

Transmitted by the expert from the Russian Federation

Informal document No. GRSP-44-01
(44th GRSP, 10-12 December 2008
agenda item 15(a))

Proposed amendments to the UNECE Regulation No. 29 on truck cab safety

December 2008
Geneva

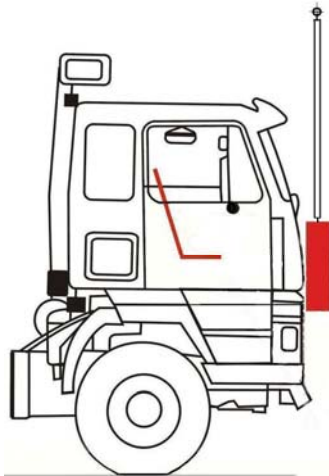


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Frontal impact

Current Regulations 29.02



Impactor energy:

- $N \leq 7.0 \text{ t} - 29.4 \text{ kJ}$
- $N > 7, \text{From} - 44.1 \text{ kJ};$

Impactor:

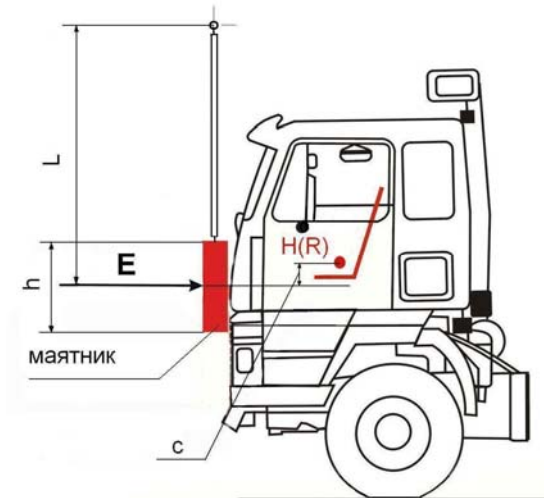
- size: $h=800 \text{ mm}; l = 2500 \text{ mm}$
- mass $m = 1500 \pm 250 \text{ kg}$

Impactor position:

- $c=50 \pm 5 \text{ mm}$ ($50 \pm 5 \text{ mm}$ lower than the H point (R))
- beam suspension of the impactor, $L \geq 3500 \text{ mm}, b \geq 800 \text{ mm}$

Alternative tests – Regulations 33.

Proposed



$N1$ and $N2 \leq 7.5 \text{ t} - \text{Regulations 29 with the 02 series of amendments}$

Alternative tests for $N1 - \text{Regulations 33 or 94.}$

Impactor energy:

- $N2 > 7.5 \text{ t and } N3 - 58.8 \text{ kJ}^*;$

Impactor:

- size: $h=800 \text{ mm}; l \geq 2500 \text{ mm}$
- mass $m = 1500 - 2500 \text{ kg}$

