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

**Part 1:
General information and use case
definition**

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

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Partie 1: Informations générales et définitions de cas d'usage



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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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information.

ISO 18541-1:2013 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 301, *Road vehicles*, in collaboration with ISO Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 3, *Electrical and electronic equipment*, in accordance with the agreement on technical cooperation between ISO and CEN (Vienna Agreement).

ISO 18541 consists of the following parts, under the general title *Road vehicles — Standardized access to automotive repair and maintenance information (RMI)*:

- *Part 1: General information and use case definition*
- *Part 2: Technical requirements*
- *Part 3: Functional user interface requirements*
- *Part 4: Conformance test*

ISO 18542, *Road vehicles — Standardized repair and maintenance information (RMI) terminology*, is a complementary standard that defines standardized RMI terminology and consists of two parts:

- *Part 1: General information and use case definition*
- *Part 2: Standardized process implementation requirements, Registration Authority*

The standardized RMI terminology is contained in a so-called 'Digital Annex' that is maintained and published by the CEN-appointed Registration Authority.

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[[5]], dated Brussels, 21 January 2008.

This mandate relates to the EC type-approval system for vehicles falling into the scopes of Directives 70/156/EEC (replaced by 2007/46/EC [8]), 2002/24/EC [6] and 2003/37/EC [7] and, in particular, to requirements for access to vehicle repair and maintenance information by independent operators.

This International Standard only covers access to automotive repair and maintenance information for light passenger and commercial vehicles (see NOTE 1) and heavy duty vehicles (see NOTE 2) based on Directive 70/156/EEC (replaced by 2007/46/EC [8]).

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

The information included in this part of ISO 18541 derives from the legislative requirements on European level in the field of RMI and related security requirements and can be referenced by legislation in other countries.

NOTE 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 and 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 and amending Commission Regulation (EU) No 566/2011 of 8 June 2011 amending Regulation (EC) No 715/2007 of the European Parliament and of the Council and Commission Regulation (EC) No 692/2008 as regards access to vehicle repair and maintenance information.

NOTE 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, Commission Regulation (EU) No 582/2011 of 25 May 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), and Commission Regulation (EU) No 64/2012 of 23 January 2012 amending Regulation (EU) No 582/2011 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).

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

Part 1: General information and use case definition

1 Scope

This part of ISO 18541 provides a general overview and structure of each part of ISO 18541. It also specifies use cases related to repair and maintenance information (RMI) systems in order to standardize the access to RMI for independent operators.

This part of ISO 18541 also describes the use cases applicable to the standardized access to automotive RMI. The use cases address real world scenarios (e.g. servicing vehicles) in regard to the information access necessary to perform vehicle roadside assistance, inspection, diagnosis, repair and maintenance, including the updating and replacement of Electronic Control Units (ECU).

The RMI systems used by personnel to perform the services consist of:

- a Web-based system, which provides access to RMI needed to perform the service(s);
- contact information for specific RMI;
- a security framework to protect access to security related RMI.

This part of ISO 18541 provides an overview of the entire standard and how it applies to the automotive industry.

This part of ISO 18541 is applicable to light passenger and commercial vehicles as defined in regulation (EC) 715/2007 Article 2.^[15]

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

3 Terms, definitions, symbols and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1

access level

level of access to RMI which is either relevant to security or not relevant to security

EXAMPLE One might consider an access to RMI relevant to security and another one to RMI not relevant to security. They represent two different access levels.

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3.1.2

accessories

supplementary features and components selected by a vehicle owner to enhance safety, performance, comfort, etc. and whose fitting does not impact on the vehicle approval

3.1.3

alternate fuel

type of fuel that is either gaseous at atmospheric temperature and pressure or substantially non-mineral oil derived

Note 1 to entry: Adopted from Regulation (EC) 715/2007.^[15]

3.1.4

alternate fuels retrofit systems

engine systems mounted on an already registered vehicle for the purpose of operation with alternative fuels

3.1.5

alternative fuels system manufacturer

manufacturer of an engine system operating with an alternative fuel

3.1.6

appropriate software level

applicable software version for the individual vehicle

3.1.7

authorized repairer

AR

provider of repair and maintenance services for motor vehicles operating within the distribution system set up by a supplier of motor vehicles

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Note 1 to entry: See Regulation (EC) 461/2010 Article 1(1)(c).^[10]
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3.1.8

certificate

electronic document which uses a digital signature to bind a public key with an identity

3.1.9

converted vehicle

factory-produced vehicle which has been altered by the addition, deletion, substitution or modification of the body, chassis or essential parts that resembles, but is no longer identical to, the original vehicle for a special purpose e.g. to act as rescue vehicle or taxicab

3.1.10

detailed diagnosis

diagnostic process that identifies, with precision, potential malfunction causes

Note 1 to entry: A precise diagnosis can be achieved in several steps, whereby the user might be requested to perform test actions on the vehicle or to enter symptoms.

