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**Economic Commission for Europe****Inland Transport Committee****World Forum for Harmonization of Vehicle Regulations****180th session**

Geneva, 10-12 March 2020

Item 4.7.1 of the provisional agenda

**1958 Agreement:****Consideration of draft amendments to existing****UN Regulations submitted by GRVA****Proposal for a Supplement 5 to the 02 series of amendments to  
UN Regulation No. 90 (Replacement braking parts)****Submitted by the experts from the Working Party on  
Automated/Autonomous and Connected Vehicles\***

The text reproduced below was adopted by the Working Party on Automated/Autonomous and Connected Vehicles (GRVA) at its fourth session (ECE/TRANS/WP.29/GRVA/4, para. 50). It is based on ECE/TRANS/WP.29/GRVA/2019/25 and para. 66 of the session 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 2020 sessions.

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\* 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.



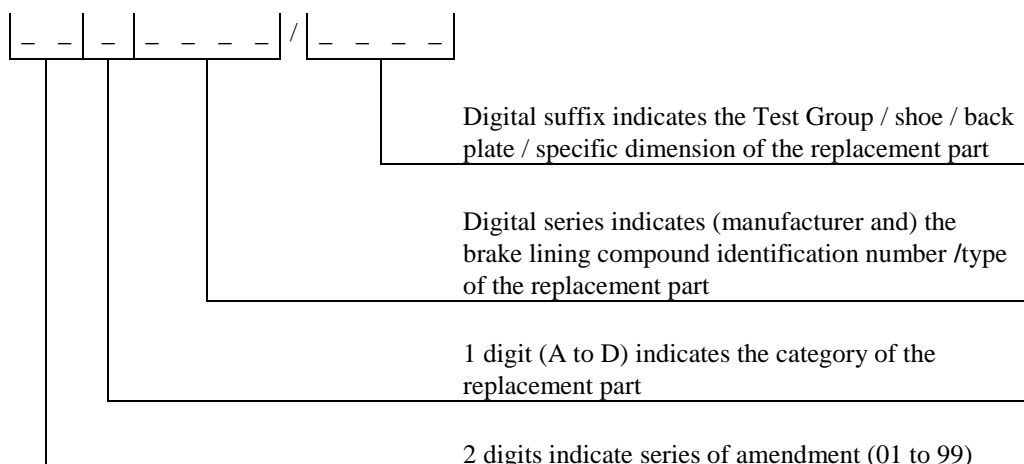
## Supplement 5 to the 02 series of amendments to UN Regulation No. 90 (Replacement braking parts)

In paragraph 2., paragraphs 2.1.4., 2.1.5., 2.3.3.4.1. and 2.3.14. shall read:

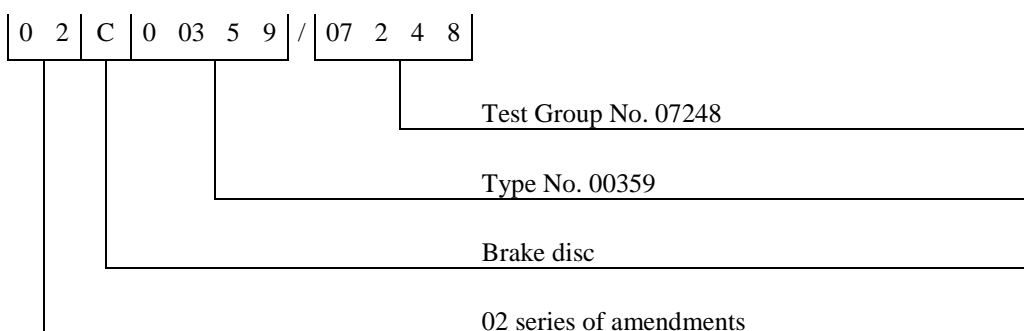
- "2.1.4.        *"Approval code"* means a series of digits assigned by a Contracting Party to a product in the format according to paragraph 4.2. as a result of the approval process stipulated in this Regulation, and used as an approval mark on the product.
- 2.1.5.        *"Approval number"* means a number assigned by a Contracting Party to an approval code, in the format according to Schedule 4 to the Revision 3 of the 1958 Agreement, which is displayed neither on product, nor on labelling attached to this product or its packaging."
- 2.3.3.4.1.    *"Equivalent brake discs for Categories M, N and O"* is a replacement brake disc which is identical to the original brake disc in respect to all dimensions, geometric features, tolerances and basic design and is also from the same material subgroup as the original brake disc as defined in paragraph 5.3.3.2."
- 2.3.14.        *"Brake lining compound identification number"* defines the specific chemical composition of a replacement brake lining and brake lining assembly."

Paragraph 4., amend to read:

- "4.            Approval
- ...
- 4.2.            To each replacement part approved there shall be assigned an approval code and an approval number, the latter in the format according to Schedule 4 to the Revision 3 of the 1958 Agreement. The approval code shall comprise four groups of digits:
- ...
- 4.2.3.          The next series of digits shall indicate the manufacture and the brake lining compound identification number of the brake lining, the type of disc or the type of drum.
- The digital suffix shall indicate:
- (a)    The shoe or back plate or specific dimension in the case of drum brake linings;
- (b)    The Test Group in the case of a replacement disc or replacement drum.
- The variants approved as a Test Group shall be listed as an appendix to the communication document:



Example:



