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Item 5 (a) of the provisional agenda
Proposals for amendments to annexes A and B of ADR: construction and approval of vehicles

Sub-section 9.2.2.6.3: Electrical connections

Transmitted by the Government of Sweden[1]

Summary

Executive summary: Sub-section 9.2.2.6.3 states that electrical connections shall be in conformity with ISO 12098:2004 and ISO 7638:2003. According to a reference in ISO 12098:2004, parts of ISO 4009 must be complied with. Inter alia, certain values stated in Figure 4, paragraph 3.1 in ISO 4009, which concerns requirements for connection locations, must be met. However, the requirement that the distance between the connector on the truck and the connector on the semitrailer shall be ≥ 350 mm, causes problems.

Action to be taken: Insert a footnote in sub-section 9.2.2.6.3.

Related documents: Informal document INF.15 (France) (eighty-third session)
ECE/TRANS/WP.15/194 (Secretariat) (Report from the eighty-third session)
ECE/TRANS/WP.15/2008/7 (France) (eighty-fourth session)
ECE/TRANS/WP.15/197 (Secretariat) (Report from the eighty-fourth session)

[1] The present document is submitted in accordance with paragraph 1 (c) of the terms of reference of the Working Party, as contained in document ECE/TRANS/WP.15/190/Add.1, which provides a mandate to "develop and update the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)".

Introduction

1. During its eighty-fourth session, the Working Party adopted a proposal from France which made it obligatory for vehicles to be fitted with electrical connections that are in conformity with ISO 12098:2004 or ISO 7638:1997. The objective of the amendment was to clarify the requirement for the prevention of accidental disconnection, and to discontinue the use of ISO 3731 and ISO 1185 for electrical connections. Some delegations considered that plugs in accordance with ISO 3731 and ISO 1185 offered less protection against accidental disconnection than ISO 12098:2004 and ISO 7638:1997.

2. Due to the transitional period specified in sub-section 1.6.5.4, the requirements of Part 9 in force up to 31 December 2010 may be applied until 31 March 2012 as regards the construction of EX/II, EX/III, FL, OX and AT vehicles. However, after this date the new requirements specified in Part 9 must be fulfilled.

Background

3. Difficulties in applying the full scope of ISO 12098:2004 have now been observed. The problem is that this standard refers to a number of other standards that also must be met in order to fulfil the requirements of ISO 12098:2004. One of the referenced standards that are specified as being indispensable is ISO 4009 (Commercial vehicles – Location of electrical and pneumatic connections between towing vehicles and trailers). Paragraph 5.2 (Connector positions and free space) in ISO 12098:2004 deals with the positions of and free space around the connectors, and stipulates that these shall be in accordance with ISO 4009.

4. The scope of ISO 4009 specifies that is applicable to heavy vehicles equipped with pneumatic braking systems and 24 V electrical equipment of the following types: drawbar-trailer combinations whose towing vehicles have rear-mounted couplings or couplings mounted forward and below, and articulated vehicles (i.e. a tractor and semitrailer combination).

5. In ISO 4009, paragraph 3.1, the requirements for connection locations are set out. The locations for electrical and pneumatic connections are there required to be in accordance with Figure 4 (see illustration in informal document INF.3) for articulated vehicles. Selection of the respective locations shall be made such that the connectors are completely within the areas, or zones, specified in corresponding figures. Clearance dimensions shall be in accordance with paragraph 3.3.

6. Figure 4 specifies that the distance between the connector on the truck and the connector on the semitrailer shall be ≥ 350 mm. However, depending on the fifth wheel position, which can be moved by the customer in order to avoid overload, this distance can vary and might sometimes fall below the allowed minimum distance of 350 mm. This means that the manufacturer of a truck cannot ascertain that the distance of ≥ 350 mm between the connectors of the truck and semitrailer is fulfilled. In case the distance fall below the given value, the customer might not get the articulated vehicle (truck and semitrailer combination) approved at the annual inspection.

7. It seems that this situation cannot be controlled by either the manufacturer or the customer. In order to avoid the problems described above, that combinations of truck and semitrailer is not approved at the annual inspection, the Government of Sweden proposes to allow for an exemption from the requirement in ISO 4009, paragraph 3.1, that the locations for electrical and pneumatic connections shall be ≥ 350 mm between the connector on the truck and the connector on the semitrailer for articulated vehicles.

Proposal

9.2.2.6.3 After “ISO 12098:2004” insert a reference “3” to a footnote. The footnote reads as follows:

“3 The requirement in ISO 4009 (paragraph 3.1, figure 4), referred to in ISO 12098:2004, that the locations for electrical and pneumatic connections shall be ≥ 350 mm between the connector on the truck and the connector on the semitrailer for articulated vehicles, may be dispensed with.”.

Renumber the following footnotes accordingly.