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Geneva, 4–7 March 2025
Item 4.8.1 of the provisional agenda
1958 Agreement:
Consideration of draft amendments to existing UN Regulations submitted by GRSG

Proposal for 02 series of amendments to UN Regulation No. 39 (Speedometer and Odometer)

Revision

Submitted by the Working Party on General Safety Provisions[*, **]

The text reproduced below was adopted by the Working Party on General Safety Provisions (GRSG) at its 128th session (ECE/TRANS/WP.29/GRSG/107, para. 12). It is based on ECE/TRANS/WP.29/GRSG/2024/36, as amended by annex IV to the report. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee (AC.1) for consideration at their March 2025 sessions.

[*] The present report was submitted to the conference services for processing after the deadline for technical reasons beyond the control of the submitting office.

[**] In accordance with the programme of work of the Inland Transport Committee for 2025 as outlined in proposed programme budget for 2025 (A/79/6 (Sect. 20), table 20.6), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

Table of contents, amend to read:

"Contents

Text of the UN Regulation, amend to read:

"1. Scope

This Regulation applies to the approval of vehicles of categories L, M and N.[1]

2. Definitions

For the purposes of this Regulation:

2.1. "*Approval of a vehicle*" means the approval of a vehicle type with regard to the speedometer and odometer equipment including its installation.

2.2. "*Type of vehicle in respect of its speedometer and odometer*" means vehicles which do not among themselves display any essential differences, where those differences can apply, in particular, to the following:

2.2.1. The size designation of the tyres chosen from the range of tyres normally fitted;

2.2.2. The overall transmission ratio, including any reduction drives, to the speedometer and odometer;

2.2.3. The type of speedometer as characterised by:

2.2.3.1. The tolerances of the speedometer's measuring mechanism;

2.2.3.2. The technical constant of the speedometer;

2.2.3.3. The range of speeds displayed.

2.2.4. The type of odometer as characterised by:

2.2.4.1. The technical constant of the odometer;

2.2.4.2. The number of numerals.

2.3. "*Tyres normally fitted*" means the type or types of tyre provided by the manufacturer on the vehicle type in question; snow tyres shall not be regarded as tyres normally fitted;

2.4. "*Normal running pressure*" means the cold inflation pressure specified by the vehicle manufacturer increased by 200 hPa;

2.5. "*Speedometer*" means that part of the speedometer equipment which indicates the speed of the vehicle to the driver at any given moment;

2.5.1. "*Tolerances of the speedometer's measuring mechanism*" means the accuracy of the speedometer instrument itself, expressed as the upper and the lower speed indication limits for a range of speed inputs;

2.5.2. "*Technical constant of the speedometer*" means the relationship between the input revolutions or pulses per minute and a specified displayed speed;

2.6. "*Odometer*" means that part of the odometer equipment which indicates to the driver the total distance driven by the vehicle.

2.6.1. "*Technical constant of the odometer*" means the relationship between the input revolutions or pulses and the distance driven by the vehicle.

2.6.2. "*Total distance indicated*" means the distance as displayed by the odometer.

2.6.3. "*True distance travelled*" means the true distance driven by the vehicle for the purpose of the test under Annex 4.

[1] As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.), document ECE/TRANS/WP.29/78/Rev.**-7**, para. 2. - https://unece.org/transport/standards/transport/vehicle-regulations-wp29/resolutions

2.6.4. "*Total distance value*" means mileage values for the purpose of being made available and related to the total distance driven by the vehicle.

2.6.5. "*Tachograph or Recording equipment*" means the equipment intended for installation in road vehicles to display, record, print, store and output data related to the movement of such vehicles. The data recorded includes the effective distance travelled, calibration data of the vehicle and events and faults log.

The recording equipment consists of a vehicle unit and a motion sensor.

The vehicle unit communicates with the motion sensor in a secure way.

2.6.5.1. "*Vehicle unit*" means the recording equipment excluding the motion sensor and the cables connecting the motion sensor.

2.6.5.2. "*Motion sensor*" means a part of the recording equipment providing a signal representative of vehicle speed and/or distance travelled.

2.6.6. "*Tachograph Replacement Unit (TRU)*" means a device that simulates the functions of a tachograph or recording equipment which are necessary to operate for vehicles that are not required to be equipped with a tachograph according to national legislation.