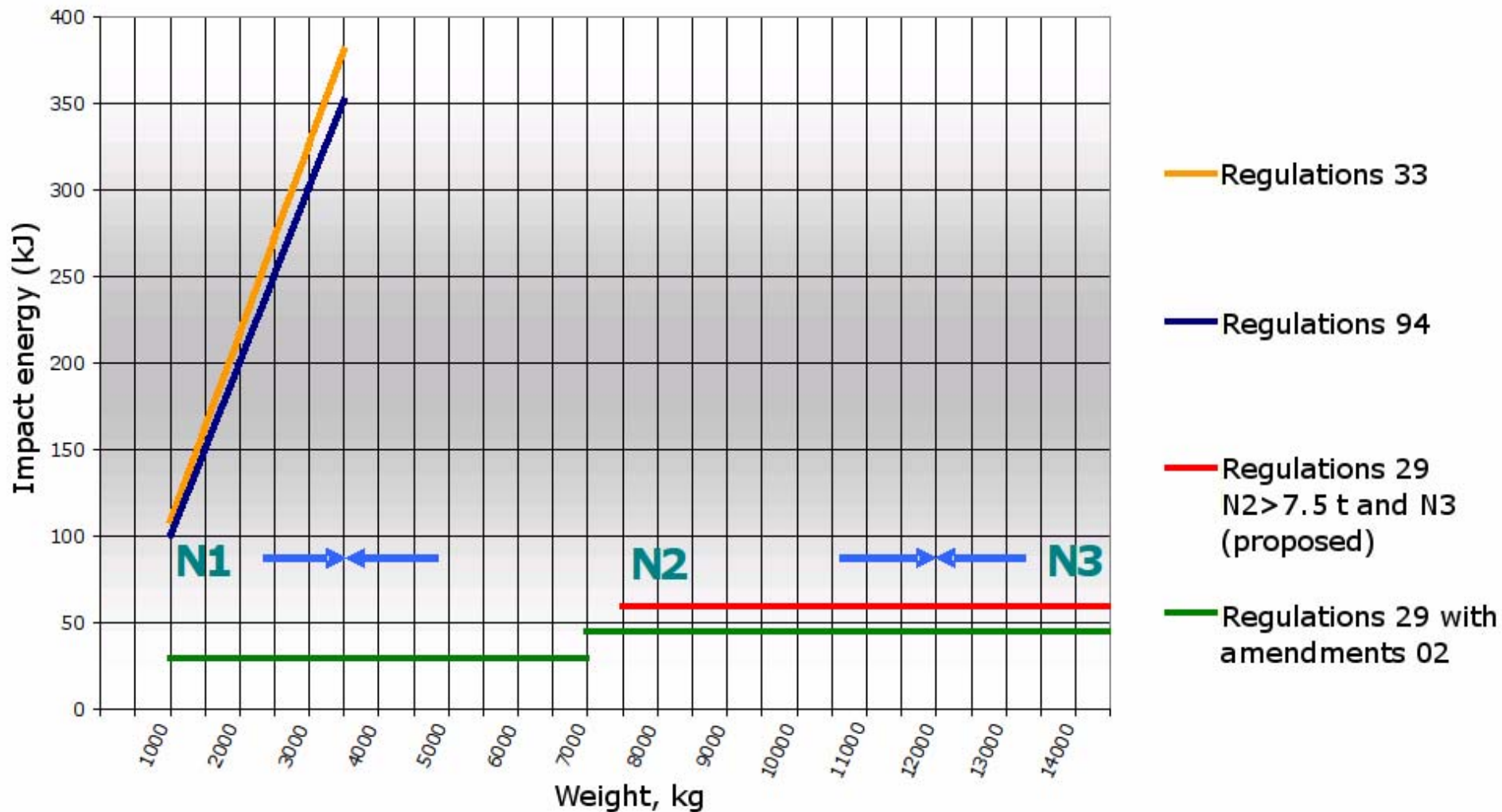
Impactor position:

- $c=50 \pm 5 \text{ mm}$ ($50 \pm 5 \text{ mm}$ lower than point H (R))
- beam suspension of the impactor, $L \geq 3500 \text{ mm}, b \geq 800 \text{ mm}$

* - concerns only cab-over-engine and short bonnet vehicles; A truck is a bonnet truck if 75% or more of its engine length (excluding cooling systems) is located in front of the lowest rim of the wind shield. The length of the engine is limited by the clutch carter connector.



Vehicle impact energy during the tests conducted in accordance with different Regulations

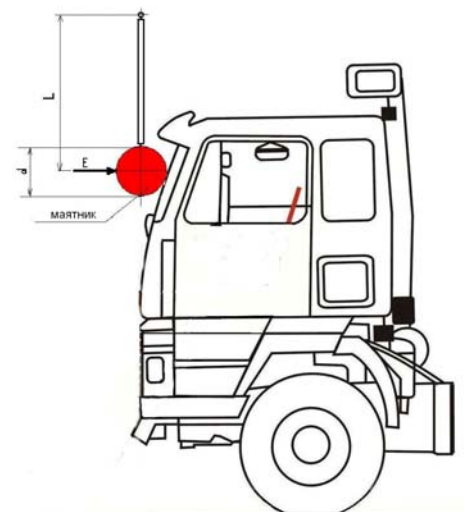


Front pillar impact

Current
Regulations 29.02

Not tested

Proposed



N1 and N2 \leq 7.5 t – Regulations 29 with the 02 series of amendments

Impactor energy:

