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Item 5 (h) of the provisional agenda

Tyres: UN Regulation No. 142 (Tyre installation)**Proposal for a new 01 series of amendments to UN
Regulation No. 142****Submitted by the Task Force on Tyre Pressure Monitoring System and
Tyre Installation***

The text below has been prepared by the experts of the Task Force on Tyre Pressure Monitoring System and Tyre Installation (TF TPMSTI) in order to align UN Regulation No. 142 with the provisions of European Union Regulation 2019/2144 and to introduce the tyre installation requirements for all vehicle categories.

* In accordance with the programme of work of the Inland Transport Committee for 2020 as outlined in proposed programme budget for 2020 (A/74/6 (part V sect. 20) para 20.37), 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.



I. Proposal

UN Regulation No. 142, amend to read:

"Uniform provisions concerning the approval of motor vehicles with regard to the installation of their tyres

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1. Scope

This Regulation applies to vehicles of category M, N and O¹ with regard to the installation of their tyres.

It does not apply to vehicles whose conditions of use are incompatible with the characteristics of tyres of class C1, C2 or C3 and to vehicles with regard to the installation of their:

- (a) Temporary use spare unit; and/or
- (b) Run-flat tyres and/or a run-flat system when operating in their flat tyre running mode; and/or
- (c) Extended mobility tyres when operating in their flat tyre running mode; and/or
- (d) Tyre pressure monitoring system.

2. Definitions

For the purposes of this Regulation:

- 2.1. "*Vehicle type with regard to the installation of its tyres*" means vehicles which do not differ in such essential respects as the types of tyres, minimum and maximum tyre size designations, wheel dimensions and off-sets as well as speed and load capabilities suitable for fitment, and the characteristics of the wheel guards;
- 2.2. Tyres shall be classified as follows:
 - (a) Class C1 tyres — Tyres conforming to UN Regulation No 30;
 - (b) Class C2 tyres — Tyres conforming to UN Regulation No. 54 and identified by a load capacity index in single formation lower or equal to 121 and a speed category symbol higher or equal to 'N';
 - (c) Class C3 tyres: Tyres conforming to UN Regulation No. 54 and identified by:
 - (i) A load capacity index in single formation higher or equal to 122; or
 - (ii) A load capacity index in single formation lower or equal to 121 and a speed category symbol lower or equal to 'M'.
- 2.2.1. "*Type of tyre*" means a range of tyres which do not differ in the following essential characteristics:
 - (a) The tyre class: C1, C2 or C3 as described in UN-Regulation No. 30; and
 - (b) In the case of class C1 tyres, the characteristics of a type of pneumatic tyre as defined in UN Regulation No. 30;
 - (c) In the case of class C2 or C3 tyres, the characteristics of a type of pneumatic tyre as defined in UN Regulation No. 54.
- 2.3. "*Tyre size designation*" means the designation as defined in Regulation No. 30 for class C1 tyres and in UN Regulation No. 54 for class C2 and C3 tyres.
- 2.4. "*Wheel off-set*" means the distance from the hub abutment face to the centre line of the rim.

¹ As defined in the Consolidated Resolution on the Construction of Vehicles (R.E.3.) (ECE/TRANS/WP.29/78/Rev.6, para. 2).