2.6.7. "*Purely mechanical odometer*" means odometer equipment in which the technical constant of the odometer is decided by input and output gear combinations in the transmission mechanically, and no electrical correction is applied.

2.7. "*Unladen vehicle*" means the vehicle in running order, complete with fuel, coolant, lubricant, tools and a spare wheel (if provided as standard equipment by the vehicle manufacturer), carrying a driver weighing 75 kg, but no driver's mate, optional accessories or load.

2.8. "*Tampering*" means any activity aiming at inaccurate recording or misrepresenting of mileage values being stored and/or displayed.

3. Application for Approval

3.1. The application for approval of a vehicle type with regard to the speedometer and odometer equipment including its installation shall be submitted by the vehicle manufacturer or by the vehicle manufacturer’s duly accredited representative to the Type Approval Authority of the Contracting Party according to the provisions of Schedule 3 of the 1958 Agreement.

3.2. It shall be accompanied by the following documents (a model of the information document is given in Annex 5):

3.2.1. A description of the vehicle type with regard to the items mentioned in paragraphs 2.2., 2.3., 2.4., 2.5. and 2.6. above; the vehicle type shall be specified.

3.3. An unladen vehicle representative of the vehicle type to be approved shall be submitted to the technical service conducting approval tests.

3.4. The Type Approval Authority shall verify the existence of satisfactory arrangements for ensuring effective control of the conformity of production before type approval is granted.

4. Approval

4.1. If the vehicle type submitted for approval pursuant to this Regulation meets the requirements of the Regulation in respect of the speedometer and odometer equipment including its installation, approval of that vehicle type shall be granted.

4.2. An approval number shall be assigned to each approved type in accordance with Schedule 4 of the Agreement (E/ECE/TRANS/505/Rev.3).

4.3. Notice of approval or of refusal or of extension or withdrawal of approval or of production definitively discontinued of a vehicle type pursuant to this Regulation shall be communicated to the Parties to the Agreement which apply this Regulation by means of a form conforming to the model in Annex 1 to this Regulation and of diagrams of the installation, supplied by the applicant for approval.

4.4. To every vehicle conforming to a vehicle type approved under this Regulation there shall be affixed in a conspicuous and easily accessible position, specified on the approval form, an international approval mark consisting of:

4.4.1. A circle surrounding the letter "E" followed by the distinguishing number of the country which has granted approval;[2]

4.4.2. The number of this Regulation, followed by the letter "R", a dash and the approval number to the right of the circle described in paragraph 4.4.1.

4.5. If the vehicle conforms to a vehicle type approved under one or more other Regulations annexed to the Agreement in the country which has granted approval under this Regulation, the symbol prescribed in paragraph 4.4.1. need not be repeated; in such a case the additional numbers and symbols of all the Regulations under which approval has been granted in the country which has granted approval under this Regulation shall be placed in vertical columns to the right of the symbol prescribed in paragraph 4.4.1.

4.6. The approval mark shall be clearly legible and shall be indelible.

4.7. The approval mark shall be placed close to or on the vehicle data plate affixed by the manufacturer.

4.8. Annex 2 to this Regulation gives examples of arrangements of approval marks.

5. Specifications

5.1. An onboard speedometer and odometer complying with the requirements of this Regulation shall be fitted to the vehicle to be approved. If more than one onboard speedometer or odometer is fitted to the vehicle, all these speedometers and odometers shall comply with all the requirements of this Regulation. Additional graduations and numerical values are not permitted. Tachographs or Recording equipment, or Tachograph Replacement Units are not considered to be an on-board speedometer or odometer for the purpose of this paragraph.

5.2. Speedometer

The display of the speedometer shall be located within the direct field of view of the driver and must be clearly legible both day and night. The range of

[2] The distinguishing numbers of the Contracting Parties to the 1958 Agreement are reproduced in Annex 3 to the Consolidated Resolution on the Construction of Vehicles (R.E.3), document ECE/TRANS/WP.29/78/Rev. 7, Annex 3 - https://unece.org/transport/standards/transport/vehicle-regulations-wp29/resolutions

speeds displayed must be sufficiently wide to include the maximum speed of this type of vehicle as stated by the manufacturer.

