

Adopted amendments to ECE/TRANS/WP.29/2011/92 and ECE/TRANS/WP.29/2011/93 (Advanced Emergency Braking Systems)

I. Proposal to WP.29/2011/92 (00 Series of amendments)

Introduction, amend to read:

"0. Introduction (for information)

The intention ...conditions.

While, in general, those vehicle categories will benefit from the fitment of an advanced emergency braking system, there are sub-groups where the benefit is rather uncertain because they are primarily used in other conditions than highway conditions (e.g. buses with standing passengers i.e. classes I, II and A). ~~In addition, **R**~~Regardless from the benefit, there are **other** sub-groups where the installation of AEBS would be technically difficult (e.g. position of the sensor on vehicles of category G and special purpose vehicles, etc.).

In addition, systems intended for vehicles not equipped with a pneumatic rear-axle suspension require the integration of advanced sensor technology to take into account the variation of the pitch angle of the vehicle. Contracting Parties wishing to apply this regulation to these vehicles should provide adequate time for this.

The system shall...."

Paragraph 1. , amend to read

"1. Scope and purpose

This Regulation applies to the approval of vehicles of category¹ :~~M₂~~,

- (a) N₂ **above 8 tons**,
- (b) M₃ and
- (c) N₃

equipped with a pneumatic or Air over Hydraulic braking system with regard to an on-board system to avoid or mitigate the severity of a rear-end in lane collision"

Paragraphs 2.4. to 2.13., renumber as paragraphs 2.3. to 2.12.

Paragraph 3.2.1. , correct to read

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

"3.2.1. A description of the vehicle type with regard to the items mentioned in paragraph ~~2.3. 2.2~~, together with a shall be specified."

Paragraph 5.1.1. , correct to read

"5.1.1. Any vehicle fitted with an AEBS complying with the definition of paragraph 2.1~~4~~ shall meet the performance requirements contained in paragraphs 5.1. to 5.6.2. of this Regulation and shall be equipped with an anti-lock braking function in accordance with the performance requirements of Annex 13 of Regulation No. 13 ~~and a Vehicle Stability Function in accordance with the performance requirements of Annex 21 of Regulation No.13.~~"

[OR]

[Paragraph 5.1.1. , amend to read:

"5.1.1. Any vehicle **equipped with a pneumatic rear-axle suspension and** with an AEBS complying with the definition of paragraph 2.1. shall meet the performance requirements contained in paragraphs 5.1. to 5.6.2. of this Regulation and shall be equipped with an anti-lock braking function in accordance with the performance requirements of Annex 13 of Regulation No.13~~and a Vehicle Stability Function in accordance with the performance requirements of Annex 21 of Regulation No.13.~~

Vehicles equipped with another type of rear suspension may also be type approved provided that the requirements contained in paragraphs 5.1. to 5.6.2. are fulfilled."

Paragraph 5.2.2., amend to read:

"5.2.2. Subsequent to the warning(s) of paragraph 5.2.1.1., and subject to the provisions of paragraphs 5.3.1. to 5.3.3., there shall be an emergency [~~braking / deceleration~~] phase having the purpose of significantly decreasing the speed of the subject vehicle. This shall be tested in accordance with paragraphs 6.4. and 6.5."

Paragraph 6.4.1., correct to read:

"6.4.1. The subject vehicle ...

... at least 120 m from the target.

From the start of the functional part until the point of collision there shall be no adjustment to any **control of the subject vehicle control** by the driver other than slight ~~steering~~ adjustments **to the steering control** to counteract any drifting."

Paragraph 7.1., amend to read:

7.1. Every modification of the vehicle type as defined in paragraph ~~2.3. 2.2~~. above shallthen either:

Annex III, amend the table to read :

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A	B	C	D	E	F	G	H	
	Stationary target			Moving target				
	Timing of warning modes		Speed reduction (ref. paragraph 6.4.4.)	Timing of warning modes		Speed reduction (ref. paragraph 6.5.3.)	Target speed (ref. paragraph 6.5.1.)	
	At least 1 haptic or acoustic (ref. paragraph 6.4.2.1.)	At least 2 (ref. paragraph 6.4.2.2.)		At least 1 haptic or acoustic (ref. paragraph 6.5.2.1.)	At least 2 (ref. paragraph 6.5.2.2.)			
M ₃ , N ₂ >8t and N ₃ ^{{1}, {2}, {3}, {4}}	Not later than 1.4 s. before the start of emergency braking phase	Not later than 0.8 s. before the start of emergency braking phase	Not less than 10 km/h	Not later than 1.4 s. before the start of emergency braking phase	Not later than 0.8 s. before the start of emergency braking phase	No impact	32 ± 2 km/h	1
N ₂ >8t ^{{3}, {4}}	Not later than 1.4 s. before the start of emergency braking phase	Not later than 0.8 s. before the start of emergency braking phase	Not less than 10 km/h	Not later than [1.4 s] before the start of emergency braking phase	Not later than 0.8 s. before the start of emergency braking phase	No impact	32 ± 2 km/h	2
N ₂ ≤ 8t and M ₂ ^{{3}, {5}}	[No restriction regarding timing and warning modes ^{a)} -or {Blank}]	[No restriction regarding timing and warning modes ^{a)} or {Blank}]	[0 km/h ^{b)} or {Blank}]	[No time restriction] or {Blank}]	[Not later than 1.4 s. before the start of emergency braking phase ^{d)} or {Blank}]	[0 km/h ^{d)} or {Blank}]	[32 ± 2 km/h] or {Blank}]	3 2

¹ Vehicles with pneumatic hydraulic braking system (AoH) are subject to the requirements of row 2

² Vehicles of category M₃ with hydraulic braking system are subject to the requirements of row 3 2.