- 4.2.4. In the case of brake lining assemblies for vehicles of Category L, brake lining assemblies belonging to the same group defined according to the criteria of Annex 7a, shall be assigned the same approval code and approval number of the one assigned to the representative brake lining assembly.
- 4.3. The same Contracting Party may not assign the same approval code and/or the same approval number to a replacement part of the different grade/type. The same type approval number and approval code may cover the use of that replacement part on a number of differing vehicle types.  
...
- 4.5.2. The number of this Regulation, followed by the letter "R", a dash and the approval code to the right of the circle prescribed in paragraph 4.5.1.
- 4.5.3. On small parts for vehicles of Category L<sub>1</sub>, L<sub>2</sub>, L<sub>3</sub>, L<sub>4</sub> and L<sub>5</sub> for which the approval code cannot be marked on one line with a = 8 mm as defined in Annex 2 to this Regulation, a part of the approval code starting from the series of digits as prescribed in paragraph 4.2.3. above, may be affixed on the second line of the mark.  
...
- 4.8. The approval markings required by this UN Regulation may not be replaced by a Unique Identifier (UI) described in Schedule 5 to the 1958 Agreement."

Paragraph 5.3.4.1.1., amend to read:

"5.3.4.1.1. For discs the following maximum values shall be met:

	$M_1, N_1, O_1, O_2,$ $L_6$ and $L_7$	$M_2, N_2,$	$M_3, N_3, O_3, O_4$	$L_1, L_2, L_3, L_4, L_5$
Thickness variation	0.015 mm	0.030 mm	0.040 mm	0.020 mm
Cheek thickness variation (for ventilated disc only)	1.5 mm	2.0 mm	2.0 mm	(****)
Lateral run-out friction surface	0.050 mm*	0.15 mm*	0.15 mm*	0.150 mm***
Location bore variation	H9	H9	H9	D10 or H11 *****
"Top hat" parallelism	0.100 mm	0.100 mm	0.100 mm	-
Location face flatness	0.050 mm	0.050 mm	0.050 mm	0.100 mm
Friction surface roughness**	3.2 $\mu$ m	3.2 $\mu$ m	3.2 $\mu$ m	1.6 $\mu$ m

\* n/a in the case of a floating disc

\*\* Ra-value according to ISO 1302:2002

\*\*\* 0.100 mm for maximum straightness for "full floating" disc (without elastic constraints between bell and braking ring)

\*\*\*\* n/a for vehicles of Categories L1, L2, L3, L4 and L5

\*\*\*\*\* Location bore variation where applicable, related to manufacturing process. "

Paragraph 6.2.2. and subparagraphs (Packaging and marking), amend to read:

"6.2.2. Marking

Every brake disc/drum approved in accordance with this Regulation shall be durably marked with at least the following information:

6.2.2.1. Manufacturer's name or trade mark;

6.2.2.2. The approval code;

6.2.2.3. ..."

Paragraph 12., add the following subparagraphs 12.4., 12.5. and 12.6., to read:

"12.4. As from the official date of entry into force of Supplement 5 to the 02 series of amendments to this UN Regulation, no Contracting Party applying this UN Regulation shall refuse to grant or refuse to accept UN type-approvals according to Supplement 5 to the 02 series of amendments to this UN Regulation.

12.5. Until 1 March 2021, Contracting Parties applying this UN Regulation can continue to grant UN type-approvals to the 02 series of amendments to this UN Regulation without taking into account the provisions of Supplement 5.

12.6. Contracting Parties applying this UN Regulation can continue to extend existing UN type-approvals to the 02 series of amendments to this UN Regulation without taking into account the provisions of Supplement 5."

Annex 1A, «Communication», amend to read as follows, including the addition of the two new footnotes 3 and 4:

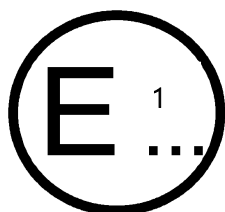
## "Annex 1A

### Communication

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

issued by: Name of administration:

.....  
 .....  
 .....



Concerning<sup>2</sup>: Approval granted  
 Approval extended  
 Approval refused  
 Approval withdrawn  
 Production definitively discontinued

of a replacement brake lining assembly or replacement drum brake lining pursuant to UN Regulation No. 90

Approval Code <sup>3</sup>.....

Approval No<sup>4</sup> .....

1. ... "

<sup>1</sup> Distinguishing number of the country which has granted/extended/refused/withdrawn approval (see approval provisions in the Regulation).

<sup>2</sup> Strike out what does not apply.

<sup>3</sup> According to paragraph 4.2. of this Regulation.

<sup>4</sup> According to Schedule 4 to the 1958 Agreement. "

Annex 1B, "Communication", amend to read (including the addition of *the two new footnotes 3 and 4*):

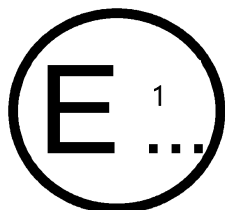
## "Annex 1B

### Communication

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

issued by: Name of administration:

.....  
.....  
.....



Concerning<sup>2</sup>: Approval granted  
Approval extended  
Approval refused  
Approval withdrawn  
Production definitively discontinued

of a replacement brake disc or a replacement brake drum pursuant to UN Regulation No. 90

Approval Code <sup>3</sup>..... Approval No<sup>4</sup> .....

1. ... "

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<sup>1</sup> Distinguishing number of the country which has granted/extended/refused/withdrawn approval (see approval provisions in the Regulation).  
<sup>2</sup> Strike out what does not apply.  
<sup>3</sup> According to paragraph 4.2. of this Regulation.  
<sup>4</sup> According to Schedule 4 to the 1958 Agreement. "

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