5.2.1. In the case of speedometers intended for vehicles of Categories M, N, and L_3, L_4, L_5, and L_7 the graduation shall be 1, 2, 5 or 10 km/h. The numerical values of the speed shall be indicated on the display as follows: when the highest value on the display does not exceed 200 km/h, speed values shall be indicated at intervals not exceeding 20 km/h. When the maximum value on the display exceeds 200 km/h, then the speed values shall be indicated at intervals not exceeding 30 km/h. The indicated numerical speed value intervals need not be uniform.

If a setting makes it possible for the driver to choose between the speed in km/h and mph (miles per hour), then the speed may be displayed only in either km/h or mph at any one time. The corresponding unit shall permanently be displayed.

5.2.2. In the case of vehicles of Categories M, N, and L_3, L_4, L_5, and L_7 manufactured for sale in any country where imperial units are used, the speedometer shall also be marked in miles per hour (mph); the graduations shall be of 1, 2, 5 or 10 mph.

The speed may be displayed either in km/h or mph at any one time provided that a setting makes it possible for the driver to choose between the speed in km/h and mph, in that case the corresponding unit shall permanently be displayed.

The numerical values of the speed shall be indicated on the display at intervals not exceeding 20 mph and commencing at 10 or 20 mph. The indicated numerical speed value intervals need not be uniform.

5.2.3. In the case of speedometers intended for vehicles of categories L_1 (mopeds), L_2, and L_6, the display readings shall not exceed 80 km/h. The graduation shall be 1, 2, 5 or 10 km/h and the marked numerical values of the speed indicated shall not exceed 10 km/h. The indicated numerical speed value intervals need not be uniform.

5.2.4. In the case of vehicles of categories L_1, L_2 and L_6 manufactured for sale in any country where imperial units are used, the speedometer shall also be marked in mph; the graduation shall be of 1, 2, 5 or 10 mph. The numerical values of the speed shall be indicated on the display at intervals not exceeding 10 mph and starting at 10 or 20 mph. The indicated numerical speed value intervals need not be uniform. If a setting makes it possible for the driver to choose between the speed in km/h and mph, then the speed may be displayed only in km/h or mph at one time at any one time. The corresponding unit shall permanently be displayed.

5.3. The accuracy of the speedometer equipment shall be tested in accordance with the following procedure:

5.3.1. The tyres shall be one of the types normally fitted to the vehicle as defined in paragraph 2.3. of this Regulation. A test shall be carried out for each type of speedometer intended to be fitted by the manufacturer.

5.3.2. The test shall be carried out with the vehicle at its unladen weight. An additional weight can be carried for purposes of measurement. The weight of the vehicle and its distribution between the axles shall be indicated in the approval communication (see Annex 1, item 7.);

5.3.3. The reference temperature at the speedometer shall be 23 ± 5 °C**,** if relevant for the test to the discretion of the Technical Service responsible for carrying out the test;

5.3.4. During each test the pressure of the tyres shall be the normal running pressure as defined in paragraph 2.4.;

5.3.5. The vehicle is tested at the following speeds:

Maximum design speed (Vmax) of the vehicle specified by the vehicle manufacturer (km/h)	*Test speed (V_1) (km/h)*
Vmax ≤ 45	80 % of Vmax
45 < Vmax ≤ 100	40 km/h and 80 % Vmax (if the resulting speed is ≥ 55 km/h)
100 < Vmax ≤ 150	40 km/h, 80 km/h and 80 % Vmax (if the resulting speed is ≥ 100 km/h)
150 < Vmax	40 km/h, 80 km/h and 120 km/h

5.3.6. The test instrumentation used for measuring the true vehicle speed shall be accurate to ± 0.5 per cent;

5.3.6.1. The surface of a test track when used shall be flat, and provide sufficient adhesion;

5.3.6.2. If a roller dynamometer is used for the test, the diameter of the roller should be at least 0.4 m;

5.4. The speed indicated shall not be less than the true speed of the vehicle. At the test speeds specified in paragraph 5.3.5. above, there shall be the following relationship between the speed displayed (V_1) and the true speed (V_2).

$$0 \leq (V_1 - V_2) \leq 0.1\ V_2 + 4 \text{ km/h}$$

5.5. **Odometer Equipment**

The display of the odometer shall be visible or accessible to the driver. The odometer shall display at least an integer number composed of a minimum of 6 numerals for the vehicles of categories M and N, and at least an integer number composed of a minimum of 5 numerals for the vehicles of category L. Nevertheless, the Type Approval Authorities may also accept an integer number composed of at least 5 numerals for the vehicles of categories M and N if the intended use of the vehicle justifies it.