³ Vehicles with pneumatic braking system are subject to the requirements of row 1.

⁴ Applicable only to vehicles with pneumatic rear axle suspension.

⁵ Reservation from J for light M₂/N₂ vehicles.

^a For zero speed reduction, the start of the emergency braking phase is time to collision. In this case, paragraph 6.4.3. does not apply.

^b Speed reduction optional.

^c For zero speed reduction, the start of the emergency braking phase is time to collision.

^d In this case, paragraph 6.5.3. does not apply. Speed reduction optional."

II. Proposal to WP.29/2011/93 (01 Series of amendments)

Paragraph 1. , amend to read

"1. Scope and purpose

This Regulation applies to the approval of vehicles of category M₂, N₂, M₃ and N₃² with regard to an on-board system to avoid or mitigate the severity of a rear-end in lane collision."

[Paragraph 5.1.1., amend to read:

"5.1.1. Any vehicle equipped ~~with a pneumatic rear axle suspension and~~ with an AEBS complying with the definition of paragraph 2.1. shall meet the performance requirements contained in paragraphs 5.1. to 5.6.2. of this Regulation and shall be equipped with an anti-lock braking function in accordance with the performance requirements of Annex 13 of Regulation No.13.

~~Vehicles equipped with another type of rear suspension may also be type approved provided that the requirements contained in paragraphs 5.1 to 5.6.2 are fulfilled."~~

Paragraph 12., amend to read:

"12. Transitional provisions

12.1. As from the official date of entry into force of the 01 series of amendments, no Contracting Party applying the 01 series of amendments to this Regulation, shall refuse to grant type Approvals in accordance with the 01 series of amendments of this Regulation.

12.2. As from the date of into force of the 01 series of amendments to this Regulation, Contracting Parties applying this Regulation may continue granting type approvals and extensions of type approvals to the 00 series of amendments to this Regulation.

[In accordance with Article 12 of the 1958 Agreement, the 00 series of amendments may be used as an alternative to the 01 series. Contracting Parties shall notify to the Secretariat General which alternative they apply. In the absence of notification of Contracting Parties to the Secretariat General, Contracting Parties will be considered to apply the 01 series.]

12.3. As from the date of entry into force of the 01 series of amendments, no Contracting Party applying this Regulation shall refuse national or regional type approval of a vehicle type approved to the 01 series of amendments to this Regulation.

12.4. Until 1 November 2016, no Contracting Party applying this Regulation shall refuse national or regional type approval of a vehicle type approved to the 00 series of amendments to this Regulation.

12.5. As from 1 November 2016, Contracting Parties applying the 01 series of amendments to this Regulation shall not be obliged to accept, for the purpose of national or regional type approval, a vehicle type approved to the 00 series of amendments to this Regulation."

Annex III, amend the table to read:

"

A	B	C	D	E	F	G	H	
	Stationary target			Moving target				
	Timing of warning modes		Speed reduction (ref. paragraph 6.4.4.)	Timing of warning modes		Speed reduction (ref. paragraph 6.5.3.)	Target speed (ref. paragraph 6.5.1.)	
	At least 1 haptic or acoustic (ref. paragraph 6.4.2.1.)	At least 2 (ref. paragraph 6.4.2.2.)		At least 1 haptic or acoustic (ref. paragraph 6.5.2.1.)	At least 2 (ref. paragraph 6.5.2.2.)			
$M_3^1, N_2 > 8t$ and N_3	Not later than 1.4 s. before the start of emergency braking phase	Not later than 0.8 s. before the start of emergency braking phase	Not less than 20 km/h	Not later than 1.4 s. before the start of emergency braking phase	Not later than 0.8 s. before the start of emergency braking phase	No impact	12 ± 2 km/h	1
$N_2 \leq 8 t^2$ and M_2^2	The pass/fail values for the warning and activation test requirements in Cells B2 to H2 applicable to the vehicles of category $N_2 \leq 8$ tons and of category M_2 will be defined by GRRF and adopted by WP.29 at least 36 months before 1 November 2016. Until such values are adopted Contracting Parties shall refrain from issuing type-approvals for these vehicles in accordance with the 01 series of amendments to the AEBS Regulation.							2

¹ Vehicles of category M_3 with hydraulic braking system are subject to the requirements of row 3 2

² Vehicles with pneumatic braking systems are subject to the requirements of row 1