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World Forum for Harmonization of Vehicle Regulations**Working Party on Brakes and Running Gear****Eighty-first session**

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Item 10(b) of the provisional agenda

**International Whole Vehicle Type Approval (IWVTA) –
Regulation on tyre installation****Regulation on uniform provisions concerning the approval of
motor vehicles with regard to the installation of their tyres****Submitted by the experts from the International Organization of Motor
Vehicle Manufacturers ***

The text reproduced below was prepared by the experts from the International Organization of Motor Vehicle Manufacturers (OICA). It is based on informal document GRRF-80-36, which it supersedes. It includes all the proposals introduced by GRRF-79-08 and some of the proposal introduced by GRRF-80-26.

* In accordance with the programme of work of the Inland Transport Committee for 2014–2018 (ECE/TRANS/240, para. 105 and ECE/TRANS/2014/26, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.



I. Proposal

Regulation on 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 M₁¹ 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 or C2 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) 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 designed primarily for vehicles of categories M₁, N₁, O₁ and O₂;
 - (b) class C2 tyres — tyres designed primarily for vehicles of categories M₂, M₃, N, O₃ and O₄ with a load capacity index in single formation ≤ 121 and the speed category symbol \geq 'N';
- 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 or C2, as described in paragraph 2.2.; and
 - (b) in the case of class C1 tyres, the characteristics of a type of pneumatic tyre as defined in paragraph 2.1. of Regulation No. 30;
 - (c) in the case of class C2 tyres, the characteristics of a type of pneumatic tyre as defined in paragraph 2.1. of Regulation No. 54.
- 2.3. "*Tyre size designation*" means the designation as defined in paragraph 2.19. of Regulation No. 30 for class C1 tyres and paragraph 2.17. of 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.), document ECE/TRANS/WP.29/78/Rev.3, 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."
- 2.8. "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."
- 2.7. "*Run flat tyre*" means a tyre as defined in paragraph 2.5.7. of Regulation No. 30.
- 2.8. "*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.
- 2.9. "*Wheel*" means a complete wheel consisting of a rim and a wheel disc.
- 2.10. "*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.
- 2.11. "*Unit*" means an assembly of a wheel and tyre.
- 2.12. "*Standard unit*" means a unit which is capable of being fitted to the vehicle for normal operation.
- 2.13. "*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.
- 2.14. "*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.
- 2.15. "*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 paragraph 2.10. of Regulation No. 64.
- 2.16. "*Speed category symbol*" means the symbol as defined in paragraph 2.31. of Regulation No. 30 for class C1 tyres and paragraph 2.28. of Regulation No. 54 for class C2.
- 2.17. "*Load capacity index*" means a number associated to the maximum load rating of the tyre in relation to the definition in paragraph 2.30. of Regulation No. 30 for class C1 tyres and paragraph 2.27. of Regulation No. 54 for class C2 tyres.
- 2.18. "*Maximum load rating*" means the maximum mass which a tyre can carry when operated in conformity with requirements governing utilisation 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 (00 for the regulation in its initial form) 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.
- 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.

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

- 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.

5. Specifications

- 5.1. General requirements
 - 5.1.1. Subject to the provisions of paragraph 5.2.4.2., 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 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 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 paragraph 2.34. of Regulation No. 30 is taken into account.
 - 5.2.2.2.2. In the case of tyres of class C2, the "table load-capacity variation with speed" as referred to in paragraph 2.29. of 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 the necessary information about replacement tyres 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 Regulation No. 30.
 - 5.2.3.1.2. In the case of tyre of class C2, 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 paragraph 2.29. of 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 where in such a case the speed category symbol of the snow tyre 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, a maximum speed warning label, specifying the lowest value of the maximum speed capability of the fitted snow tyres, shall be displayed inside the vehicle in a prominent position readily and permanently visible to the driver.
 - 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 equipped with an on-board system fulfilling a speed limitation 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 in the vehicle the necessary information about replacement tyres speed capacity.
- 5.2.4. Special cases
 - 5.2.4.1. In the case of vehicles 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 exceptional cases, where vehicles are designed for conditions of use which are incompatible with the characteristics of tyres of class C1 or C2 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:
 - 5.2.4.2.1. the tyres fulfil the technical requirements and respect the transitional provisions of either Regulation No. 75 or Regulation No. 106; and
 - 5.2.4.2.2. 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 as 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 standard spare unit, it shall be of the same size as the tyres actually fitted to the vehicle.
 - 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 Regulation No. 64 with respect to the requirements concerning the equipment of vehicles with temporary-use spare units and run flat tyres.

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 definitely 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. Names and addresses of the Technical Services responsible for conducting approval tests and of Type Approval Authority

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 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 vehicle³:
 - 1.3.1. Location of that marking:.....
 - 1.4. Category of vehicle⁴:.....
 - 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^{5, 6}
 - 3.1. Axle track(s) and width(s)
 - 3.1.1. Track of each steered axle⁷:
 - 3.1.2. Track of all other axles⁵:
 - 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):.....
 - 3.2. Technically permissible maximum laden mass stated by the manufacturer^{8, 9}:

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

⁵ 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.