5.5.1. In the case of vehicles manufactured for sale in any country where imperial units are used, the odometer shall be marked in miles.

5.5.2. The odometer shall display the distance in the unit corresponding to that of the predominant speedometer scale. If a setting makes it possible for the driver to select the odometer display distance in km or miles independently of the speedometer, the odometer shall identify the unit used.

5.6. Odometer Equipment – Accuracy

Paragraphs 5.7. to 5.9. and 5.11. to 5.12. do not apply to vehicles fitted with purely mechanical odometers.

Paragraphs 5.9. and 5.11. to 5.12. do not apply to L category vehicles.

For vehicles equipped with a tachograph or recording equipment, or where a tachograph replacement unit is the only source of measuring mileage, the requirements of paragraphs 5.7. to 5.9. and 5.12. are considered to be met, if the security and accuracy of the recording equipment are at least equivalent to the requirements of this UN Regulation.

5.7. The accuracy of the odometer equipment shall be tested in accordance with the test procedure prescribed in Annex 4.

5.8. The total distance indicated shall not deviate by more than ±4.0 per cent from the true distance travelled as determined in paragraph 5.7.

5.9. When total distance values are provided by the serial data port on the standardised data link connector, as specified in paragraph 6.5.3 of Appendix 1 of Annex C5 to UN Regulation No. 154 or as specified in paragraph 4.7.3. of Annex 9B to UN Regulation No. 49, these values shall not deviate from the (rounded) total distance indicated. However, this does not apply to the total distance travelled (lifetime) as defined in UN Regulation No. 154**.**

5.10. Odometer – General

Total distance values and the total distance indicated shall have a resolution better than or equal to 1 km or 1 mile, as appropriate.

5.11. In the case of an electrically detectable failure preventing the odometer requirements of this UN Regulation from being met, a malfunction indication shall be provided to the driver, if not already covered by other failure warnings and/or other failure conditions.

5.11.1. The malfunction indication shall be active when the malfunction occurs and shall remain active as long as the malfunction persists. It may be temporarily cancelled, but shall be repeated each time the ignition or the vehicle master control switch is activated.

5.11.2. At the time of type approval, the means of indicating malfunction chosen by the manufacturer shall be confidentially outlined.

5.12. Odometer – Anti-Tampering and Security Management

The total distance indicated and total distance values shall be protected against manipulation.

This shall be deemed to be complied with when:

(a) the manufacturer's management system encompassing cyber security is complying with the relevant requirements of UN Regulation No. 155, the original or any later series of amendments, with regard to total distance indicated and total distance values

and

(b) proportionate mitigations are implemented, including, or equivalent to, mitigation 7 referred to in Annex 5, Part B, Table B5 of UN Regulation No. 155.

6. Modifications of the Vehicle Type

6.1. Every modification of the vehicle type shall be communicated to the Type Approval Authority which approved the vehicle type. The Authority may then either:

6.1.1. Consider that the modifications made are unlikely to have an appreciable adverse effect and that in any case the vehicle still meets the requirements; or

6.1.2. Require a further test report from the Technical Service responsible for conducting the tests.

6.2. Notice of confirmation or refusal of approval, accompanied by particulars of the modifications, shall be communicated by the procedure specified in paragraph 4.3. above to the Parties to the Agreement applying this Regulation.

7. Conformity of Production

7.1. The conformity of production procedures shall comply with those set out in the Agreement, Schedule 1 (E/ECE/TRANS/505/Rev.3), with the following requirements:

7.2. Every vehicle approved under this Regulation shall be so manufactured as to conform to the type approved by meeting the requirements of the relevant part(s) of this Regulation.

7.3. For each type of vehicle sufficient checks are carried out regarding the speedometer equipment and its installation; in particular, for each type of vehicle at least the test prescribed in Annex 3 to this Regulation shall be carried out.

7.4. The Authority, which has granted type approval, may at any time verify the conformity control methods applied in each production facility. The normal frequency of these verifications shall be once every two years.

