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Vehicle Control Systems

Introduction

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Overview

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- ISO 11992 specifies electric control line between tractor and trailer
- Version of 1998 was revised by the responsible ISO experts
- New DIS version was voted with 100 % approval

- Proposal TRANS/WP.29/GRRF/2002/3 aims at amending Regulation No. 13 accordingly

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Revision of ISO 11992
New version

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Road vehicles - Interchange of digital information on electrical connections between towing and towed vehicles -

Part 1: Physical layer and data link layer

Part 2: Application layer for braking and running gear equipment

Part 3: Application layer for equipment other than braking and running gear

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Revision of ISO 11992 Modifications

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- The standard now distinguishes exactly between "braking and running gear applications" and "other applications".

  This is in accordance with Regulation No. 13 which expressly permits only braking and running gear data to be transmitted via the electric control line (paragraph 5.1.3.6.).

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Revision of ISO 11992 Modifications

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- Part 1 contained an unnecessary requirement for the fault handling in case of a short circuit between the data communication cables.
  This was corrected.

- Supplement 5 to the 09 series of amendments to Regulation No. 13 required the addition of a new parameter "Supply line braking request".
  This parameter was added to part 2.

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Revision of ISO 11992 Modifications

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- New parameters for the support
  - of vehicle stability control systems and
  - of tire pressure monitoring systems
  were added to part 2.

- The documents were also revised editorially in some places to improve readability and clearness.

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Revision of ISO 11992 Summary

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- From the technical point of view the new versions of ISO 11992 are only an extension of those currently referenced in Regulation No. 13.
- All modifications done are compatible with existing documents.
- New developments based on the new documents will be compatible with today's solutions.

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Amendment of Reg. 13
Proposed changes

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- All references to ISO 11992 issued 1998 shall be updated to ISO/DIS 11992 issued 2001.

- The references to ISO 11992-3 can be deleted because all data related to braking and running gear (and therefore to be transmitted via the electric control line) are combined now in part 2.

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Amendment of Reg. 13
Proposed changes

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- For the same reason Annex 16 can be deleted. ISO 11992 now clearly distinguishes between "braking and running gear" and other data, so that the interpretation of ISO 11992 for the purposes of Reg. 13 is no longer necessary.

In Annex 17 (Tests of functional compatibility):

- The introduction of the new parameter "Supply line braking request" requires new test steps to prove the correct implementation.

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Amendment of Reg. 13
Proposed changes

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Some corrections and improvements of Annex 17:

- Paragraphs 3.2.2.3.1 and 3.2.2.3.2 currently reference paragraph 5.2.1.29.2 of Reg. 13. This paragraph specifies the yellow trailer warning signal. Obviously the failure simulations described in paragraphs 3.2.2.3.1 and 3.2.2.3.2 should lead to the display of the yellow warning lamp foreseen to indicate failures within the braking system of the power-driven vehicle (compare paragraph 5.1.3.6.2.).

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Amendment of Reg. 13
Proposed changes

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Some corrections and improvements of Annex 17:

- The current wording of paragraph 4.2.2.2.1.1. assumes that a least one permanent failure within the electric control transmission of the trailer braking system is possible which precludes the service braking system performance. This must not be the case, for example in case of a pneumatic backup circuit. The proposed modification takes this into account.

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Amendment of Reg. 13
Proposed changes

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Some corrections and improvements of Annex 17:

- A new test step to check the system behaviour in case of overvoltage was added (paragraph 4.2.2.2.1.3.).

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Summary

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The new version of ISO 11992 is available as DIS (voted with 100 % approval).
Thus the references in Regulation No. 13 can be updated - with the following main advantages:

- Reg. 13 and ISO 11992 are consistent documents.
- Annex 16 of Reg. 13 can be deleted.
- New safety control systems are supported.