- 2.5. "Pneumatic tyre structure" means the technical characteristics of the tyre's carcass.
- 2.6. "Normal tyre" means a tyre or run flat tyre intended for normal on-road use.
- 2.7. "Snow tyre" means a tyre whose tread pattern, tread compound or structure is primarily designed to achieve in snow conditions a performance better than that of a normal tyre with regard to its ability to initiate or maintain vehicle motion."
- 2.7.1. "Snow tyre for use in severe snow conditions" means a snow tyre whose tread pattern, tread compound or structure is specifically designed to be used in severe snow conditions and that fulfils the requirements of UN Regulation No. 117.
- 2.8. "Special use tyre" means a tyre intended for mixed use both on- and off-road or for other special duty. These tyres are primarily designed to initiate and maintain the vehicle in motion in off-road conditions."
- 2.9. "Run flat tyre" means a tyre as defined in UN Regulation No. 30.
- 2.10. "Extended mobility tyre" means a tyre as defined in UN Regulation No. 64.
- 2.11. "Temporary-use spare tyre" means a tyre different from a tyre intended to be fitted to any vehicle for normal driving conditions but intended only for temporary-use under restricted driving conditions.
- 2.12. "Wheel" means a complete wheel consisting of a rim and a wheel disc.
- 2.13. "Temporary-use spare wheel" means a wheel different from one of the normal wheels on the vehicle type but intended only for temporary use under restricted driving conditions.
- 2.14. "Unit" means an assembly of a wheel and tyre.
- 2.15. "Standard unit" means a unit which is capable of being fitted to the vehicle for normal operation.
- 2.16. "Spare unit" means a unit which is intended to be exchanged for a standard unit in case of malfunction of the latter and may be either of the following.
- 2.17. "Standard spare unit" means an assembly of a wheel and tyre identical in terms of wheel and tyre size designation, wheel offset and tyre structure to that fitted in the same axle position and to the particular vehicle variant and version for normal operation, including wheels produced from a different material and which may use different wheel fixing nut or bolt designs, but which is otherwise identical to the wheel intended for normal operation.
- 2.18. "Temporary-use spare unit" means an assembly of any wheel and tyre that does not fall within the definition of standard spare unit and which falls within one of the temporary-use spare unit type descriptions as defined in UN Regulation No. 64.
- 2.19. "Speed category symbol" means the symbol as defined in UN Regulation No. 30 for class C1 tyres and in UN Regulation No. 54 for class C2.
- 2.20. "Load capacity index" means a number associated to the maximum load rating of the tyre in relation to the definition in UN Regulation No. 30 for class C1 tyres and in UN Regulation No. 54 for class C2 tyres.
- 2.21. "Maximum load rating" means the maximum mass which a tyre can carry when operated in conformity with requirements governing utilization specified by the tyre manufacturer.

3. Application for approval

- 3.1. The application for approval of a vehicle type with regard to the installation of its tyres shall be submitted by the vehicle manufacturer or by his authorized representative.
- 3.2. It shall be accompanied by the documents mentioned below in triplicate and include the following particular:
 - 3.2.1. A description of the vehicle type with regard to the items mentioned in paragraph 5.
- 3.3. A vehicle representative of the vehicle type to be approved, or a simulation tool representing the vehicle type to be approved shall be submitted to the Technical Service conducting the approval tests.

4. Approval

- 4.1. If the vehicle type submitted for approval pursuant to this Regulation meets the requirements of paragraph 5., approval of that vehicle type shall be granted.
- 4.2. An approval number shall be assigned to each vehicle type approved; its first two digits (at present 01 for the Regulation as amended by the 01 series of amendments) shall indicate the series of amendments incorporating the most recent major technical amendments made to the regulation at the time of issue of the approval. The same Contracting Party shall not assign the same number to another vehicle type with regard to the installation of its tyres.
- 4.3. Notice of approval or of refusal or withdrawal of approval pursuant to this Regulation shall be communicated to the Contracting Parties to the Agreement applying this Regulation by means of a form conforming to the model in Annex 1 and photographs and/or plans supplied by the applicant being in a format not exceeding A4 (210 x 297 mm), or folded to that format, and on an appropriate scale.
- 4.4. There shall be affixed, conspicuously and in a readily accessible place specified on the approval form, to every vehicle conforming to a vehicle type approved under this Regulation, an international approval mark conforming to the model described in Annex 3, 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 prescribed 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 regulation and approval numbers and the additional symbols 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 be indelible.
- 4.7. The approval mark shall be placed close to or on the vehicle data plate.
- 4.8. Annex 2 to this Regulation gives an example of approval marks.

² As defined in Annex 3 to the Consolidated Resolution on the Construction of Vehicles (R.E.3) (ECE/TRANS/WP.29/78/Rev.6).