7.5. Where unsatisfactory results are found during verifications and checks pursuant to paragraph 7.4. above, the competent authority shall ensure that all necessary steps are taken to restore conformity of production as rapidly as possible.

8. Penalties for Non-Conformity of Production

8.1. The approval granted for a vehicle type pursuant to this Regulation may be withdrawn if the requirement laid down in paragraph 7.1. above is not met or if the vehicles have failed to pass the checks prescribed in paragraph 7. above.

8.2. If a Party to the Agreement which applies this Regulation withdraws an approval it has previously granted, it shall forthwith so notify the other Contracting Parties applying this Regulation, by means of a communication form conforming to the model in Annex 1 to this Regulation.

9. Names and Addresses of Technical Services Responsible for Conducting Approval Tests and of Type Approval Authorities

The Contracting Parties to the Agreement applying this Regulation shall communicate to the secretariat of the United Nations the names and addresses of the Technical Services responsible for conducting approval tests and of the Type Approval Authorities which grant approval and to which forms certifying approval or extension or refusal or withdrawal of approval, issued in other countries, are to be sent.

10. Transitional Provisions

10.1. As from the official date of entry into force of the 01 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the 01 series of amendments.

10.2. As from 1 September 2017, Contracting Parties applying this Regulation shall grant new type approvals only if the vehicle type to be approved meets the requirements of this Regulation as amended by the 01 series of amendments.

10.3. Contracting Parties applying this Regulation shall not refuse to grant extensions of type approvals for existing types which have been granted according to the preceding series of amendments to this Regulation.

10.4. After the date of entry into force of the 01 series of amendments to this Regulation, Contracting Parties applying this Regulation shall continue to accept type approvals granted according to the preceding series of amendments to the Regulation.

10.5. As from the official date of entry into force of the 02 series of amendments, no Contracting Party applying this Regulation shall refuse to grant or refuse to accept type approvals under this Regulation as amended by the 02 series of amendments.

10.6. As from 1 September 2028, Contracting Parties applying this UN Regulation shall not be obliged to accept type approvals to any of the preceding series of amendments, first issued after 1 September 2028**.**

10.7. Until 1 September 2030, Contracting Parties applying this UN Regulation shall accept type approvals to the 01 series of amendments, first issued before 1 September 2028.

10.8. As from 1 September 2030, Contracting Parties applying this UN Regulation shall not be obliged to accept type approvals issued to any of the preceding series of amendments to this UN Regulation.

10.9. The malfunction indication as specified in paragraph 5.11. is not compulsory for the purpose of granting type-approval to the 02 series of amendment, until 1 September 2030. These exemptions shall remain applicable in the case of extensions of approvals first granted before 1 September 2030."

10.10. Contracting Parties applying this UN Regulation may grant type approvals according to any preceding series of amendments to this UN Regulation."

10.11. Contracting Parties applying this UN Regulation shall continue to grant extensions of existing approvals to any preceding series of amendments to this UN Regulation."

Annex 1

Communication

(Maximum format: A4 (210 x 297 mm))

Issued by: Name of administration:
.....
.....

Concerning:[2] Approval granted
Approval extended
Approval refused
Approval withdrawn
Production definitively discontinued

of a vehicle type with regard to the speedometer and odometer equipment including its installation pursuant to Regulation No. 39.

Approval No. ..... Extension No. .....

1. Trade name or mark of the vehicle: .....

2. Vehicle type: .....

3. Manufacturer's name and address: .....

.....

4. If applicable, name and address of the manufacturer's representative: .....

.....

5. Description of the speedometer equipment: .....

5.1. Ratio of speedometer equipment: .....

6. Description of the odometer equipment: .....

6.1. Ratio of odometer equipment: .....

6.2. Purely mechanical odometer: yes/no

6.3. Malfunction indication (pursuant to paragraph 5.11.): yes/no

7. Tyres:

7.1. Details of tyres normally fitted: .....

7.2. Details of tyres fitted during the test: .....

8. Mass of vehicle as tested and its distribution between the axles:

[1] Distinguishing number of the country which has granted, extended, refused or withdrawn approval (see approval provisions in the Regulation).

[2] Strike out what does not apply.

.....

9. Variants: .....

10. Vehicle submitted for approval on: .....

11. Technical Service responsible for conducting approval tests: .....

.....

