

DRAFT INTERNATIONAL STANDARD

ISO/DIS 18541-6

ISO/TC 22/SC 31

Secretariat: DIN

Voting begins on:
2015-08-06

Voting terminates on:
2015-11-06

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

Part 6:

L-Category vehicle specific RMI use cases and requirements

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

Partie 6: Exigences et cas d'usage RMI spécifiques aux véhicules de catégorie L

ICS: 43.040.15; 43.180

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ISO/CEN PARALLEL PROCESSING

This draft has been developed within the European Committee for Standardization (CEN), and processed under the **CEN lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

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Reference number
ISO/DIS 18541-6:2015(E)

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 18541-6 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 31, and by Technical Committee CEN/TC 301, *Road vehicles* in collaboration.

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*
- *Part 5: Heavy duty specific provision*
- *Part 6: L-Category vehicle specific RMI use cases and requirements*

Introduction

This standard 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.

ISO/DIS 18541-6

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] and 2003/37/EC [3] and, in particular, to requirements for access to vehicle repair and maintenance information by independent operators.

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.

This standard part covers the access to automotive repair and maintenance information for L-category vehicles (two- or three-wheel vehicles and quadricycles) based on Regulation (EU) 168 / 2013 [4] and related delegated and implementing acts.

The information included in this part of the standard 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.

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Road vehicles — Standardized access to automotive repair and maintenance information (RMI) — Part 6: L-Category vehicle specific RMI use cases and requirements

1 Scope

ISO 18541-6 contains all elements - definitions, use cases, technical requirements, functional user interfaces requirements and conformance test cases - applicable for the standardized access to repair and maintenance information for two- and three-wheeled vehicles and quadricycles (L-category vehicles)

The development of this standard part has been based on parts 1, 2, 3 and 4 of ISO 18541. This standard part constitutes an adaptation of standardized access to RMI prescriptions for passenger cars to L-category vehicles keeping the objectives and principles of the mandate M/421 from the European commission.

This standard references the usage of a Digital Annex of standardized search terms for RMI. The provision of such a Digital Annex shall follow the process described in ISO 18542 Road vehicles – Standardized RMI terminology.

CEN shall nominate a Registration Authority according to ISO 18542 for the creation and maintenance of an appropriate Digital Annex.

2 Normative references

The following referenced documents are indispensable for the application 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 RMI — Part 1: General information and use case definition*

ISO 18541-2: 2014, *Road vehicles — Standardized access to automotive RMI — Part 2: Technical requirements*

ISO 18541-3: 2014, *Road vehicles — Standardized access to automotive RMI — Part 3: Functional user interface requirements*

ISO 18541-4: 2015, *Road vehicles — Standardized access to automotive RMI — Part 4: Conformance test*

ISO 18542: 2014, *Road vehicles — Standardized repair and maintenance information (RMI) terminology, all parts*

ISO 22900-2, *Road vehicles — Modular vehicle communication interface (MVCI) — Part 2: D-PDU API*

SAE J2534-1, Recommended Practice for Pass-Thru Vehicle Programming

SAE J2534-2, Optional Pass-Thru Features

SERMI scheme, Scheme for accreditation, approval and authorization to access security-related repair and maintenance information (created by the SERMI de-facto association), source: <http://www.vehiclesermi.eu/>

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

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

3.1.1

access levels

one of the levels of access to RMI. Two access levels are defined by this standard, an access to RMI-relevant to security and another one to RMI not relevant to security

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

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 the vehicle approval

3.1.3

alternate fuel

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

3.1.4

alternative 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
a provider of repair and maintenance services for motor vehicles operating within the distribution system set up by a supplier of motor vehicles; see Regulation (EC) 461/2010 article 1 (1)(c)

3.1.8

base vehicle

a 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.

3.1.9

certificate

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

3.1.10

complete vehicle

a vehicle which needs not to be completed in order to meet the relevant technical requirements for type-approval according to Regulation (EU) 168/2013

3.1.11**completed vehicle**

a vehicle, resulting from the process of multi-stage type-approval, which meets the relevant technical requirements for type-approval according to Regulation (EU) 168/2013

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

3.1.12**component**

a device subject to the requirements of this Regulation (EU) 168 /2013 or any of the delegated or implementing acts adopted pursuant to this Regulation, which is intended to be part of a vehicle and which may be type- approved independently of a vehicle in accordance with this Regulation and the delegated or implementing acts adopted pursuant to this Regulation where those acts make express provision for so doing

3.1.13**detailed diagnosis**

a diagnostic process that identifies, with precision, potential malfunction causes

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

3.1.14**diagnostic information**

a 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 AR

3.1.15**diagnostic trouble code****DTC**

a numeric or alphanumeric identifier which identifies or labels a malfunction

Note 1 to entry: Adopted from United Nations – Global Technical Regulation No.°5 [6].

