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agenda item 2.5.)

PROPOSAL FOR DRAFT AMENDMENTS TO REGULATION No. 29
(Cabs of commercial vehicles)

Transmitted by the Expert from the United Kingdom

Note: The text reproduced below was prepared by the expert from the United Kingdom in order to clarify the proposed definition of an effective anchorage. It is based on a document distributed without a symbol (informal document No. 8) during the twenty-seventh session (TRANS/WP.29/GRSP/27, para. 25).

Note: This document is distributed to the Experts on Passive Safety only.

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The list of annexes, amend to read:

"....."

Annex 3, Test procedure for rear wall strength.

Annex 4, Procedure for positioning of the manikin

....."

The text of the Regulation,

Paragraph 1., amend to read:

"..... carriage of goods the maximum authorised mass of which exceeds 7 tonnes". It does not"

Paragraph 3.2., amend to read:

".... drawings of the vehicle or vehicles showing"

Paragraph 4.2., amend the reference to "02" by the reference to "03" series of amendments (two times).

Paragraphs 5.3.1 and 5.3.2., amend to read:

"5.3.1. After undergoing each of the tests referred to in paragraph 5.2. above, the survival space occupied by the manikin shall:"

5.3.1.1. not have been intruded

5.3.1.2. not exhibit evidence of contact between the manikin and any non-resilient parts.

5.3.1.3. Displacement of the limbs of the dummy is acceptable provided that it is unlikely to have resulted in a fracture or other significant injury.

5.3.2. Tests A, B and C shall be carried out for every seat provided by the manufacturer except that any test need not be repeated for any seat that when in its lowest and most rearward position, would not cause the manikin to be higher or further forward than at the time of test."

Paragraph 5.4.1., amend to read:

"..... may be distorted, provided that"

Paragraph 5.5., amend to read:

"5.5. Test need not be other means that the rear wall"

Paragraph 10.1., amend the reference to "02" by the reference to "03" series of amendments (two times).

Paragraphs 10.2. and 10.3., amend to read:

"10.2. As from [....] Contracting Parties as amended by the 03 series of

10.3. As from [....] Contracting Parties in accordance with the 03 series"

Annex 2, in the examples of the approval marks and in the captions below amend the approval number "022439" to read "032439" (three times) and the words "02 series of amendments" to read "03 series of amendments" (two times).

Annex 3,

Paragraph 2., amend to read:

"..... dimensions and mounting corresponding to the engine of smallest overall dimensions normally installed in vehicles that the cab being tested is used with, shall be fitted"

Paragraph 3., amend to read:

"3. Anchorage of the cab

The cab shall at the manufacturer's"

Paragraph 4.1.1., amend to read:

"4.1.1. The swing-bob shall be made of steel and its mass shall be evenly distributed; its mass shall be $1,500 \pm 250$ kg. It shall be of cylindrical construction $1,000 \pm 10$ mm in length and 600 ± 10 mm in diameter. Its edges shall be rounded to a radius of curvature of not less than 1.5 mm."

Paragraph 4.1.2., amend to read:

"4.1.2. The swing-bob assembly shall be of essentially rigid construction. The swing-bob shall be freely suspended by two chains. The chains shall be not less than 3,500 mm long from the axis of suspension and the geometric centre of the bob."

Paragraph 4.1.3.2., amend to read:

"4.1.3.2. The longitudinal axis of the swing-bob shall lie in the transverse plane of the cab; and"

Paragraph 4.1.3.3., amend to read:

"..... gravity is in the longitudinal plane of the cab."

Paragraph 4.1.4., amend to read:

".... plane of the vehicle. The impact energy shall be 40 kJ."

Insert new paragraphs 4.1.5. to 4.1.6., to read:

- "4.1.5. The foremost edge of the swing-bob shall strike the cab at a median point between (see figure 2):
- 4.1.5.1. a horizontal plane level with the lowest part of the underside of the drivers floor between:
 - 4.1.5.2. a transverse plane passing through the centre of the most forward seat mounting point and a transverse plane passing through the centre of the pivot of the service brake pedal and:
 - 4.1.5.3. a horizontal plane level with the lowest part of the lower edge of the windscreen aperture.
 - 4.1.5.3.1. If the windscreen is stepped this shall be the longest edge or if an equal split the upper edge (see figures 3a and 3b).
- 4.1.6. The outermost edge of the swing-bob shall be between two parallel vertical planes 30 mm apart, the inner one of which is parallel to the mean longitudinal plane and tangential to the outermost part of the driver's door not including any fitted projections such as, but not limited to, door handles, mirrors and trim (see figure 4)."

Paragraph 5., amend to read:

- "5. Roof strength (test B)
- 5.1. The cab shall be tilted to an angle of 25° about its longitudinal axis so that the driver's side is uppermost.
 - 5.2. The roof of the cab shall withstand a static load of 2.7 times the unladen weight of the front axle, or axles, of any vehicle to which it may be fitted, subject to a maximum load of 10 tonnes.
 - 5.3. The load shall be applied by a suitably shaped rigid platen the underside of which shall be evenly and uniformly covered in grease.
 - 5.4. As an alternative to paragraph 5.1. the cab may remain level and the test equipment tilted, provided the effect is the same."