12. Date of report issued by that Service: .....

13. Number of report issued by that Service: .....

14. Approval granted/refused/extended/withdrawn[2]

15. Position of approval mark on the vehicle: .....

16. Place: .....

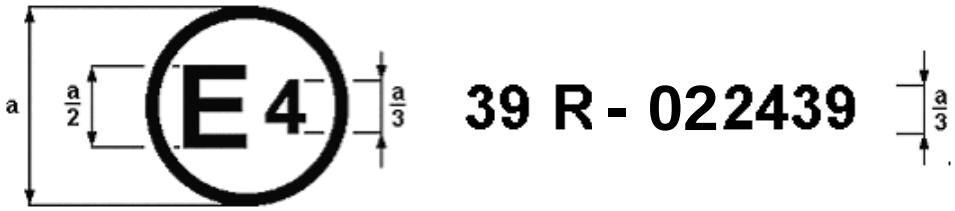
17. Date: .....

18. Signature: .....

Annex 2

Arrangements of Approval Marks

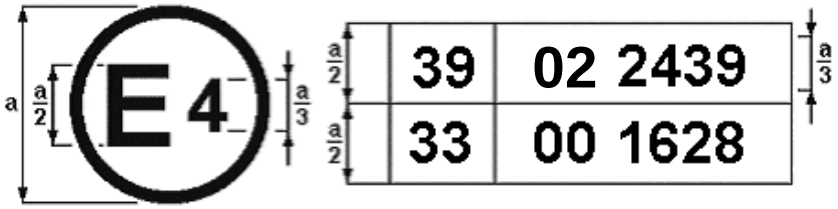
Model A
(see paragraph 4.4. of this Regulation)



a = 8 mm min.

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E 4), pursuant to Regulation No. 39. The approval number indicates that the approval was granted in accordance with the requirements of UN Regulation No. 39 incorporating the 02 series of amendments.

Model B
(see paragraph 4.5. of this Regulation)



a = 8 mm min.

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in the Netherlands (E 4) pursuant to Regulations Nos. 39 and 33.[1] The approval numbers indicate that, at the dates when the respective approvals were granted, UN Regulation No. 39 incorporated the 02 series of amendments and Regulation No. 33 was still in its original form.

[1] The second number is given merely as an example.

Annex 3

Test of Speedometer Accuracy for Conformity of Production

1. Test conditions

   The test conditions shall be as set out in paragraphs 5.3.1. to 5.3.6. of this Regulation.

2. Requirements

   The production shall be deemed to conform to this Regulation if the following relationship between the speed indicated on the display of the speedometer (V_1) and the actual speed (V_2) is observed:

   In the case of vehicles of categories M and N:

   $0 \leq (V_1 - V_2) \leq 0.1\ V_2 + 6$ km/h;

   In the case of vehicles of categories L_3, L_4 and L_5:

   $0 \leq (V_1 - V_2) \leq 0.1\ V_2 + 8$ km/h;

   In the case of vehicles of categories L_1 and L_2:

   $0 \leq (V_1 - V_2) \leq 0.1\ V_2 + 4$ km/h.

Annex 4

Test of Accuracy of Odometer Equipment

0. The accuracy of the odometer equipment referred to in paragraph 5.7. of this Regulation shall be determined in accordance with this Annex. In the case of odometers using both metric and imperial units, the test may be carried out using either metric or imperial units, with the agreement of the Technical Service.

With the agreement of the Technical Service and the Type Approval Authority, alternative test procedures may be used to determine the accuracy of the odometer equipment, provided that they ensure at least the same level of test accuracy.

1. Test Procedure

1.1. The accuracy of the odometer equipment shall be tested in accordance with the following procedure:

1.1.1. The tyres shall be one of the types normally fitted to the vehicle as defined in paragraph 2.3. of this Regulation.

1.1.2. The test shall be carried out with the vehicle at its unladen weight. An additional weight can be carried for purposes of measurement. The weight of the vehicle and its distribution between the axles shall be indicated in the approval communication (see Annex 1, item 8.).

1.1.3. The reference temperature at the odometer shall be 23 ± 5 °C, if relevant for the test to the discretion of the Technical Service responsible for carrying out the test.