5. Specifications

- 5.1. General requirements
 - 5.1.1. Subject to the provisions of paragraph 5.2.4.4., every tyre fitted to a vehicle, including where applicable any spare tyre, shall meet the requirements of this Regulation.
 - 5.1.2. Every tyre installed to a vehicle, including where applicable any spare tyre, shall fulfil the technical requirements and respect the transitional provisions of UN Regulations Nos. 30, 54 and 117 as applicable.
- 5.2. Performance requirements
 - 5.2.1. Tyre fitment
 - 5.2.1.1. All tyres normally fitted to the vehicle, thus excluding any temporary-use spare unit, shall have the same structure.
 - 5.2.1.2. All of the tyres normally fitted to one axle shall be of the same type.
 - 5.2.1.3. The space in which the wheel revolves shall be such as to allow unrestricted movement when using the maximum permissible size of tyres and rim widths, taking into account the minimum and maximum wheel off-sets, within the minimum and maximum suspension and steering constraints as declared by the vehicle manufacturer. This shall be verified by performing the checks with the largest and the widest tyres, taking into account the applicable dimensional tolerances (i.e. maximum envelope) related to the tyre size designation as specified in the relevant UN Regulation.
 - 5.2.1.4. The Technical Service and/or Type Approval Authorities may agree to an alternative test procedure (e.g. virtual testing) to verify that the requirements of paragraph 5.2.1.3. are met.
 - 5.2.2. Load capacity
 - 5.2.2.1. Subject to the provisions of paragraph 5.2.4. of this Regulation, the maximum load rating of every tyre as determined in paragraph 5.2.2.2. of this Regulation, including a standard spare unit (if provided), with which the vehicle is fitted shall be:
 - 5.2.2.1.1. In the case of a vehicle fitted with tyres of the same type in single formation: at least equal to half of the technically permissible maximum axle mass for the most heavily loaded axle, as declared by the manufacturer of the vehicle.
 - 5.2.2.1.2. In the case of a vehicle fitted with tyres of more than one type, in single formation: at least equal to half of the technically permissible maximum axle mass as declared by the manufacturer of the vehicle, in respect of the relevant axle.
 - 5.2.2.1.3. In the case of a vehicle fitted with tyres of class C1 in dual (twin) formation: at least equal to 0.27 times the technically permissible maximum axle mass, as declared by the manufacturer of the vehicle, in respect of the relevant axle.
 - 5.2.2.1.4. In the case of axles fitted with tyres of class C2 or C3 in dual (twin) formation: at least equal to 0.25 times, with reference to the load capacity index for dual application, the technically permissible maximum axle mass as declared by the manufacturer of the vehicle, in respect of the relevant axle.
 - 5.2.2.2. The maximum load rating of a tyre is determined as follows:
 - 5.2.2.2.1. In the case of tyres of class C1, the "maximum load rating" as referred to in UN Regulation No. 30 is taken into account.
 - 5.2.2.2.2. In the case of tyres of class C2 or C3, the "table load-capacity variation with speed" as referred to in UN Regulation No. 54 is taken into account, which shows, as a function of the load-capacity indices and nominal-speed-category

symbols, the load variations which a pneumatic tyre can withstand taking into account the maximum design speed of the vehicle.