Annex 3 - Appendix 1,

The title, amend to read:

"INSTRUCTIONS FOR SECURING VEHICLES AND CABS"

Insert a new paragraph 1., to read:

"1. Anchorage of the cab

The cab shall be mounted on the vehicle or frame using only the cab's normal mountings, mounting points and fasteners. This may include any cab locking device or any other component fitted as standard between the cab and the vehicle chassis at the manufacturer's request."

Paragraphs 1. to 1.5. (former), renumber as paragraphs 2. to 2.5.

Paragraph 1.6.(former), renumber as paragraph 2.6. and amend to read:

"2.6. Equivalent mounting

At the request of the manufacturer the test may be carried out with the cab mounted on a special frame, on condition that this method of mounting is shown to be equivalent to mounting on the vehicle and complies with paragraph 1. of this appendix."

Insert new, figures 2, 3 and 4, to read:

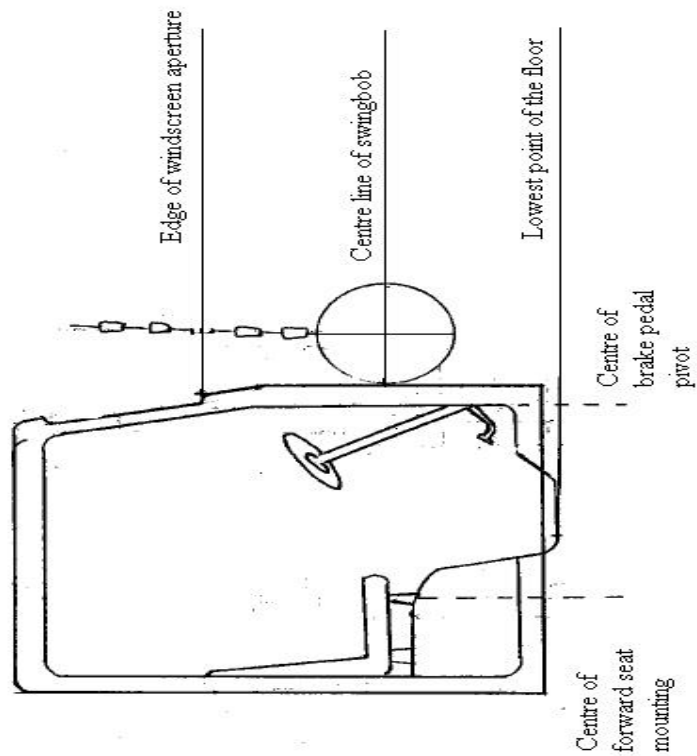


Figure 2

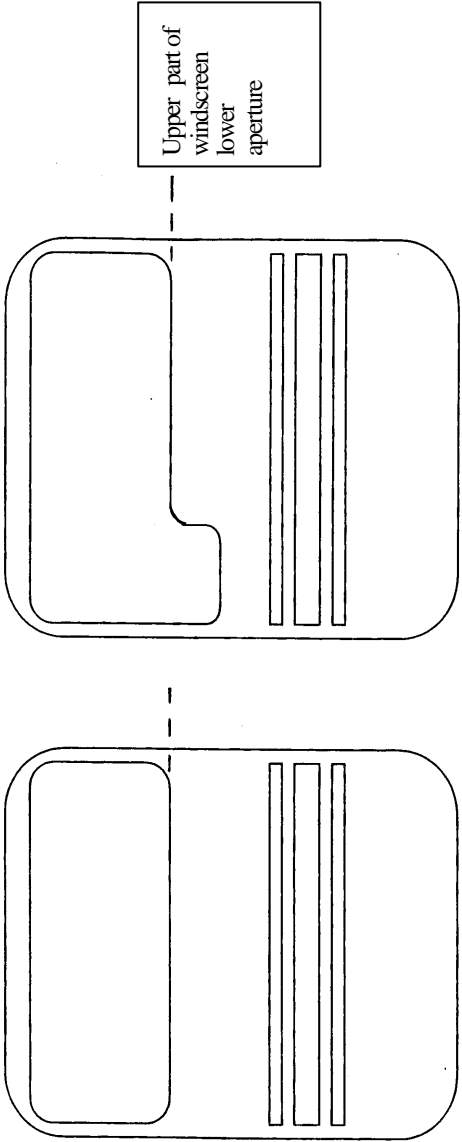


Figure 3

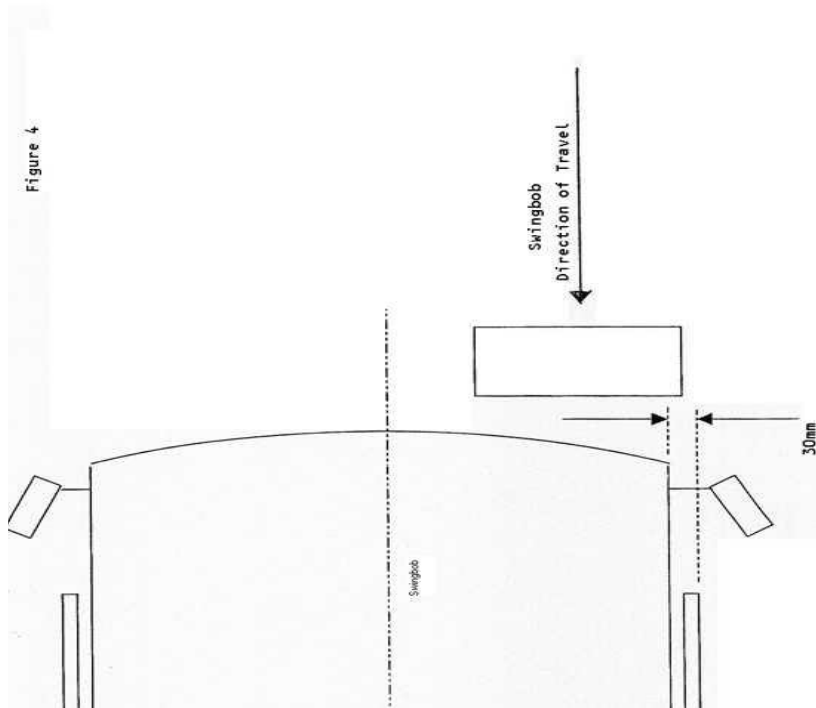


Figure 4

Figure 4

Annex 3 - Appendix 2,

The title, amend the "Fiftieth-percentile" to read "Ninety fifth-percentile".

the dimensions, amend to read:

"AA	Breadth of head	15.8	cm
AB	Combined height of head and neck	28.6	"
D	Distance from top of head to shoulder pivot	36.3	"
E	Calf depth	12.3	"
F	Height from seat to top of shoulder	63.6	"
J	Height of elbow rest	26.9	"
M	Knee height	65.0	"
O	Chest depth	29.2	"
P	Distance from seat back to knee	63.5	"
R	Distance from elbow to fingertip	51.6	"
S	Length of foot	37.1	"
T	Length of head	21.4	"
U	Height from seat to top of head	96.7	"
V	Shoulder breadth	49.7	"
W	Breadth of foot	12.2	"
a	Distance between hip point centres	21.6	"
b	Chest breadth	33.9	"
c	Height of head and chin	22.9	"
d	Forearm thickness	10.4	"
e	Distance between vertical centreline of torso and rear of head	12.2	"
f	Distance between shoulder pivot and elbow pivot	28.5	"
g	Knee pivot, height from ground	56.6	"
h	Thigh breadth	18.7	"
i	Lap height (sitting)	66.7	"
j	Distance from top of head to 'H' point	86.9	"
k	Distance between hip pivot and knee pivot	44.0	"
m	Ankle pivot, height from ground	10.7	" "

Annex 4, amend to read:

"Annex 4

PROCEDURE FOR POSITIONING OF THE MANIKIN