1.1.4. During each test, the pressure of the tyres shall be the normal running pressure as defined in paragraph 2.4.

1.1.5. The test instrumentation used for measuring the true distance travelled shall be accurate to ± 0.5 per cent.

1.1.5.1. The surface of a test track when used shall be flat and provide sufficient adhesion.

1.1.5.2. If a roller dynamometer is used for the test, the diameter of the roller should be at least 0.4 m.

1.1.6. The vehicle is tested at a speed which may vary between 0 and 100 km/h. The test speed (fixed speed or range) is selected in agreement with the Technical Service responsible for carrying out the test, based upon the vehicle characteristics and the suitability of the road under the conditions given (test track shape, other traffic on track, curves, etc.).

1.1.7. The vehicle is driven until the odometer switches to the next integer. At this point, the instrumentation is set to 0 m. This may be done in stationary position.

1.1.8. The vehicle is driven for a minimum of 10 kilometres or 7 miles as indicated on the odometer and the true value is read from the instrumentation at the point where the odometer switches to the corresponding integer.

2.0. Test results

2.1. The accuracy shall be calculated as follows for vehicles using km:

$$\text{Accuracy (per cent)} = \frac{(TDi - TDi0) * 1{,}000 - TDt}{TDt} * 100$$

where:

TDt: true distance travelled (m)

TDi0: total distance indicated at the start of the test (km), according to paragraph 1.1.7.

TDi: total distance indicated at the end of the test (km).

For vehicles using imperial units, the formula is adjusted accordingly.

Example:

- odometer switches from 3,529 km to 3,530 km; the instrumentation is set to 0 m.

- odometer switches from 3,539 km to 3,540 km; the instrumentation reads 10,260 m.

- Accuracy (per cent) $= \frac{(3{,}540 - 3{,}530) * 1{,}000 - 10{,}260}{10{,}260} * 100$

$= -2.5$ per cent

Annex 5

Information Document

0. General

0.1. Make (trade name of manufacturer):

0.2. Type and general commercial description(s):

0.3. Means of identification of type, if marked on the vehicle:

0.3.1. Location of that marking:

0.4. Category of vehicle:

0.5. Name and address of manufacturer:

0.8. Address(es) of assembly plant(s):

1. General Construction Characteristics of the Vehicle

1.1. Photographs and/or drawings of a representative vehicle

2. Masses and Dimensions (in kg and mm)

2.6. Mass of the vehicle in running order (max. and min. for each variant):

2.6.1. Distribution of this mass among the axles and, in the case of a semi-trailer or centre axle trailer, load on the coupling point (max. and min):

4. Transmission

4.2. Type (mechanical, hydraulic, electric, etc.): [2]

4.5. Gearbox [2]

4.5.3. Method of control:

4.6. Gear ratios [2]

Gear	*Internal gearbox ratios (ratios of engine to gearbox output shaft revolutions)*	*Final drive ratio(s) (ratio of gearbox output shaft to driven wheel revolutions)*	*Total gear ratios*
Maximum for CVT*			
1			
2			
3			
…			
Minimum for CVT*			
Reverse			

* Continuously variable transmission.

4.7. Maximum vehicle speed (in km/h):

4.8. Speedometer and odometer

Speedometer:

4.8.1. Method of operation and description of drive mechanism:

[2] Provide only if relevant for speedometer and/or odometer equipment

4.8.2.	Instrument constant:
4.8.3.	Tolerance of the measuring mechanism (pursuant to paragraph 2.2.3.):
4.8.4.	Overall transmission ratio (pursuant to paragraph 2.2.2.) or equivalent data:
4.8.5.	Diagram of the speedometer scale or other forms of display:
	Odometer:
4.8.6.	The technical constant of the odometer (pursuant to paragraph 2.2.4.):
4.8.7.	The number of numerals:
4.8.8.	Purely mechanical odometer (pursuant to paragraph 2.6.7.): yes/no
4.9.	Description of Tachograph or Recording equipment (pursuant to paragraph 2.6.5.) or Tachograph Replacement Unit (pursuant to paragraph 2.6.6.) (if fitted):
6.	Suspension
6.6	Tyres and Wheels
6.6.2.	Upper and lower limit of rolling radii
6.6.2.1.	axle 1:
6.6.2.2.	axle 2:
6.6.2.3.	axle 3:
6.6.2.4.	axle 4:
	etc.
6.6.3.	Tyre pressures as recommended by the vehicle manufacturer (in kPa):"