

Seventy-fifth session

Geneva, 27–31 May 2024

Item 15 of the provisional agenda

UN Regulation No. 137 (Frontal impact with focus on restraint systems)

**Proposal for the 04 Series of Amendments to UN Regulation
No. 137 (Frontal collision with focus on restraint systems)**

Submitted by the expert from Japan *, **

The text reproduced below was prepared by the expert from Japan to amend the requirement for the Thorax Compression Criterion (ThCC) of the 5th Female dummy in the case of vehicles of category N₁. It is based on ECE/TRANS/WP.29/GRSP/2023/34 distributed at the seventy-fourth session of the Working Party on Passive Safety (GRSP). The modifications to the current text of the UN Regulation (including draft 03 series of amendments ECE/TRANS/WP.29/2023/111) are marked in bold for new or strikethrough for deleted characters.

* This document was scheduled for publication after the standard publication date owing to circumstances beyond the submitter's control.

** In accordance with the programme of work of the Inland Transport Committee for 2024 as outlined in proposed programme budget for 2024 (A/78/6 (Sect. 20), table 20.5), 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

Add a new paragraph 0 to read:

"

"0. Introduction to the 04 series of amendments to UN Regulation N° 137

Currently, under UN Regulation N° 137 in its 03 series of amendments, to protect vehicle occupants of age 65 and older, the Thorax Compression Criterion (ThCC) for the Hybrid III 5th percentile female dummy (AF05) is limited to maximum 34 mm in vehicles of category M₁.

When developing this new 04 series of amendments to UN Regulation N° 137, GRSP considered it desirable to enhance protection of occupants of age 65 and older to apply the same AF05 dummy ThCC limit of 34 mm also to a certain range of vehicles of category N₁ which often may be used in specific countries by private consumers for commuting.

Some national accident data indicate that almost all the vehicles in which occupants of age 65 and older in front were fatally or seriously injured were very small N₁ vehicles only available in a certain number of countries. This amendment therefore seeks to address this particular case.

Paragraph 5.2.1.2.3., amend to read:

"5.2.1.2.3. The thorax compression criterion (ThCC) shall not exceed:

- (a) 34 mm in the case of vehicles of category M₁;
- (b) 34 mm in the case of vehicles of category N₁ with a maximum permissible mass not exceeding 2,800 kg, a maximum vehicle width not exceeding 1,480 mm, a length not exceeding 3,400 mm; and
- (c) 42 mm in the case of vehicles of category N₁ with a maximum permissible mass exceeding 2,800 kg, or with a maximum vehicle width exceeding 1,480 mm or with a length exceeding 3,400 mm."

Insert new paragraphs 12.7. to 12.12., amend to read:

- "12.7. As from the official date of entry into force of the 04 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 04 series of amendments.
- 12.8. As from 1 September 2027, Contracting Parties applying this Regulation shall not be obliged to accept type-approvals of vehicles according to the preceding series of amendments, first issued after 1 September 2027.
- 12.9. Contracting Parties applying this Regulation shall continue to accept type-approvals of vehicles according to the preceding series of amendments, first issued before 1 September 2027, provided the transitional provisions in these respective previous series of amendments foresee this possibility.
- 12.10. Contracting Parties applying this Regulation may grant type approvals according to any preceding series of amendments to this Regulation.
- 12.11. Contracting Parties applying this Regulation shall continue to grant extensions of existing approvals to any preceding series of amendments to this Regulation.
- 12.12. 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."

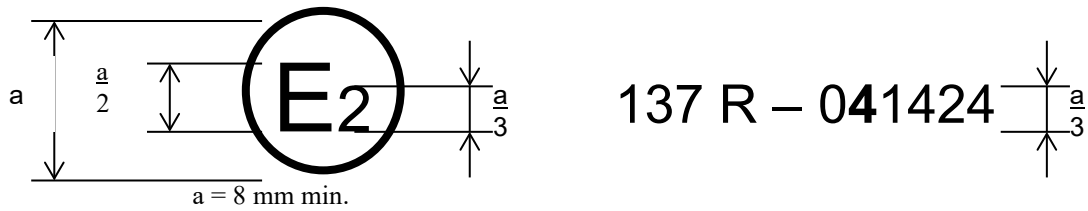
Annex 2, amend to read:

"Annex 2

Arrangements of Approval Marks

Model A

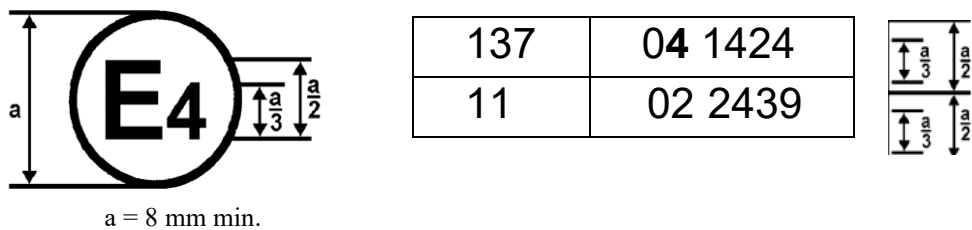
(See paragraph 4.4. of this Regulation.)



The above approval mark affixed to a vehicle shows that the vehicle type concerned has, with regard to the protection of the occupants in the event of a frontal collision, been approved in France (E 2) pursuant to Regulation No. 137 under approval number 0341424. The approval number indicates that the approval was granted in accordance with the requirements of Regulation No. 137 034 series of amendments.

Model B

(See paragraph 4.5. of this Regulation.)



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. 137 and 11.¹ The first two digits of the approval numbers indicate that, at the dates when the respective approvals were granted, Regulation No. 137 incorporated the 034 series of amendments and Regulation No. 11 incorporated the 02 series of amendments."

II. Justification

1. To protect vehicle occupants of age 65 or older, the Thorax Compression Criterion (ThCC) for the hybrid III 5th percentile female dummies (AF05) is 34 mm in vehicles of category M₁. Japan considers it desirable to apply the same AF05 dummy ThCC of 34 mm to a certain range of vehicles of category N₁ which may often be used by private consumers for commuting when this criterion will be achievable.

2. Vehicles of category N₁ were included in the scope of UN Regulation No. 137 by supplement 3 to the 01 series of amendments. Under the Japanese national regulation, a full-overlap frontal crash test has been required for N₁ vehicles with a maximum permissible mass

¹ The latter number is given only as an example.

not exceeding 2,800 kg in advance to the extension of the scope of UN Regulation No. 137. Moreover, in Japan, it had been determined to amend the national regulation so that, from 1 September 2027, ThCC for AF05 dummies in N₁ vehicles with a maximum permissible mass not exceeding 2,800 kg will be the same as that in M₁ vehicles, i.e. 34 mm. Therefore, we consider it necessary to amend UN Regulation No. 137 in the same way.

3. The expert from Japan presented GRSP-66-29 on this subject at the sixty-sixth session of GRSP. As the expert from the European Commission supported the policy of Japan and no objection was expressed at that session, Japan took the lead to propose the amendment at the seventy-second session of GRSP.

4. The expert from Japan presented accident data on N₁ vehicles and the necessity of protecting an elderly female seated in the front passenger seat in Japan at the seventy-third session of GRSP (GRSP-73-27). Almost all the vehicles in which elderly female passengers in front were fatally or seriously injured were N₁ Kei cars, available in Japan. So, the vehicle width was limited 1,480 mm and the length was limited 3,400 mm, which were the limits of width and length of Kei cars.
