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EAST AFRICAN STANDARD

Motor vehicle safety — Rear underrun protection devices — Specification

EAST AFRICAN COMMUNITY

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Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in East Africa. It is envisaged that through harmonized standardization, trade barriers which are encountered when goods and services are exchanged within the Community will be removed.

In order to meet the above objectives, the EAC Partner States have enacted an East African Standardization, Quality Assurance, Metrology and Test Act, 2006 (EAC SQMT Act, 2006) to make provisions for ensuring standardization, quality assurance, metrology and testing of products produced or originating in a third country and traded in the Community in order to facilitate industrial development and trade as well as helping to protect the health and safety of society and the environment in the Community.

East African Standards are formulated in accordance with the procedures established by the East African Standards Committee. The East African Standards Committee is established under the provisions of Article 4 of the EAC SQMT Act, 2006. The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the private sectors and consumer organizations. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the procedures of the Community.

Article 15(1) of the EAC SQMT Act, 2006 provides that "Within six months of the declaration of an East African Standard, the Partner States shall adopt, without deviation from the approved text of the standard, the East African Standard as a national standard and withdraw any existing national standard with similar scope and purpose".

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

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Motor vehicle safety — Rear underrun protection devices

1 Scope

1.1 This standard covers requirements for rear underrun protection devices and their installation on category M, N and O vehicles having a gross vehicle mass (GVM) exceeding 3 500 kg and intended for use on public roads, except for the vehicles listed in 1.2.

1.2 The vehicles listed below do not need to have rear underrun protection devices fitted:

a) truck tractor for drawing semi-trailers;

b) slung trailers and other similar trailers for the transport of logs or other very long items;

c) vehicles for which rear underrun protection devices are incompatible with their use;

d) vehicles that run on rails;

e) vehicles specifically exempted in the Traffic Act; and

f) chassis vehicles without bodies being driven to a place to have bodywork fitted or to a dealer of such vehicles.

2 Definitions

For the purpose of this standard, the following definitions apply;

2.1
gross vehicle mass (GVM)
maximum mass of such vehicle and its load as specified by the manufacturer thereof or, in the absence of such specification, as determined by the registering authority specified in National Road Traffic Act, 1996 (Act 93 of 1996)

2.2
unladen vehicle
a vehicle in running order with its tanks and radiators full, and accessories that are provided as standard equipment by the vehicle manufacturer being fitted

2.3
vehicle
a motor vehicle of category M, N or O as defined in CD/K/045:2008 and having a GVM exceeding 3 500 kg, other than those listed in 1.2 of this standard

3 Requirements

3.1 General

3.1.1 All vehicles shall be so constructed or equipped as to offer effective protection over their whole width against underruning from the rear by vehicles of categories M1 and N1.

3.1.2 Any vehicle shall be deemed to comply with the requirement in 3.1.1 if:

a) the vehicle is equipped with a special rear underrun protection device that conforms to the requirements in 3.3, in accordance with 3.2, and

b) the vehicle is so designed or equipped at the rear that

1) the ground clearance of the rear part of the unladen vehicle does not exceed 550 mm over a width of not shorter than that of the rear axle by more than 100 mm on either side;

2) the distance between the rear extremity of the vehicle and the rear surface of the structure at the rear or the tyres of the rearmost axle is not more than 450 mm, see Figure 1; and

3) the structure regarded as replacing the underrun protection device conforms to the requirements in 3.3.

