collected for type approval as reported in paragraph 11.1.2.2. of Annex 2 to this Regulation. If this inspection requires a special procedure, this shall be detailed in the service manual (or equivalent media). This special procedure shall not require the use of special equipment other than that provided with the vehicle **or a generic scan tool.**

Vehicles shall have simple a method, not requiring any external tool or device, to switch on/off the internal combustion engine in the standard mode of operation to allow activities of maintenance, market surveillance, in-use conformity, periodical inspection and roadside inspection. For hybrid electric vehicles it shall be possible to start the combustion engine using this simple method at any state of charge of the traction battery.

That method shall be described in the vehicles owners' information documents.“

Insert new paragraph 15.1.1.

“15.1.1. **In order to inspect the vehicle in roadworthiness test or to design roadworthiness test methods, all necessary information shall also be made available to Roadworthiness Authorities or related bodies on a non-discriminatory basis.**

This information shall e.g. contain :

- a list of approved software versions of emissions-related controllers and their related integrity information, including necessary access information,
- access and judgement information for emissions-related sensor signals,
- information on how to start the combustion engine on hybrid electric vehicles“

Paragraph 23.6., amend to read:

“23.6 The approval mark and the additional symbol shall be clearly legible **without dismantling** and be indelible.“

Paragraph 24.1., amend to read:

“ 24.1. ... to comply with the provisions of this Regulation.

It shall be possible to inspect the vehicle in roadworthiness by determining its performance in relation to the data collected for type-approval as reported in paragraph 11.1.2.2. of Annex 2 to this Regulation. If this inspection requires a special procedure, this shall be detailed in the service manual (or equivalent media). This special procedure shall not require the use of special equipment other than that provided with the vehicle **or a generic scan tool.**

Vehicles shall have simple a method, not requiring any external tool or device, to switch on/off the internal combustion engine in the standard mode of operation to allow activities of maintenance, market surveillance, in-use conformity, periodical inspection and roadside inspection. For hybrid electric vehicles it shall be possible to start the combustion engine using this simple method at any state of charge of the traction battery.

That method shall be described in the vehicles owners’ information documents.“

Insert new paragraph 24.1.1.

“24.1.1. **In order to inspect the vehicle in roadworthiness test or to design roadworthiness test methods, all necessary information shall also be made available to Roadworthiness Authorities or related bodies on a non-discriminatory basis.**

This information shall e.g. contain :

- a list of emission reducing systems (e.g. particulate trap, NOx trap, SCR, ...) used,
- a list of approved software versions of emissions-related controllers and their related integrity information, including necessary access information,
- access and judgement information for emissions-related sensor signals,
- information on how to start the combustion engine, for hybrid electric vehicles regardless of the state of charge of the traction battery
- information on the sequence of commands necessary to bring the engine to its maximum speed"

Annex 1 , Table, insert new paragraph 1.14.:

“1.14 **Emission control software version“**

Annex 5 , Insert new paragraph 1.5

- “1.5 The engine conditions for the free acceleration, especially the engine speed, shall be reproducible during the life of the vehicle and in particular during the periodical and roadside inspection, without the need of any tool or device. Any sequence of commands necessary to bring the engine to its maximum speed shall be indicated in the user manual.”**

II. Justification

To avoid tampering, it is necessary to have additional requirements for design and behaviour of the systems.

To ensure that tampering at engines can be detected during lifetime, e.g. in roadworthiness testing, it is necessary to provide additional requirements for access to and information about the systems and its components.

A proposal of reference values regarding opacity, particle number and nitrogen oxides will be submitted in a later stage.
