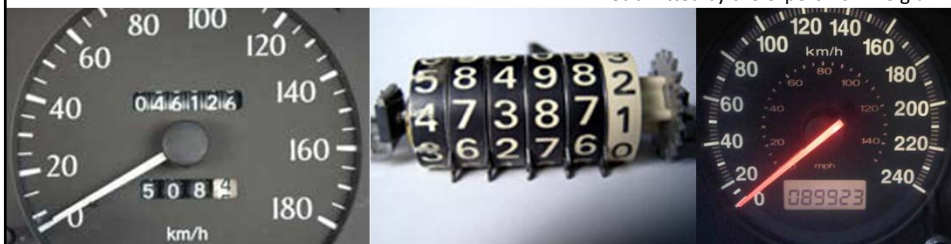


Informal document **GRSG-106-36**
(106th GRSG, 5-9 May 2014,
agenda item 13)
Submitted by the expert from Belgium



Proposal for draft amendments to Regulation No. 39 (Speedometer)

Informal document GRSG -106-06
(106th session, 5-9 May 2014)






Background

- Belgium made a proposal in 104/GRSG (GRSG-104-14) for establishing regulatory provisions on odometers.
- Already now in different regulations : R121, R10, R49 and R83 a reference to the odometer is made.



R121 : Identification of controls, tell-tales and indicators

Table 1
Symbols, their illumination and colours.

E/ECE/324/Rev.2/Add.120/Rev.1 E/ECE/TRANS/505/Rev.2/Add.120/Rev.1					
No.	Column 1	Column 2	Column 3	Column 4	Column 5
	Item	Symbol ²	Function	Illumination	Colour
40.	Headlamp levelling		Control	No	
41.	Odometer	km, if kilometres are shown or miles, if miles are shown ¹⁵	Indicator	Yes	
42a.	Low tyre pressure (including malfunction)		Tell-tale	Yes	Yellow
42b.	Low tyre pressure (including malfunction) that identifies affected tyre		Tell-tale	Yes	Yellow

R10 : Electromagnetic compatibility

2.12. "Immunity related functions" are:

- (a) Functions related to the direct control of the vehicle:
 - (i) By degradation or change in: e.g. engine, gear, brake, suspension, active steering, speed limitation devices;
 - (ii) By affecting drivers position: e.g. seat or steering wheel positioning;
 - (iii) By affecting driver's visibility: e.g. dipped beam, windscreen wiper
- (b) Functions related to driver, passenger and other road user protection:
 - (i) E.g. airbag and safety restraint systems.
- (c) Functions which when disturbed cause confusion to the driver or other road users:
 - (i) Optical disturbances: incorrect operation of e.g. direction indicators, stop lamps, end outline marker lamps, rear position lamp, light bars for emergency system, wrong information from warning indicators, lamps or displays related to functions in subparagraphs (a) or (b) which might be observed in the direct view of the driver;
 - (ii) Acoustical disturbances: incorrect operation of e.g. anti-theft alarm, horn.
- (d) Functions related to vehicle data bus functionality:
 - (i) By blocking data transmission on vehicle data bus-systems, which are used to transmit data, required to ensure the correct functioning of other immunity related functions.
- (e) Functions which when disturbed affect vehicle statutory data: e.g. tachograph, **odometer**
- (f) Function related to the RESS in charging mode coupled to the power grid:
 - (i) By leading to unexpected vehicle motion.

R49 : Emissions of C.I. and P.I. (LPG an CNG) engines

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| <p>10. Reporting procedures</p> <p>10.1. A technical report shall be submitted to the Type Approval Authority for each engine family tested. The report shall show the activities and results of the in-service conformity testing. The report shall include at least the following:</p> <p>10.1.1. General</p> <p>10.1.1.1. Name and address of the manufacturer</p> <p>10.1.1.2. Address(es) of assembly plant(s)</p> <p>10.1.1.3. The name, address, telephone and fax numbers and e-mail address of the manufacturer's representative</p> <p>10.1.6.8. Transmission type (e.g. manual, automatic or other)</p> <p>10.1.6.9. Number of forward gears</p> <p>10.1.6.10. Odometer reading at test start [km]</p> <p>10.1.6.11. Gross vehicle combination weight rating (GVW) [kg]</p> <p>10.1.6.12. Tire size [Not mandatory]</p> <p>10.1.6.13. Tail pipe diameter [mm] [Not mandatory]</p> <p>10.1.6.14. Number of axles</p> <p>10.1.6.15. Fuel tank(s) capacity [litres] [Not mandatory]</p> <p>10.1.6.16. Number of fuel tanks [Not mandatory]</p> <p>10.1.6.17. Reagent tank(s) capacity [litres] [Not mandatory]</p> <p>10.1.6.18. Number of reagent tanks [Not mandatory]</p> <p>10.1.7. Test route characteristics</p> <p>10.1.7.1. Odometer reading at test start [km]</p> <p>10.1.7.2. Duration [s]</p> | <p>10.1.12. Test verifications</p> <p>10.1.12.1. THC analyser zero, span and audit results, pre and post test</p> <p>10.1.12.2. CO analyser zero, span and audit results, pre and post test</p> <p>10.1.12.3. NO_x analyser zero-span and audit results, pre and post test</p> <p>10.1.12.4. CO₂ analyser zero, span and audit results, pre and post test</p> <p>10.1.12.5. CH₄ analyser zero, span and audit results, pre and post test for natural gas fuelled engines only</p> <p>10.1.12.6. Data consistency check results, according to paragraph A.1.3.2. of Appendix 1 to this annex.</p> <p>10.1.12.6.1. Results of the linear regression described in paragraph A.1.3.2.1. of Appendix 1 to this annex including the slope of the regression line, m, coefficient of determination, r² and the intercept, b, of the y-axis of the regression line.</p> <p>10.1.12.6.2. Result of the consistency check of the ECU data in accordance with paragraph A.1.3.2.2. of Appendix 1 to this Annex.</p> <p>10.1.12.6.3. Result of the consistency check of the Brake-specific fuel consumption in accordance with paragraph A.1.3.2.3. of Appendix 1 to this annex, including the calculated Brake-specific fuel consumption and the ratio of the calculated Brake-specific fuel consumption from the PEMS measurement and the declared Brake-specific fuel consumption for the NRTC test.</p> <p>10.1.12.6.4. Result of the consistency check of the Odometer in accordance with paragraph A.1.3.2.4. of Appendix 1 to this annex.</p> <p>10.1.12.6.5. Result of the consistency check of the ambient pressure in accordance with paragraph A.1.3.2.5. of Appendix 1 to this annex.</p> <p>10.1.13. List of further attachments where these exist.</p> |
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R49 : Emissions of C.I. and P.I. (LPG an CNG) engines