- 5.2.2.3. The manufacturer shall provide in the vehicle owner's handbook, or by any other communication means in the vehicle the necessary information about suitable replacement tyres with an appropriate load capacity.
- 5.2.3. Speed capacity
- 5.2.3.1. Every tyre with which the vehicle is normally fitted shall bear a speed category symbol.
- 5.2.3.1.1. In the case of a tyre of class C1, the speed category symbol shall be compatible with the maximum vehicle design speed and shall take into account, in the case of tyres of speed categories V, W and Y, the maximum load rating as described in UN Regulation No. 30.
- 5.2.3.1.2. In the case of tyre of class C2 or C3, the speed category symbol shall be compatible with the maximum vehicle design speed and the applicable load/speed combination derived from the "table load-capacity variation with speed" as described in UN Regulation No. 54.
- 5.2.3.2. The requirements of paragraphs 5.2.3.1.1. and 5.2.3.1.2. shall not apply in the following situations:
- 5.2.3.2.1. In the case of temporary-use spare units for which paragraph 5.2.5. of this Regulation applies.
- 5.2.3.2.2. In the case of vehicles normally equipped with normal tyres and occasionally fitted with snow tyres for use in severe snow conditions (i.e. with the alpine or three-peaked mountain snowflake symbol marking) where in such a case the speed category symbol of the snow tyre for use in severe snow conditions shall correspond to a speed either greater than the maximum vehicle design speed or not less than 160 km/h (or both). However, if the maximum vehicle design speed is greater than the speed corresponding to the lowest speed category symbol of the fitted snow tyres for use in severe snow conditions, a maximum speed warning label, specifying the lowest value of the maximum speed capability of the fitted snow tyres for use in severe snow conditions, shall be displayed inside the vehicle in a prominent position readily and permanently visible to the driver. Other tyres with improved snow traction (i.e. with the M+S marking, but without the alpine or three-peaked mountain snowflake symbol marking) shall comply with the requirements of paragraphs 5.2.3.1.1. and 5.2.3.1.2. of this Regulation.
- 5.2.3.2.3. In the case of vehicles equipped with special use tyres. However, if the maximum vehicle design speed is greater than the speed corresponding to the lowest speed category symbol of the fitted special use tyres, a maximum speed warning label, specifying the lowest value of the maximum speed capability of the fitted special use tyres, shall be displayed inside the vehicle in a prominent position readily and permanently visible to the driver.
- 5.2.3.2.4. In the case of vehicles of categories M₂, M₃, N₂ or N₃ equipped with a speed limitation device (SLD) approved according to UN Regulation No. 89 where in such a case the speed symbol of the tyres shall be compatible with the speed at which the limitation is set. However, if the vehicle manufacturer has foreseen that the maximum vehicle design speed is greater than the speed corresponding to the lowest speed category symbol of the fitted tyres, a maximum speed warning label, specifying the maximum speed capability of the tyres, shall be displayed inside the vehicle in a prominent position readily and permanently visible to the driver.
- 5.2.3.2.5. In the case of vehicles of categories M₁ or N₁ equipped with an on-board system fulfilling a speed limitation device / function where in such a case the speed symbol of the tyres shall be compatible with the speed at which the limitation is set.

However, if the vehicle manufacturer has foreseen that the maximum vehicle design speed is greater than the speed corresponding to the lowest speed category symbol of the fitted tyres, a maximum speed warning label, specifying the maximum speed capability of the tyres, shall be displayed inside the vehicle in a prominent position readily and permanently visible to the driver.

5.2.3.3. The manufacturer shall provide the necessary information about suitable replacement tyres with an appropriate speed capacity in the vehicle owner's handbook or by any other communication means in the vehicle.

5.2.4. Special cases

5.2.4.1. In the case of vehicles of categories M₁ and N₁, which are designed to be capable of towing a trailer, the additional load imposed at the trailer coupling device may cause the rear tyre maximum load ratings to be exceeded in case of class C1 tyres, but not by more than 15 per cent. In such a case, the vehicle owner's handbook, or the other communication means referred to in paragraph 5.2.3.3., shall contain clear information and advice on the maximum permissible vehicle speed when towing a trailer, in any case not exceeding 100 km/h, and on the rear tyre pressure, at least 20 kPa (0.2 bar) above the tyre pressure(s) as recommended for normal use (i.e. without a trailer attached).

5.2.4.2. In the case of trailers of categories O₁ and O₂, with a maximum vehicle design speed of 100 km/h or less and fitted with tyres of class C1 in single formation, the maximum load rating of every tyre shall be at least equal to 0,45 times the technically permissible maximum axle mass for the most heavily loaded axle, as declared by the manufacturer of the trailer. For tyres in dual (twin) formation this factor shall be at least equal to 0,24. In such cases a maximum operating speed warning label, specifying the maximum vehicle design speed, shall be permanently and durably affixed near the front coupling device of the trailer.

5.2.4.3. In the case of some special vehicles, as listed below, fitted with tyres of class C2 or C3, the 'table load-capacity variation with speed' as described in paragraph 5.2.2.2.2. shall not be applied. In such a case, the tyre maximum load rating to check against the technically permissible maximum axle mass (see paragraphs 5.2.2.1.2. to 5.2.2.1.4.) shall be determined by multiplying the load corresponding to the load capacity index by an appropriate coefficient which is related to the type of vehicle and its use, rather than to the maximum vehicle design speed, and the requirements of paragraphs 5.2.3.1.1. and 5.2.3.1.2. of this Annex shall not apply.

The appropriate coefficients shall be the following:

5.2.4.3.1. 1,15 in the case of a Class I or Class A vehicle (M₂ or M₃), as in UN Regulation No. 107.