3.1.16**electronic maintenance history**

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

3.1.17**final manufacturer**

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

3.1.18**incomplete vehicle**

a vehicle which must undergo at least one further stage of completion in order to meet the relevant technical requirements of the Regulation (EU) 168 / 2013

3.1.19**independent operator****IO**

undertakings other than authorized dealers and repairers which are directly or indirectly involved in the repair and maintenance of motor vehicles, in particular 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

Note 1 to entry: Undertaking is to be understood as the company or legal entity.

3.1.20

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

3.1.21

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 document 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.

3.1.22

IO legal representative

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

3.1.23

information package

a collection of information provided by the MA RMI system in response to a specific request

3.1.24

information type

a 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.

3.1.25

integrated diagnostics

a 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 MA RMI system cooperate online, so technical information is provided during the diagnostics process and used for the diagnostic steps.

3.1.26

IO employee

a natural person employed by the IO

3.1.27

maintenance history

history of the performed, prescribed actions for maintaining a vehicle

EXAMPLE Oil changes and other periodic maintenance.

3.1.28

maintenance schedule

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

3.1.29

manufacturer

MA

any natural or legal person who is responsible to the approval authority for all aspects of the type-approval or authorisation process, for ensuring conformity of production and who is also responsible for market surveillance concerns for the vehicles, systems, components and separate technical units produced, whether

or not the natural or legal person is directly involved in all stages of the design and construction of the vehicle, system, component or separate technical unit which is the subject of the approval process

Note 1 to entry: Adopted from Regulation (EU) 168/2013 [5].

3.1.30 manufacturer repair and maintenance information system

MA RMI system

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

3.1.31

Multi-stage vehicle

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

3.1.32

on-board diagnostics

OBD

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

3.1.33

p-code

standardized DTC for powertrain errors according to ISO 15031-6

3.1.34

partnered accessories

accessories which have been tested, quality assured and certified by the MA and for which the MA assumes product liability

3.1.35

potential repair descriptions

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

3.1.36

product identifier

manufacturer specific code or number to identify a system, component or separate technical unit

Note 1 to entry: Vehicle manufacturers identify their product by the vehicle identification number VIN.

3.1.37

product features

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

EXAMPLE model name (CBR1000RR), model code (SC59), model year, ccm (1000) engine type (two stroke cycle, four stroke cycle, etc.), transmission type (manual/automatic/CVT), final drive type (chain, shaft drive, belt, etc.).

3.1.38

product structure

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

Note 1 to entry: The product structure is manufacturer-specific.

3.1.39

periodic technical inspection service

PTI service

a particular procedure for testing a vehicle during a PTI

EXAMPLE Procedure for testing brake lights.

3.1.40

recall

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

3.1.42

redistributor

IO offering RMI within their own internal (closed) network e.g. RAC, ADAC, garage networks

3.1.43

remanufacturing

a process of overhauling an engine, major assembly or component, to return the engine, major assembly or component to the MA original specification

3.1.44

repair and maintenance information

RMI

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

Note 1 to entry: That information includes all information required for fitting of parts and equipment on vehicles.

Note 2 to entry: Adopted from Regulation (EU) 168/2013 [5].

3.1.45

republisher

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

3.1.46

security framework

the set of processes, roles and technical devices for access to security-related RMI recommended by the EC Forum on Vehicle RMI to the EC as mandated in the Regulations (EU) 168/2013

Note 1 to entry: The framework is based on the approval and authorization of independent operators by certified entities to access security related RMI at the MA RMI system. The physical access to the MA RMI system for security related RMI is bound to a digital certificate.

3.1.47

security related RMI

RMI subject to protection measures in the security framework

3.1.48

security repair and maintenance information

SERMI

the de-facto association founded by IO and MA organisations 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.*

3.1.49**selection methods**

possible methods to select RMI

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

3.1.50**separate technical unit**

a device subject to the requirements of Regulation (EU) 168 / 2013 or any of the delegated or implementing acts adopted pursuant to this Regulation and intended to be part of a vehicle, which may be type- approved separately, but only in relation to one or more specified types of vehicle, where those acts make express provision for so doing

3.1.51**standardized non-proprietary VCI functionality**

current standards for communication with a vehicle

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

3.1.52**system**

an assembly of devices combined to perform one or more specific functions in a vehicle and which is subject to the requirements of the Regulation (EU)168 /2013 or any of the delegated or implementing acts adopted pursuant to this regulation

3.1.53**technical service bulletin****TSB**

a bulletin issued by the manufacturer detailing a fix for a known concern; the bulletin is for informational purposes only

3.1.54**temporary repair procedure**

a temporary solution to a problem that is usually made available to roadside services

EXAMPLE Change the brake light.

3.1.55**vehicle**

any vehicle falling under the categories L1-L7

3.1.56**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 technical requirements specified in this document

3.1.57**vehicle identification number****VIN**

a unique 17 characters serial number, given by the vehicle manufacturer to identify individual motor vehicles

3.1.58**workshop procedure**

information provided by a manufacturer describing a specific repair and maintenance, e.g. repair procedures, working advices or other instructions