⁶ Standard ISO 612:1978 - Road Vehicles - Dimensions of motor vehicles and towed vehicles - terms and definitions.

⁷ ISO Standard 612-1978 - Term No. 6.5.

- 3.3. Technically permissible maximum mass on each axle:
- 3.4. Vehicle is/is not¹⁰ suitable for towing loads
- 3.5. Maximum vehicle design speed (in km/h)¹¹:.....
- 4. Suspension
 - 4.1. Tyres and wheels
 - 4.1.1. Tyre/wheel combination(s)¹²
 - (a) for tyres indicate:
 - 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):.....
 - 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):

⁸ 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.

⁹ Please fill in here the upper and lower values for each variant.

¹⁰ Delete where not applicable.

¹¹ 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.

¹² 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.

- 6.1.2. Type(s):.....
- 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 ¹⁴:
- Approval granted
 - Approval extended
 - Approval refused
 - Approval withdrawn
 - Production definitely 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 ¹⁵:
- 3.1. Location of that marking:
4. Category of vehicle ¹⁶:
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:

¹³ Distinguishing number of the country which has granted/extended/refused/withdrawn an approval (see approval provisions in the regulation).

¹⁴ Strike out what does not apply.

¹⁵ 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??).

¹⁶ See footnote 1.

5. Remarks (if any): see Addendum
6. Place:.....
7. Date:.....
8. Signature:
9. Information package (when relevant)

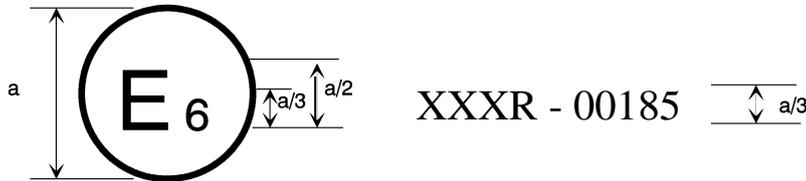
Addendum to communication form No.
concerning the type approval of a vehicle with regard to the installation of its tyres

1. Additional information
 - 1.1. Brief description of the vehicle type as regards its structure, dimensions, lines and constituent materials:
 - 1.2. Tyre/wheel combination(s) (including tyre size, rim size and wheel off-set):
 - 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/wheel combination(s) (including tyre size, rim size and wheel off-set) 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 Regulation No. 64 with regard to its temporary-use spare unit of type 1/2/3/4/5².
4. Vehicle is/is not² approved according to Regulation No. 64 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 (E6) with regard to the installation of tyres pursuant to Regulation No. [XXX]. The first two digits of the approval number indicate that the approval was granted in accordance with the requirements of Regulation No. [XXX] in its original form.

II. Justification

1. This document supersedes the informal document GRRF-80-36. It includes all the proposals introduced per GRRF-79-08 and some of the proposal introduced per informal document GRRF-80-26.
2. Paragraph 1.:
 - (a) The regulation indeed applies to the vehicles themselves;
 - (b) The regulation primarily focuses on the installation of tyres of class C1 and C2, hence the vehicles whose intended use is not compatible with those classes should not be included in the scope of the regulation.
 - (c) the reference to Run Flat Tyres and Run Flat Systems in the scope should address them only when they are in their flat tyre running mode because they are similar to conventional tyres when correctly inflated.
3. Paragraph 1. and paragraph 5.2.5.: some debate took place at the seventy-eighth session of GRRF (GRRF-78) as to whether the new regulation on tyre installation should refer to tyres and technologies which are specifically excluded from the scope per paragraph 1., keeping in mind the objective of avoiding double homologation work. The discussions between the interested experts, that followed GRRF-78, led to the solution of a restricted scope (per paragraph 1.) with clear reference to Regulation No. 64.
4. Paragraph 5.1.2.: the wording proposed by the European Commission for the references to Regulations Nos. 30, 54 and 117 was adopted.
5. Paragraph 5.2.2.3.: references to handbook is clarified in order to mandate that the relevant necessary information are present in the vehicle (whether in paper or not).
6. Paragraph 5.2.4.: provisions dedicated to some special vehicles fitted with tyres of class are deleted as recommended by the Netherlands, as they were originally addressing non M_1 vehicles in Commission Regulation (EU) 458/2011.

7. Paragraphs 5.2.4.2.1. and 5.2.4.2.2.: references to Regulations Nos. 75 and 106 (currently present in Commission Regulation (EU) 458/2011) are included in order to permit future possible technologies and for best alignment on the European Union's regulations. For consistency within the regulation (see paragraph 5.1.2.) and for the best flexibility to the Contracting Parties, the cross references are limited to the technical requirements and the transitional provisions.