5.2.4.3.2. 1,10 in the case of vehicles of category N which are specifically designed for use over short distances in urban and suburban applications, such as street and road sweepers or refuse collection vehicles, provided that the maximum vehicle design speed does not exceed 60 km/h.

5.2.4.4. In exceptional cases, where vehicles are designed for conditions of use which are incompatible with the characteristics of tyres of class C1, C2 or C3 and it is therefore necessary to fit tyres with different characteristics, the requirements of paragraph 5.1.1. of this Regulation shall not apply, provided that all of the following conditions are met:

5.2.4.4.1. the tyres shall be approved according to either UN Regulation No. 75 or UN Regulation No. 106; and

5.2.4.4.2. the type-approval authority and technical service are satisfied that the tyres fitted are suitable for the operating conditions of the vehicle. The nature of the exemption and motivation of acceptance shall be stated in the test report as well on the communication form of Annex 2.

- 5.2.5. Spare wheels and tyres
- 5.2.5.1. In cases where a vehicle is provided with a spare unit, it shall be one of the following:
- 5.2.5.1.1. A standard spare unit in the same size as the tyres actually fitted to the vehicle.
If the vehicle is equipped with multiple tyre sizes, the spare unit tyre size shall match one of the tyre sizes. This shall be stated clearly in the vehicle owner's handbook or any other communication means in the vehicle.
- 5.2.5.1.2. A temporary-use spare unit of a type suitable for use on the vehicle, however, vehicles of categories other than M₁, N₁, M₂, M₃ (maximum laden mass ≤ 7,500 kg) or N₂ (maximum laden mass ≤ 7,500 kg) shall not be equipped or fitted with a temporary-use spare unit.
- 5.2.5.2. Every vehicle provided with a temporary-use spare unit or run flat tyres shall comply with the technical and transitional provisions of UN Regulation No. 64 with respect to the requirements concerning the equipment of vehicles with temporary-use spare units and run flat tyres.
If specific precautions have to be taken in order to fit a temporary-use spare unit to the vehicle (e.g. temporary use spare unit is only to be fitted on the front axle and therefore a front standard unit must first be fitted on the rear axle in order to address a malfunction of a rear standard unit) this shall be stated clearly in the vehicle owner's handbook or any other communication means in the vehicle, and compliance with the appropriate aspects of paragraph 5.2.1.3. of this Regulation shall be verified.

6. Modification of vehicle type and extension of approval

- 6.1. Every modification to an existing vehicle type shall be notified to the Type Approval Authority which approved the vehicle type. The Type Approval Authority shall then either:
- (a) Decide, in consultation with the manufacturer, that a new type approval is to be granted; or
- (b) Apply the procedure contained in paragraph 6.1.1. (Revision) and, if applicable, the procedure contained in paragraph 6.1.2. (Extension).
- 6.1.1. Revision
- When particulars recorded in the information documents of Annex 1 have changed and the Type Approval Authority considers that the modifications made are unlikely to have an appreciable adverse effect and that, in any case, the vehicle still complies with the requirements, the modifications shall be designated a "revision";
- In such a case, the Type Approval Authority shall issue the revised pages of the information documents of Annex 1 as necessary, marking each revised page to show clearly the nature of the modification and the date of re-issue. A consolidated, updated version of the information documents of Annex 1, accompanied by a detailed description of the modification, shall be deemed to meet this requirement.
- 6.1.2. Extension
- The modification shall be designated an "extension" if, in addition to the change of the particulars recorded in the information documents of Annex 1,
- (a) Further inspections or tests are required; or
- (b) Any information on the communication document (with the exception of its attachments) has changed; or

- (c) Approval to a later series of amendments is requested after its entry into force.
- 6.2. Confirmation or refusal of approval, specifying the alterations, shall be communicated by the procedure specified in paragraph 4.3. above to the Contracting Parties to the Agreement applying this Regulation. In addition, the index to the information documents and to the test reports, attached to the communication document of Annex 1, shall be amended accordingly to show the date of the most recent revision or extension.
- 6.3. The Type Approval Authority issuing the extension of approval shall assign a series number to each communication form drawn up for such an extension.