- N2 > 7.5t and N3 – 29.4 kJ;

Impactor:

- size: $d=[300 - 600]$ mm; $l \geq 2500$ mm

- mass $m = 1000 - 1500$ kg

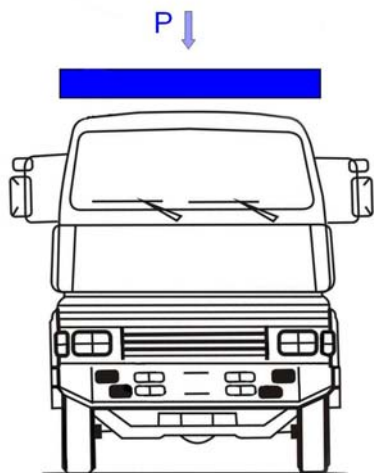
Impactor position:

- The impactor must hit at the middle height level of the wind shield;

- beam suspension of the impactor, $L \geq 3500$ mm, $b \geq 800$ mm

Roof Strength

Current Regulations 29.02

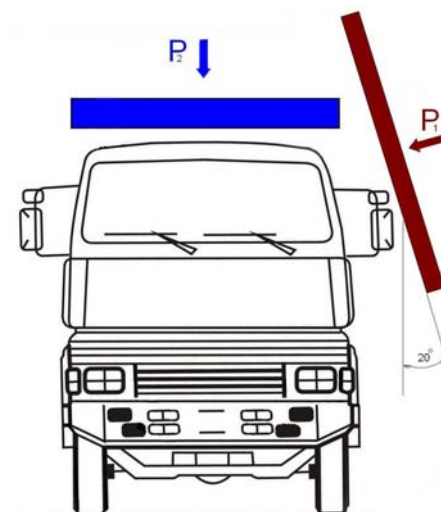


Static load:

$$P = P_{\Pi} \leq 98 \text{ kN}$$

where P_{Π} is the full weight of the vehicle born by the front axle (axles) but not more than 98 kN;

Proposed



$N1$ and $N2 \leq 7.5 \text{ t}$ – Regulations 29 with the 02 series of amendments

1-st test

Impactor energy:

- $N2 > 7.5\text{t}$ and $N3$ – 17.6 kJ;

Impactor:

-size: $h=800 \text{ mm}$; $l = 2500 \text{ mm}$

- mass $m = 1500 \pm 250 \text{ kg}$

Impactor position:

-20 degrees relative to the vertical plane

- beam suspension of the impactor, $L \geq 3500 \text{ mm}$, $b \geq 800 \text{ mm}$

2-nd test

Static load:

$$P = P_{\Pi} \leq 98 \text{ kN}$$

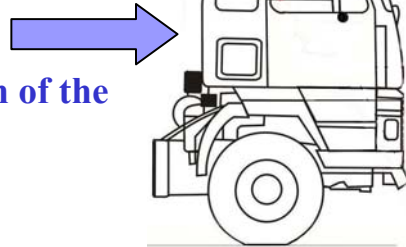
where P_{Π} is the full weight of the vehicle born by the front axle (axles) but not more than 98 kN;

Back Wall Strength

Current Regulations 29.02

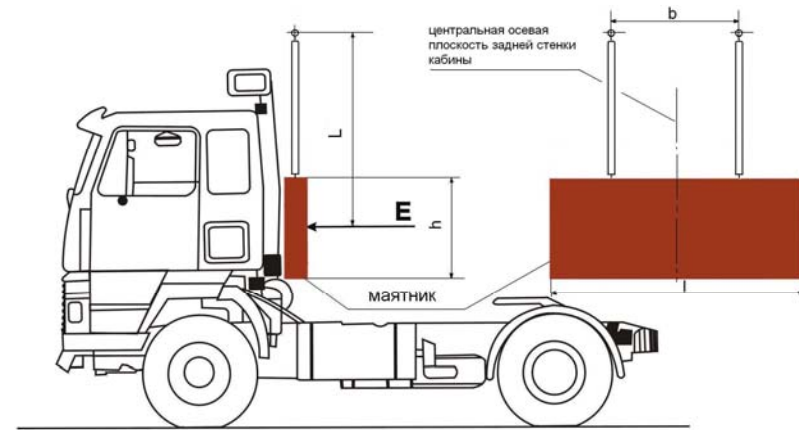
Load:

1.96 kN per one ton of the load



This test may be skipped if the manufacturer decides so.