E/ECE/324/Rev.1/Add.48/Rev.6
E/ECE/TRANS/505/Rev.1/Add.48/Rev.6
Annex 8 – Appendix 1

- A.1.3.2.2. ECU torque data
- The consistency of the ECU torque data shall be verified by comparing the maximum ECU torque values at different engine speeds with the corresponding values on the official engine full load torque curve according to paragraph 5. of this annex.
- A.1.3.2.3. Brake-Specific Fuel Consumption
- The Brake Specific Fuel Consumption (BSFC) shall be checked using:
- The fuel consumption calculated from the emissions data (gas analyser concentrations and exhaust mass flow data), according to the formulae in paragraph 8.4.1.6. of Annex 4;
 - The work calculated using the data from the ECU (Engine torque and engine speed).
- A.1.3.2.4. Odometer
- The distance indicated by the vehicle odometer shall be checked against the GPS data and verified.
- A.1.3.2.5. Ambient pressure
- The ambient pressure value shall be checked against the altitude indicated by the GPS data.

R83 : Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements

- 9.2.5.11. The results from the manufacturer's in-service conformity procedure, including:
- (a) Identification of the vehicles included in the programme (whether tested or not). The identification shall include the following:
 - (i) Model name;
 - (ii) Vehicle identification number (VIN);
 - (iii) Vehicle registration number;
 - (iv) Date of manufacture;
 - (v) Region of use (where known);
 - (vi) Tyres fitted (tailpipe emissions only).
 - (b) The reason(s) for rejecting a vehicle from the sample;
 - (c) Service history for each vehicle in the sample (including any re-works);
 - (d) Repair history for each vehicle in the sample (where known);
 - (e) Test data, including the following:
 - (i) Date of test/download;
 - (ii) Location of test/download;
 - (iii) Distance indicated on vehicle odometer for tailpipe emissions only;

R83 : Uniform provisions concerning the approval of vehicles with regard to the emission of pollutants according to engine fuel requirements

3. Diagnosis and maintenance
- Diagnosis and any normal maintenance necessary shall be performed on vehicles accepted for testing, prior to measuring exhaust emissions, in accordance with the procedure laid down in paragraphs 3.1. to 3.7. below.
- 3.1. The following checks shall be carried out: checks on air filter, all drive belts, all fluid levels, radiator cap, all vacuum hoses and electrical wiring related to the anti-pollution system for integrity; checks on ignition, fuel metering and anti-pollution device components for maladjustments and/or tampering. All discrepancies shall be recorded.
 - 3.2. The OBD system shall be checked for proper functioning. Any malfunction indications in the OBD memory shall be recorded and the requisite repairs shall be carried out. If the OBD malfunction indicator registers a malfunction during a preconditioning cycle, the fault may be identified and repaired. The test may be re-run and the results of that repaired vehicle used.
 - 3.3. The ignition system shall be checked and defective components replaced, for example spark plugs, cables, etc.
 - 3.4. The compression shall be checked. If the result is unsatisfactory the vehicle is rejected.
 - 3.5. The engine parameters shall be checked to the manufacturer's specifications and adjusted if necessary.
 - 3.6. If the vehicle is within 800 km of a scheduled maintenance service, that service shall be performed according to the manufacturer's instructions. Regardless of odometer reading, the oil and air filter may be changed at the request of the manufacturer.

Conclusions

- Several Regulations have references to odometer presence or readings
- Although there is no direct requirement in ECE regulations, there are enough references to odometer requirements to conclude that indirectly it is required to have an odometer in every vehicle.
- Proposition for amendments to R39 (Uniform provisions concerning the approval of vehicles with regard to the speedometer equipment including its installation) - Informal document GRSG -106-06
- + : Reduces instances of mileage fraud