1. SEATING POSITION

1.1. The seat, if adjustable, shall be adjusted so that it is:

1.1.1. In its lowest position

1.1.2. Is as close as possible to, but not exceeding, a point in the horizontal plane 100 mm forward of its rearmost position.

1.1.3. In all circumstances when considering any seat adjustment it is only the limit of adjustment for normal driving or riding positions that should be considered and should not include adjustment provided for any other purpose.

1.2. Suspension seats

The vertical position shall be rigidly fixed corresponding to a normal driving position as specified by the manufacturer commensurate with the size and mass of the manikin used.

2. STEERING WHEEL POSITION

2.1. The steering wheel, if it is adjustable, in any plane or arc, shall be adjusted to its highest and most forward position

2.2. In all circumstances when considering steering wheel adjustment it is only the limit of adjustment for normal driving that should be considered and should not include adjustment provided for any other purpose.

3. POSITIONING OF THE MANIKIN

3.1. A manikin of the same dimensions and overall mass, as a 95 percentile male dummy shall be positioned in the drivers seat in the following manner:

3.1.1. Centrally on the seat as far back as is possible in a normal sitting position and so the centre plane of the seat and of the manikin lie in the same vertical plane.

3.1.2. So that the centre plane of the manikin is vertical. This shall be achieved by adjusting the seat back or by the use of suitable padding between the seat and the manikin or a combination of both.

3.1.4. The manikin shall maintain an upright posture

3.1.5. The torso shall be securely fastened to the seat back with suitable sticky tape.

3.1.6. The feet of the manikin shall be positioned flat on the floor between the operating pedals in as natural position as possible and taped in place.

3.1.7. The feet and legs shall, as far as is practicable, be kept parallel to each other.

3.1.8. The hands of the manikin shall be placed on the steering wheel at the ten-to-two position and taped in place.

3.1.9. The hands and arms shall, as far as is practicable, be kept parallel with each other."