3.1.11

diagnostic information

description of an error or symptom and a list of potential causes or hints for further investigation to the same level and content as provided to the AR

3.1.12

diagnostic trouble code

DTC

numeric or alphanumeric identifier which identifies or labels a malfunction

Note 1 to entry: Adopted from United Nations Global Technical Regulation No.°5.^[16]

3.1.13**electronic maintenance history**

digital information package with virtual stamps that confirms the execution of the prescribed maintenance actions according to the VM's schedule

3.1.14**global technical regulation****GTR**

World-Wide Harmonized On-Board Diagnostics Global Technical Regulation No.°5

Note 1 to entry: See Reference.[16]

3.1.15**independent operator****IO**

company or legal entity other than authorized dealers and repairers who is directly or indirectly involved in the repair and maintenance of motor vehicles

EXAMPLE Repairers, manufacturers or distributors of repair equipment, tools or spare parts, publishers of technical information, automobile clubs, roadside assistance operators, operators offering inspection and testing services, operators offering training for installers, manufacturers and repairers of equipment for alternative fuel vehicles.

3.1.16**IO approval**

process by which, upon payment of a reasonable and proportionate fee, the CAB sanctions or approves a legitimate commercial enterprise to engage in security-related RMI activities

3.1.17**IO authorization**

process by which, upon payment of a reasonable and proportionate fee, the CAB assesses that an individual employee of an approved IO complies with the requirements specified in this part of ISO 18541 and is entitled to be given access to security-related RMI

Note 1 to entry: As part of this authorization, the individual employee will be allocated, upon payment of a reasonable and proportionate fee, a secure hardware token containing a personal digital certificate and a PIN that will be supplied by the Trust Centre

3.1.18**IO legal representative**

natural person empowered to legally represent the IO in all aspects of the access to vehicle RMI

3.1.19**information package**

collection of information provided by the VM's RMI system in response to a specific request

3.1.20**information type**

category, group or set of information

EXAMPLE Workshop procedures (for body repair, temporary repair, periodic technical inspection), wiring diagrams, technical service bulletins, recall information and maintenance information.

3.1.21**integrated diagnostics**

process which interprets via an integrated application the memory content of ECUs and provides a diagnostic and repair recommendation

Note 1 to entry: Diagnostic application and VM RMI systems cooperate online, so technical information is provided during the diagnostics process and used for the diagnostic steps.

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3.1.22

IO employee

natural person employed by the IO

3.1.23

maintenance history

history of the performed, prescribed actions for maintaining a vehicle

EXAMPLE Oil changes and other periodic maintenance.

3.1.24

maintenance schedule

prescribed sequence of maintenance actions for a vehicle following the requirements of the manufacturer

3.1.25

on-board diagnostics

OBD

system on board a vehicle or engine which is capable of detecting malfunctions and, if applicable, of indicating their occurrence by means of an alert system, identifying the likely area of the malfunctions by means of information stored in computer memory, and/or communicating that information off-board

Note 1 to entry: Module 'A' of GTR No. 5^[6] concerns the whole vehicle. By referring to that module, the OBD definition is understood as not being restricted to emissions.

3.1.26

p-code

standardized DTC for powertrain errors according to ISO 15031-6

3.1.27

partnered accessories

accessories which have been tested, quality assured and certified by the VM and for which the VM assumes product liability <https://standards.iteh.ai/catalog/standards/sist/0a25f593-35f8-499f-8149-7753bdfb9e10/iso-18541-1-2014>

3.1.28

potential repair descriptions

list of potential causes and possible actions recommended to fix a problem

3.1.29

product features

features of a specific vehicle that may be used for navigation through the VM RMI system

EXAMPLE Engine type (petrol/diesel), transmission type (manual/automatic).

