



Vehicle emission after-treatment system tampering and manipulation

-Request for guidance on standardisation of eOBD data related to the urea system sensors -

The problem of ‘emission system tampering and manipulation’ of a vehicle’s after-treatment systems is a growing issue.

There are two specific tampering and manipulation issues – manipulation/removal of a DPF and secondly, the tampering/manipulation of the urea system on vehicles fitted with a selective catalyst reduction (SCR) system.

There are a number of studies and subsequent solutions being implemented to address the issue of DPF tampering and manipulation, but for the urea/SCR issue, one of the proposals to help address this problem during roadworthiness tests and roadside inspections (initially on trucks) is to be able to monitor some of the Urea system sensors using a generic scan tool – specifically the urea dosing pump pressure, urea injector duration, exhaust system and SCR temperature values.

This would provide a fast ‘quick check’ of the system function without the need to disassemble the vehicle to try and find tampering devices and is of special interest for roadside inspections (RSI). The schematic below shows the relationships of temperatures and urea injection activity:

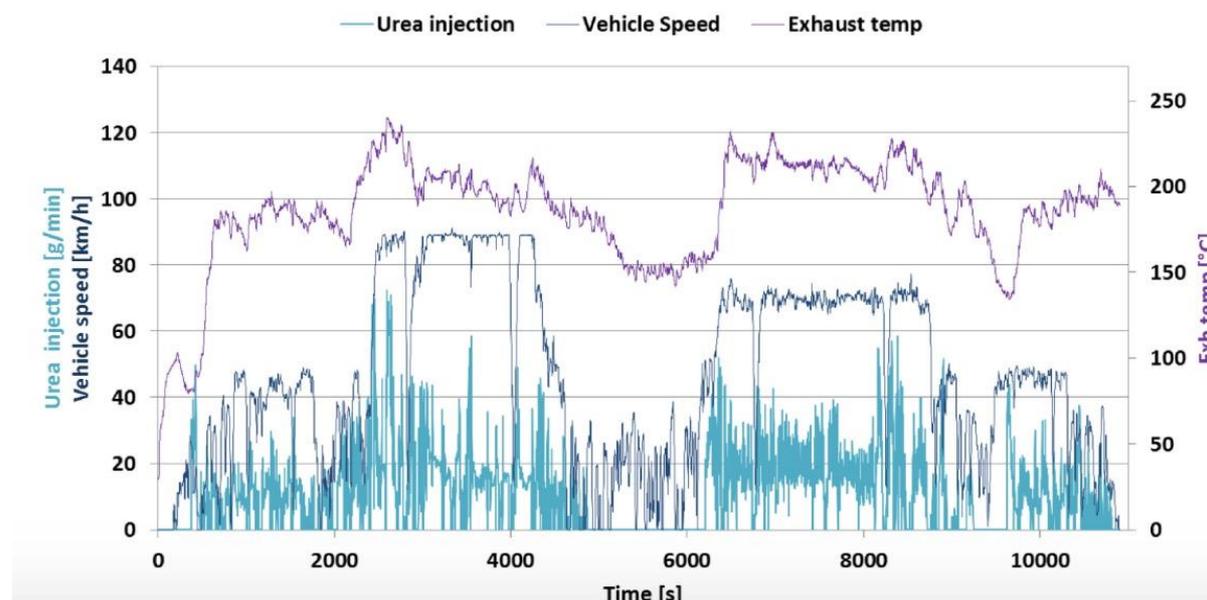


Figure 1 - ScienceDirect

However, these urea system sensor values are not standardised as a part of the EOBD data and are therefore not made available in a standardised manner by vehicle manufacturers to support this proposed test method.

Therefore, EGEA is kindly requesting WP29 GRPE for guidance on how to mandate ISO to update ISO 27145 with ISO 15765-4 (CAN-based), ISO 27145 with ISO 13400 (TCP/IP-based) and SAE J1939-73 to include these additional sensors data as part of the EOBD set of data to be made available in a standardised manner by vehicle manufacturers to independent operators (cf. Euro 5/6 and Euro V/VI Regulations).

In addition to heavy-duty vehicles, the same sensor values should also be standardised in the corresponding ISO and SAE standards for light duty vehicles to ensure emission anti-tampering of urea/SCR issue for both vehicle categories.

We thank you in advance for the consideration you will pay to our concerns and we remain at your disposal should you wish to discuss further this issue during a meeting with our experts.

Kind regards,

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