INTERNATIONAL STANDARD

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Road vehicles — Standardized access to automotive repair and maintenance information (RMI) —

Part 5: Heavy duty specific provision

Véhicules routiers — Normalisation de l'accès aux informations relatives à la réparation et à la maintenance pour l'automobile (RMI) —

Partie 5: Dispositions particulières pour les véhicules utilitaires lourds

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 301, *Road* vehicles in collaboration with ISO/TC 22, *Road vehicles*, Subcommittee SC 31, *Data communication*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 18541 series can be found on the ISO website.

Introduction

This set of standards includes the requirements to be fulfilled by Repair and Maintenance Information (RMI) systems as applied by the

EUROPEAN COMMISSION - ENTERPRISE AND INDUSTRY DIRECTORATE-GENERAL, Consumer goods — Automotive industry EC mandate M/421[1]

"MANDATE TO THE EUROPEAN STANDARDIZATION ORGANISATIONS FOR STANDARDIZATION IN THE FIELD OF VEHICLE OBD, REPAIR AND MAINTENANCE INFORMATION"

dated Brussels, 21 January 2008.

This mandate relates to the EC type-approval system for vehicles falling into the scopes of Directives 2007/46/EC[4], 2002/24/EC[2], 2003/37/EC[3] and, in particular, to requirements for access to vehicle repair and maintenance information by independent operators.

The ISO 18541 series covers the access to automotive repair and maintenance information for light passenger and commercial vehicles[1)] and heavy duty vehicles[2)] based on Directive 2007/46/EC[4].

The purpose of the EC Mandate M/421[1] is to develop a standard or set of standards which specify the requirements to provide "standardized access to repair and maintenance information (RMI)" for independent operators.

The information included in this document derives from the legislative requirements on European level in the field of repair and maintenance information and related security requirements and can be referenced by legislation in other countries.

1) REGULATION (EC) No 715/2007 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information[5], COMMISSION REGULATION (EC) No 692/2008 of 18 July 2008 implementing and amending Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information[6] and COMMISSION REGULATION (EC) No 566/2011 of 08 June 2011 implementing and amending Regulations (EC) No 715/2007 and (EC) 692/2008 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information[6].

2) REGULATION (EC) No 595/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 June 2009 on type-approval of motor vehicles with respect to emissions from heavy duty vehicles (Euro VI) and on access to vehicle repair and maintenance information[8], COMMISSION REGULATION (EU) No 582/2011 of 25 May 2011[9]. implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI), and COMMISSION REGULATION (EU) No 64/2012 of 23 January 2012[10] amending Regulation (EU) No 582/2011 2011 implementing and amending Regulation (EC) No 595/2009 of the European Parliament and of the Council with respect to emissions from heavy duty vehicles (Euro VI).

Road vehicles — Standardized access to automotive repair and maintenance information (RMI) —

Part 5:
Heavy duty specific provision

1 Scope

This document focus on the access to automotive repair and maintenance information for

— heavy duty motor vehicles as defined in regulation (EC) 595/2009 Article 2;

— engines and after-treatment systems (family) if they are type-approved as a separate technical unit, e.g. according to Directive 2007/46/EC.

This document includes a transposition of the standards ISO 18541-1:2014, ISO 18541-2:2014, ISO 18541-3:2014, and ISO 18541-4:2015 to these vehicle types and systems. The standards ISO 18541-1:2014, ISO 18541-2:2014, ISO 18541-3:2014, and ISO 18541-4:2015 focus on the access to automotive repair and maintenance information for passenger cars and light commercial vehicles.

Remote Diagnostic Support is a specific requirement for Access to RMI for heavy duty vehicles. It will be addressed separately in a future standard.

The standardized RMI terminology is contained in a 'Digital Annex' developed and maintained according to the complementary standard ISO 18542.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 18541-1:2014, *Road vehicles — Standardized access to automotive repair and maintenance information (RMI) — Part 1: General information and use case definition*

ISO 18541-2:2014, *Road vehicles — Standardized access to automotive repair and maintenance information (RMI) — Part 2: Technical requirements*

ISO 18541-3:2014, *Road vehicles — Standardized access to automotive repair and maintenance information (RMI) — Part 3: Functional user interface requirements*

ISO 18541-4:2015, *Road vehicles — Standardized access to automotive repair and maintenance information (RMI) — Part 4: Conformance test*

ISO 18542 (all parts), *Road vehicles — Standardized repair and maintenance information (RMI) terminology*

TMC RP1210B. *Recommended practice*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 18541-1:2014, ISO 18541-2:2014, ISO 18541-3:2014 and ISO 18541-4:2015 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1.1
base vehicle
type-approved motor vehicle used at the initial stage of a multi-stage type-approval process

Note 1 to entry: A base vehicle may be a complete or an incomplete vehicle.

3.1.2
body identification number
BIN
number given by the manufacturer to identify a body or a vehicle adaptation

3.1.3
complete vehicle
vehicle which does not need to be completed in order to meet the relevant technical requirements for type-approval according to Directive 2007/46/EC

3.1.4
completed vehicle
vehicle, resulting from the process of multi-stage type-approval, which meets the relevant technical requirements for type-approval according to Directive 2007/46/EC

Note 1 to entry: A completed vehicle is also a complete vehicle.