Proposed



N1 and N2 ≤ 7.5 t – Regulations 29 with the 02 series of amendments

Impactor energy:

- N2 > 7.5t and N3 – 29.4 kJ;

Impactor:

- size: h=800 mm; l = 2500 mm

- mass m = 1500 \pm 250 kg

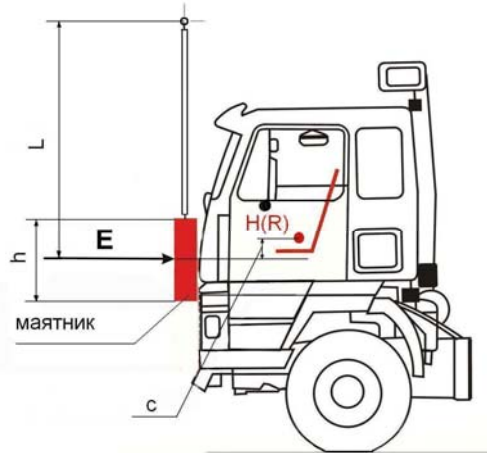
Impactor placement:

- the center of the impact must coincide with the central axial plane of the back wall and be located in the midpoint between the floor and the roof of the cabin;

- beam suspension of the impactor $L \geq 3500$ mm, $b \geq 800$ mm

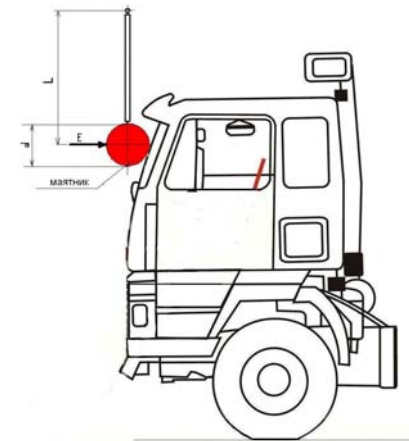


Test A

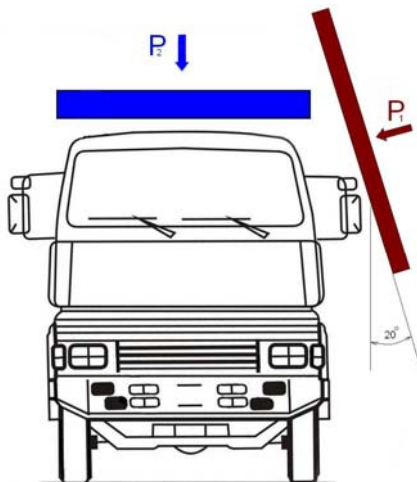


Cabin Strength Tests

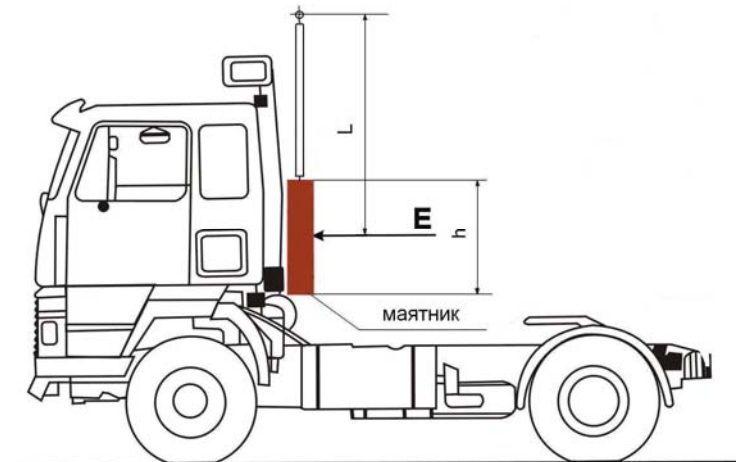
Test B



Test C



Test D (optional)





***Thank you
for
attention!***



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