7. Conformity of production

- 7.1. Procedures concerning conformity of production shall conform to the general provisions defined in Article 2 and Appendix 2 to the Agreement (E/ECE/324-E/ECE/TRANS/505/Rev.2) and meet the following requirements:
- 7.2. A vehicle approved pursuant to this Regulation shall be so manufactured as to conform to the type approved by meeting the requirements of paragraph 5.;
- 7.3. The Type Approval Authority which has granted the approval may at any time verify the conformity of control methods applicable to each production unit. The normal frequency of such inspections shall be once every two years.

8. Penalties for non-conformity of production

- 8.1. The approval granted in respect of a vehicle type pursuant to this Regulation may be withdrawn if the requirements laid down in paragraph 7. are not complied with.
- 8.2. If a Contracting Party withdraws an approval it had previously granted, it shall forthwith so notify the other Contracting Parties applying this Regulation by sending them a communication form conforming to the model in Annex 1 to this Regulation.

9. Production definitively discontinued

If the holder of the approval completely ceases to manufacture a type of vehicle approved in accordance with this Regulation, he shall so inform the authority which granted the approval, which in turn shall forthwith inform the other Contracting Parties to the Agreement applying this Regulation by means of a communication form conforming to the model in Annex 1 to this Regulation.

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 [6 July 2022], Contracting Parties applying this Regulation shall not be obliged to accept type approvals to the preceding series of amendments, first issued after [6 July 2022].
- 10.3. Until [6 July 2022], Contracting Parties applying this Regulation shall accept type approvals to the preceding series of amendments, first issued before [6 July 2022].

- 10.4. As from [6 July 2022], Contracting Parties applying this Regulation shall not be obliged to accept type approvals issued to the preceding series of amendments to this Regulation.
- 10.5. Notwithstanding the transitional provisions above, Contracting Parties who start to apply this Regulation after the date of entry into force of the most recent series of amendments are not obliged to accept type approvals which were granted in accordance with any of the preceding series of amendments to this Regulation / are only obliged to accept type approval granted in accordance with the 01 series of amendments.
- 10.6. Notwithstanding paragraph 10.4., Contracting Parties applying this Regulation shall continue to accept type approvals issued according to the preceding series of amendments to this Regulation, for the vehicles/vehicle systems which are not affected by the changes introduced by the 01 series of amendments.
- 10.7. [Contracting Parties applying this Regulation shall not refuse to grant type approvals according to any preceding series of amendments to this Regulation or extensions thereof.]

11. Names and addresses of the 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 United Nations Secretariat the names and addresses of the Technical Services responsible for conducting approval tests and of the Type Approval Authority which grant approval and to which forms certifying approval or extension or refusal or withdrawal of approval are to be sent.

Annex 1

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

Information document

in accordance with UN Regulation on the installation of tyres

1. General
 - 1.1. Make (trade name of manufacturer):.....
 - 1.2. Type:
 - 1.2.1. Commercial name(s) (if available):.....
 - 1.3. Means of identification of type, if marked on the vehicle:¹
 - 1.3.1. Location of that marking:.....
 - 1.4. Category of vehicle:².....
 - 1.5. Name and address of manufacturer:.....
 - 1.6. Name(s) and address(es) of assembly plant(s):.....
 - 1.7. Name and address of the manufacturer's representative (if any):
2. General construction characteristics of the vehicle
 - 2.1. Photographs and/or drawings of a representative vehicle:
 - 2.2. Number of axles and wheels:
 - 2.2.1. Number and position of axles with tyres in dual (twin) formation:
 - 2.2.2. Number and position of steered axles:
 - 2.2.3. Powered axles (number, position, interconnection):
3. Masses and dimensions^{3, 4}
 - 3.1. Axle track(s) and width(s)
 - 3.1.1. Track of each steered axle:⁵
 - 3.1.2. Track of all other axles:⁵
 - 3.1.3. Width of the widest rear axle:
 - 3.1.4. Width of the foremost axle (measured at the outermost part of the tyres excluding the bulging of the tyres close to the ground):.....

¹ If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information document, such characters shall be represented in the documentation by the symbol "?" (e.g. ABC??123??).

² As defined in section 2 of the Consolidated Resolution on the Construction of Vehicles (R.E.3) (TRANS/WP.29/78/Rev.6).

³ Where there is one version with a normal cab and another with a sleeper cab, both sets of masses and dimensions are to be stated.