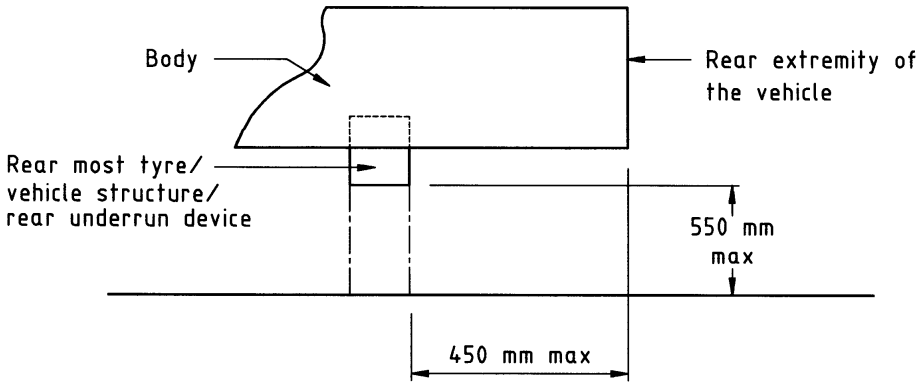


Figure 1 — Underrun protection devices — Side view

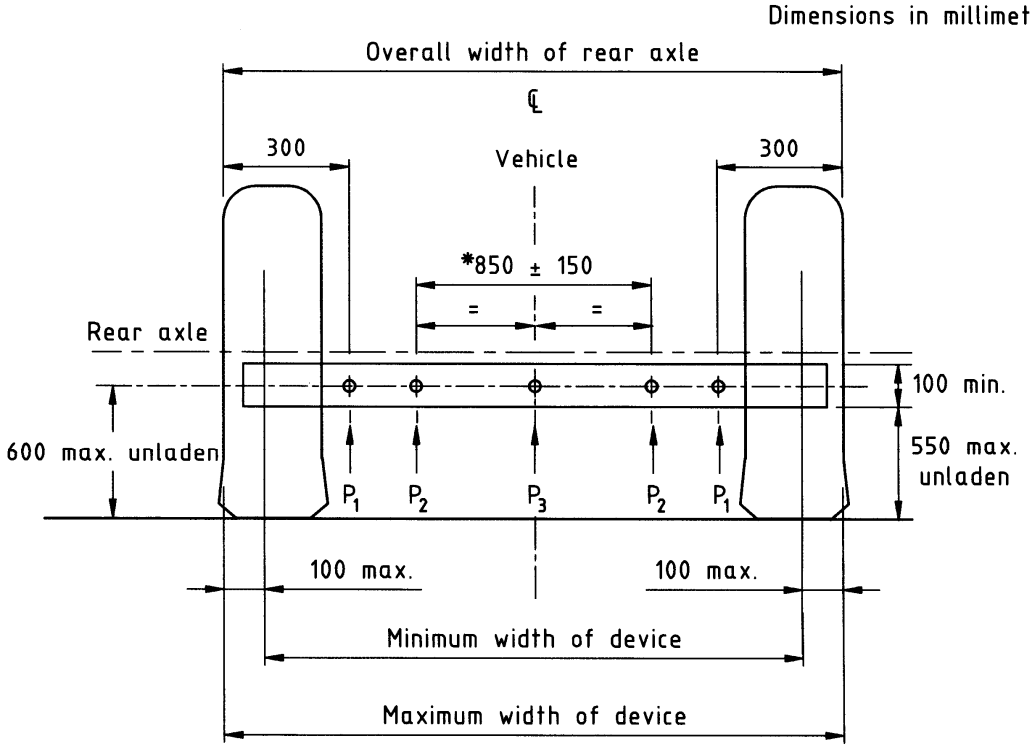
3.2 Installation

A rear underrun protection device shall be so fitted to a vehicle that:

a) the clearance between the ground and lower edge of the device does not exceed 550 rnm;

b) the width of the device does not exceed the width of the rear axle measured at the outermost points of the wheels, excluding the bulging of the tyres close to the ground, and is not shorter than that of the rear axle by more than 100 mm on either side, see Figure 2; and,

c) the distance between the rear extremity of the vehicle and rear surface of the device does not exceed 450 mm, see Figure 1.



NOTE The exact transverse location of P_2 is to be specified by the manufacturer within the limits shown.

Figure 2 — Rear underrun protection devices — Front view

3.3 Rear underrun protection devices

3.3.1 The section height of the rear underrun protection device shall not be less than 100 mm. The lateral extremities of the device shall not bend to the rear. The lateral extremities shall be rounded on the outside and shall have a radius of curvature not less than 2.5 mm.

3.3.2 The device may be so designed that its position at the rear of the vehicle can be varied. In this case, there shall be a method of securing it in the service position so that any unintentional change of position is precluded. It shall be possible for the operator to vary the position of the device by applying a force of not exceeding 400 N.

3.3.3 During and after the test in Clause 4, the horizontal distance between the rear surface of the device and the rear extremity of the vehicle at points of P_1, P_2 and P_3 shall not increase by more than 400 mm.

4 Inspection and test

4.1 Conditions

Inspection and test shall be carried out under the following conditions:

a) park the vehicle on a level, flat, rigid and smooth surface;

b) the front wheels of the vehicle are in the straight-ahead position;

c) the tyres are inflated to the pressure recommended by the vehicle manufacturer; and

d) the device is connected to the chassis' main structural members of the vehicles or to whatever replaces them.

4.2 Inspection

Carry out the inspection and check for conformance to 3.1.2, 3.2, 3.3.1 and 3.3.2.

4.3 Test

4.3.1 Apply forces specified in 4.3.3 and 4.3.4 by rams which are suitably articulated (e.g. means of universal joints) and parallel to the median longitudinal plane of the vehicle via a surface not more than 250 mm in height (the exact height is indicated by the manufacturers) and 200 mm wide, with a radius of curvature of 5 ± 1 mm at the vertical edges, the centre of the surface is placed successively at points P_1, P_2 and P_3 specified in 4.3.2.

4.3.2 Points P_1, P_2 and P_3 are located as follows (also see Figure 2)

a) Points PI are 300 mm from the longitudinal planes tangential to the out edges of the wheels on the rear axle;

b) Points P_2 are on the line of joining points PI and symmetrical to the median longitudinal plane of the vehicle at a distance from each other of 700 mm to 1000 mm inclusive, the exact position being specified by the manufacturer;

c) The height above the ground of points P_1 and P_2 are defined by the vehicle manufacturer and within the lines that bind the device horizontally. The height shall not exceed 600 mm when the vehicle is unladen; and

d) Point P_3 is the centre-point of the straight line joining points P_2

4.3.3 The force successively applied to both points P_1 and to point P_3 is a horizontal force and equal to the weight of 12.5 % of the G VM of the vehicle, but does not exceed 25 KM.

4.3.4 The force successively applied to both points P_2 is a horizontal force and equal to the weight of 50 % of the GVM of the vehicle, but does not exceed 100 KM.

4.3.5 Check for conformance to 3.3.3.

Bibliography

CD/K/041:2008, *Braking*