3.1.30

product structure

inter-related set of units and sub-units in which a vehicle can be divided

Note 1 to entry: The product structure is VM specific.

3.1.31

periodic technical inspection service

PTI service

particular procedure for testing a vehicle during a PTI

EXAMPLE Procedure for testing brake lights.

3.1.32

recall

process whereby a VM notifies all owners of a specific vehicle of a condition or defect that could affect safety, safe operation or environmental issues of that vehicle

3.1.33**redistributor**

IO offering RMI within their own internal (closed) network

EXAMPLE RAC, ADAC, garage networks.

3.1.34**remanufacturing**

process of overhauling an engine, major assembly or component, to return the engine, major assembly or component to the VM's original specification

3.1.35**repair and maintenance information****RMI**

all information required for diagnosis, servicing, inspection, periodic monitoring, repair, re-programming or re-initialising of the vehicle and which the manufacturers provide for their authorized dealers and repairers, including all subsequent amendments and supplements to such information

Note 1 to entry: This information includes all information required for fitting parts or equipment on vehicles.

Note 2 to entry: Adapted from Regulation (EC) 715/2007.^[9]

3.1.36**republisher**

IO who publishes RMI to an external network using the RMI of the VM

3.1.37**security framework**

set of processes, roles and technical devices for access to security-related RMI recommended by the EC Forum on Vehicle RMI to the EC

Note 1 to entry: As mandated in the Regulations (EC) 715/2007^[15] and (EC) 692/2008.^[14]

Note 2 to entry: The framework is based on the approval and authorization of IOs by certified entities to access security related RMI at the VM RMI system. The physical access to the VM RMI system for security related RMI is bound to a digital certificate.

3.1.38**security-related RMI**

RMI subject to protection measures in the security framework

3.1.39**security repair and maintenance information****SERMI**

de-facto association founded by IO and VM organizations to act as the owner for the process and scheme defined in the *EC Forum for Access to Vehicle RMI, Report on Access to security-related RMI, version 1.1*

3.1.40**selection methods**

possible methods of selecting RMI

EXAMPLE Searches for a term in the document titles, information type, document ID or other criteria.

3.1.41**standardized non-proprietary VCI functionality**

current standards for communication with a vehicle

EXAMPLE ISO 22900-2, SAE J2534-1/2.

3.1.42
technical service bulletin
TSB

bulletin issued by the manufacturer detailing a fix for a known concern

Note 1 to entry: The bulletin is for informational purposes only.

3.1.43
temporary repair procedure
temporary solution to a problem that is usually available at roadside services

EXAMPLE Closing the roof of a convertible.

3.1.44
vehicle communication interface functionality
VCI functionality

set of functions to provide communication between vehicle systems and a software application for diagnostics or reprogramming according to the requirements specified in ISO 18541-2

3.1.45
vehicle identification number
VIN

unique 17-character serial number given by the VM to identify individual motor vehicles

3.1.46
vehicle manufacturer
VM

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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 of a vehicle

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: Adapted from Directive 2007/46/EC.^[8]

3.1.47
vehicle manufacturer repair and maintenance information system
VM RMI system

information system by which the VM provides access to RMI through a website

3.1.48
workshop procedure

information provided by a VM describing specific repair and maintenance

EXAMPLE Repair procedures, working advice or other instructions.

3.2 Abbreviated terms

AR	authorized repairer
BP	basic principle
CAB	conformity assessment body
DRP	direct re-publisher
DTC	diagnostic trouble code
ECU	electronic control unit
GTR	global technical regulations
GUI	graphical user interface
HMI	human machine interface
IO	independent operator
IR	independent repairer
MI	malfunction indicator
OBD	on-board diagnostic
PIN	personal identification number
PTI	periodic technical inspection
PTT	pass-thru tool
RMI	repair and maintenance information
SERMI	security repair and maintenance information
TSB	technical service bulletin
VCI	vehicle communication interface
VIN	vehicle identification number
VM	vehicle manufacturer

4 Document overview and structure

The ISO 18541 document set provides an implementer with all documents and references required to support the implementation of the requirements related to standardized access to automotive RMI in accordance with the requirements set forth in EC mandate M/421.

- This part of ISO 18541: *General information and use case definition*
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: *Technical requirements*
Part 2 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.