⁴ Standard ISO 612:1978 - Road Vehicles - Dimensions of motor vehicles and towed vehicles - terms and definitions.

⁵ ISO Standard 612-1978 - Term No. 6.5.

- 3.2. Technically permissible maximum laden mass stated by the manufacturer:^{6, 7}
- 3.3. Technically permissible maximum mass on each axle:
- 3.4. Vehicle is/is not⁸ suitable for towing loads
- 3.5. Maximum vehicle design speed (in km/h):⁹
4. Suspension
- 4.1. Tyres and wheels
- 4.1.1. Tyre/wheel combination(s)¹⁰
- (a) for tyres indicate:
- tyre class (C1/ C2/ C3)⁸
 - size designation(s)
 - load-capacity index⁷
 - speed category symbol⁷
- (b) for wheels indicate rim size(s) and off-set(s).
- 4.1.2. Axles
- 4.1.2.1. Axle 1:
- 4.1.2.2. Axle 2:
- etc.
- 4.1.3. Tyre pressure(s) as recommended by the vehicle manufacturer (kPa), depending on vehicle load:
- 4.1.4. Description of the snow traction device(s) and the tyre/wheel combination(s) on the front and/or rear axle(s) suitable for the type of vehicle, as recommended by the manufacturer:
- 4.1.5. Brief description of temporary-use spare unit (if any):
- 4.1.6. Brief description of tyre pressure monitoring system (TPMS) (if fitted):
5. Bodywork
- 5.1. Wheel guards
- 5.1.1. Brief description of the vehicle with regard to its wheel guards:
6. Miscellaneous
- 6.1. Speed limitation devices
- 6.1.1. Manufacturer(s):
- 6.1.2. Type(s):

⁶ For trailers or semi-trailers, and for vehicles coupled with a trailer or a semi-trailer, which exert a significant vertical load on the coupling device or the fifth wheel, this load, divided by standard acceleration of gravity, is included in the maximum technically permissible mass.

⁷ Please fill in here the upper and lower values for each variant.

⁸ Delete where not applicable.

⁹ With respect to motor vehicles, if the vehicle manufacturer permits that certain controller functions are modified (e.g. by means of software, hardware, upgrading, selection, enabling, disabling) before or after the vehicle has been put into service, resulting in the vehicle having an increased maximum speed, the maximum possible speed achievable by means of adjustment of these controller functions is declared. With respect to trailers, the maximum speed as permitted by the vehicle manufacturer is declared.

¹⁰ For tyres marked with the inscription ZR before the rim diameter code, intended to be fitted on vehicles whose maximum vehicle design speed exceeds 300 km/h, equivalent information shall be provided.

6.1.3. Type approval number(s), if available:

6.1.4. Speed or range of speeds at which the speed limitation may be set:km/h

Annex 2

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 type of vehicle with regard to the installation of its tyres

Approval No.: Extension No.:

Section I

1. Make (trade name of manufacturer):
2. Type:
- 2.1. Commercial name(s) (if available):
3. Means of identification of type, if marked on the vehicle:³
- 3.1. Location of that marking:
4. Category of vehicle:⁴
5. Name and address of manufacturer:
6. Name(s) and address(es) of assembly plant(s):
7. Name and address of the manufacturer's representative (if any):

Section II

1. Additional information: see Addendum
2. Technical Service responsible for carrying out the tests:
3. Date of test report:
4. Number of test report:
5. Remarks (if any): see Addendum
6. Place:
7. Date:
8. Signature:
9. Information package (when relevant)

¹ Distinguishing number of the country which has granted/extended/refused/withdrawn an approval (see approval provisions in the regulation).

² Strike out what does not apply.

³ If the means of identification of type contains characters not relevant to describe the vehicle, component or separate technical unit types covered by this information document, such characters shall be represented in the documentation by the symbol "?" (e.g. ABC??123??).

⁴ See footnote in paragraph 1. Scope

Addendum to communication form No.