3.1.5
engine manufacturer
manufacturer responsible for the type-approval of an engine as separate technical unit

3.1.6
engine number
number given by the manufacturer to identify an engine

3.1.7
final manufacturer
manufacturer responsible for the type-approval of a complete or completed vehicle in a multi-stage type-approval

3.1.8
incomplete vehicle
vehicle which must undergo at least one further stage of completion in order to meet the relevant technical requirements of the Directive 2007/46/EC

3.1.9
manufacturer
person or body who is responsible to the approval authority for all aspects of the type-approval or authorization process and for ensuring conformity of production

Note 1 to entry: It is not essential that the person or body be directly involved in all stages of the construction of the vehicle, system, component or separate technical unit which is the subject of the approval process.

Note 2 to entry: Synonymous with vehicle manufacturer in this document.

3.1.10
multi-stage vehicle
complete vehicle manufactured and type-approved in two or more stages by usually different manufacturers per stage

3.1.11
previous manufacturer
manufacturer responsible for the type-approval of a vehicle that is completed by another manufacturer in a multi-stage type-approval

3.1.12
repair and maintenance information
RMI
<heavy duty> all information required for diagnosis, servicing, inspection, periodic monitoring, repair, re-programming or re-initialising of the vehicle or the remote diagnostic support of the vehicle and which the manufacturers provide for their authorized dealers and repairers, including all subsequent amendments and supplements to such information, which includes all information required for fitting parts or equipment onto vehicles

[SOURCE: Regulation (EC) 595/2009, 11, modified — second sentence converted to sub sentence]

3.1.13
separate technical unit
device subject to the requirements of a regulatory act and intended to be part of a vehicle, which can be type-approved separately, but only in relation to one or more specified types of vehicle where the regulatory act makes express provisions for so doing

3.1.14
vehicle
power-driven vehicle which is moved by its own means, having at least four wheels, being complete, completed or incomplete, with a maximum design speed exceeding 25 km/h

Note 1 to entry: In this document a vehicle is always a motor vehicle.

3.1.15
vehicle communication interface functionality
VCI functionality
<heavy duty> set of functions to provide communication between vehicle systems and a software application for diagnostics or reprogramming according to the requirements specified in this document

3.2 Abbreviated terms

The abbreviations of ISO 18541-1:2014, ISO 18541-2:2014, ISO 18541-3:2014 and ISO 18541-4:2015 apply unless explicitly redefined in the following list.

BIN Body identification number

TMC Technology and Maintenance Council of the American Trucking Association (ATA)

RP Recommended practice

4 Document overview and structure

The ISO 18541 document set provides an implementer with all documents and references required to support the implementation of a non-discriminating standardized access to automotive repair and maintenance information.

— ISO 18541-1:2014: General information and use case definitions

This part provides an overview of the document set and structure along with the use case definitions and a common set of resources (definitions, references) for use by all subsequent parts. The standardized access to Automotive RMI shall be implemented by the VMs in their RMI systems.

— ISO 18541-2:2014: Technical requirements

This part specifies all technical requirements related to a VM RMI system. These requirements will reflect the deriving needs from the use cases as specified in part 1.

The following are examples (not a complete list):

— access-related data administration;

— IT architecture;

— external interfaces;

— technical infrastructure recommendations;

— operations;

— ISO 18541-3:2014: Functional user interface requirements.

This part specifies all functional user interface requirements related to a VM RMI system. These requirements will reflect the deriving needs from the use cases as specified in part 1.

The following is an example (not a complete list):

— Navigational pathway and user guidance.

— ISO 18541-4:2015: Conformance test

This part specifies conformance test cases for a self-conformance test by the provider of the VM RMI system. The conformance test cases will follow the use case definition of part 1 as well as the requirements stated in parts 2 and 3.

The purpose of this part of the standard is to provide information to the VM RMI system provider to build and test the VM RMI system against the conformance test cases. This final step in the development process of the VM RMI system is an enabler for all providers that their VM RMI system meets a high degree of functional requirements expected by the end user.

— ISO 18541-5:2018: Heavy duty specific provisions

This document specifies the applicability of the use cases, requirements and test cases of parts 1, 2, 3 and 4 to heavy duty vehicles. A majority of use cases, requirements and test cases are applicable without any modification. Otherwise the required modifications and additions are specified in detail.

5 General information

5.1 Overview

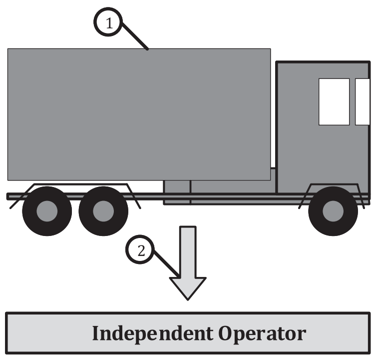
Specific provisions of this document are strongly related to the specifics of the production and type-approval in many stages by different vehicle manufacturers. This strongly contrasts with passenger

cars and light commercial vehicles where usually one single manufacturer is responsible for the type-approval and directly for the RMI of the complete vehicle.

5.2 Multi stage and RMI

Within the European Union all vehicles which are registered must have a vehicle type-approval or individual approval according to directive 2007/46/EC. A type-approval can be obtained in one or multiple stages depending on the vehicle's stage of completion.

Figure 1 depicts a one-stage situation. The vehicle is made in one stage by one manufacturer and is delivered with type-approval for the complete vehicle.



Key

1 one-stage vehicle

2 access to OBD-Info and RMI for the entire vehicle (incl. engine) provided by the single manufacturer

Figure 1 — One-stage situation

Figure 2 depicts a multi-stage situation. The first manufacturer delivers the powertrain and chassis with type-approval for the incomplete base vehicle. The second manufacturer adds a cab with type-approval for the complete vehicle. Another manufacturer adds the bodyworks and delivers the truck with type-approval for the completed vehicle.