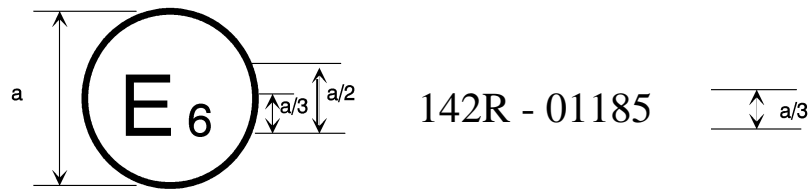
concerning the type approval of a vehicle with regard to the installation of its tyres

1. Additional information
 - 1.1. Brief description of the vehicle type as regards its structure, dimensions, lines and constituent materials:
 - 1.2. Tyre (C1/ C2/ C3)²/wheel combination(s) (including tyre size, rim size and wheel offset):
 - 1.3. The minimum speed category symbol compatible with the maximum vehicle design speed (of each variant) (for tyres marked with the inscription ZR before the rim diameter code, intended to be fitted on vehicle whose maximum vehicle design speed exceeds 300 km/h, equivalent information shall be provided):.....
 - 1.4. The minimum load-capacity index compatible with the technically permissible maximum mass on each axle (of each variant) (if applicable adjusted according to paragraph 5.2.2.2. of this Regulation):.....
 - 1.5. Tyre (C1/ C2/ C3)²/wheel combination(s) (including tyre size, rim size and wheel offset) to be used with the snow traction device(s):
2. Vehicle of category M₁ is/is not² suitable for towing loads and the load rating of the rear tyres is exceeded by per cent
3. The vehicle is/is not² approved according to UN Regulation(s) No. 64 and/ or No. 141² with regard to its temporary-use spare unit of type 1/2/3/4/5.²
4. Vehicle is/is not² approved according to UN Regulation(s) No. 64 and/ or No. 141² with regard to its tyre pressure monitoring system (TPMS)
- 4.1. Brief description of the tyre pressure monitoring system (TPMS) (if fitted):

Annex 3

Arrangements of approval marks

(see paragraphs 4.4. to 4.4.2. of this Regulation)



$a = 8 \text{ mm min}$

The above approval mark affixed to a vehicle shows that the vehicle type concerned has been approved in Belgium (E 6) with regard to the installation of tyres pursuant to UN Regulation No. 142. The first two digits of the approval number indicate that the approval was granted in accordance with the requirements of UN Regulation No. 142 as amended by the 01 series of amendments."

II. Justification

1. The current amendments are submitted with the aim to introduce tyre installation requirements for all vehicle categories in Regulation (EU) 2019/2144, following the requirements of UN Regulation No. 142.
2. The proposed amendments are in line with the provisions in Regulation (EU) No. 458/2011 (OJ L 124, 13.5.2011, p. 11), implementing Regulation (EU) No. 661/2009.
3. Tyre classes are introduced as defined in UN Regulation No. 117, Supplement 8 to the 02 series of amendments.

Scope

4. All vehicle categories are introduced in the Scope.
5. The tyre pressure monitoring system (TPMS) could refer to UN Regulation(s) Nos. 64 (up to the 02 series of amendment) and/or UN Regulation No. 141.
6. UN Regulation No. 64, 02 series of amendments, concerns a temporary use spare unit, run-flat tyres and/or a run-flat system, extended mobility tyres and/or a tyre pressure monitoring system for M₁ or N₁ category vehicles. UN Regulation No. 141 is dedicated to vehicles approved for their TPMS. Therefore, the Scope is amended to exclude such tyres and systems.

Definitions

7. Definitions of tyre classes, snow tyre for use in severe snow conditions and extended mobility tyres are amended or introduced, with appropriate reference to other UN Regulations, where such tyre features are regulated.

Specifications

8. The tyre installation requirements are introduced for the new vehicle categories in the Scope. Additional requirements concern:
 - The speed limitation device, for which the appropriate provisions are added, following the vehicle categories.
 - The limitation of the spare tyre size to one of the tyre sizes with which the vehicle is fitted.
 - The temporary use spare unit is allowed to M₁, N₁, M₂, M₃ and N₂ category vehicles (the two last ones with maximum laden mass not greater than 7,500 kg) only, for which no safety issues are known if such tyres are used.

Transitional provisions

9. Transitional provisions are introduced in line with the application dates of tyre installation requirements in Regulation (EU) 2019/2144.

Annex 1

10. The tyre classes are mentioned, as appropriate, and the UN Regulations are referred to, according to which the vehicle is approved or not, with regard to tyres and TPMS.
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