

---

---

**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*

ISO 18541-5:2018

<https://standards.iteh.ai/catalog/standards/iso/d3826193-c793-4a7e-84f6-50d912d9b79/iso-18541-5-2018>



**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

ISO 18541-5:2018

<https://standards.iteh.ai/catalog/standards/iso/d3826193-c793-4a7e-84f6-50d912d9b79/iso-18541-5-2018>



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2018

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

|                                                                            |             |
|----------------------------------------------------------------------------|-------------|
| <b>Foreword</b>                                                            | <b>viii</b> |
| <b>Introduction</b>                                                        | <b>ix</b>   |
| <b>1 Scope</b>                                                             | <b>1</b>    |
| <b>2 Normative references</b>                                              | <b>1</b>    |
| <b>3 Terms, definitions and abbreviated terms</b>                          | <b>2</b>    |
| <b>4 Document overview and structure</b>                                   | <b>4</b>    |
| <b>5 General information</b>                                               | <b>4</b>    |
| 5.1 Overview                                                               | 4           |
| 5.2 Multi stage and RMI                                                    | 5           |
| <b>6 Basic principles, use case and requirement overview</b>               | <b>6</b>    |
| 6.1 Basic principles                                                       | 6           |
| 6.2 Basic principles for use case definition                               | 6           |
| 6.3 Basic principles for requirements definition                           | 7           |
| 6.4 Basic principles for functional user interface requirements definition | 7           |
| 6.5 Basic principles for conformance test case definition                  | 7           |
| 6.6 Use case clusters                                                      | 8           |
| 6.7 Requirements clusters                                                  | 12          |
| 6.8 Functional user interface requirements clusters                        | 16          |
| 6.9 Main conformance test case clusters                                    | 17          |
| <b>7 Use cases</b>                                                         | <b>20</b>   |
| 7.1 UC 1 User authentication, authorization and administration             | 20          |
| 7.1.1 UC 1.1 Register IO for use of the VM RMI system                      | 20          |
| 7.1.2 UC 1.2 Register IO employee for use of the VM RMI system             | 20          |
| 7.1.3 UC 1.3 Maintain IO status                                            | 21          |
| 7.1.4 UC 1.4 Maintain user status                                          | 21          |
| 7.1.5 UC 1.5 Request to de-register IO employee                            | 21          |
| 7.1.6 UC 1.6 Login to VM RMI system                                        | 21          |
| 7.1.7 UC 1.7 Grant access to security-related RMI                          | 21          |
| 7.2 UC 2 Payment for RMI                                                   | 21          |
| 7.3 UC 3 Vehicle identification                                            | 21          |
| 7.3.1 UC 3.1 Vehicle identification through use of the VIN                 | 21          |
| 7.3.2 UC 3.2 Vehicle type identification via product features              | 21          |
| 7.3.3 UC 3.3 Vehicle identification through product identifier             | 21          |
| 7.3.4 UC 3.4 Unequivocal engine identification                             | 22          |
| 7.3.5 UC 3.5 Engine type identification via engine features                | 22          |
| 7.4 UC 4 Provide selection methods for RMI                                 | 24          |
| 7.4.1 UC 4.1 Select information type                                       | 24          |
| 7.4.2 UC 4.2 Search by standardized terms                                  | 25          |
| 7.4.3 UC 4.3 Navigate using product structure                              | 25          |
| 7.4.4 UC 4.4 Select by document identifier                                 | 25          |
| 7.5 UC 5 Retrieve information packages                                     | 25          |
| 7.5.1 UC 5.1 Workshop procedures                                           | 25          |
| 7.5.2 UC 5.2 Wiring diagrams                                               | 25          |
| 7.5.3 UC 5.3 Technical service bulletin                                    | 25          |
| 7.5.4 UC 5.4 Recall information                                            | 26          |
| 7.5.5 UC 5.5 Maintenance schedule                                          | 26          |
| 7.5.6 UC 5.6 Spare parts                                                   | 26          |
| 7.5.7 UC 5.7 Accessories                                                   | 26          |
| 7.5.8 UC 5.8 Labour times                                                  | 26          |
| 7.5.9 UC 5.9 Converted vehicles                                            | 27          |
| 7.5.10 UC 5.10 Special tools                                               | 27          |

|          |                                                                                                                            |           |
|----------|----------------------------------------------------------------------------------------------------------------------------|-----------|
| 7.5.11   | UC 5.11 Type-approval related information .....                                                                            | 27        |
| 7.6      | UC 6 Vehicle diagnostics .....                                                                                             | 27        |
| 7.6.1    | UC 6.1 DTC resolution .....                                                                                                | 27        |
| 7.6.2    | UC 6.2 VM symptom resolution .....                                                                                         | 27        |
| 7.6.3    | UC 6.3 Integrated diagnostics .....                                                                                        | 28        |
| 7.7      | UC 7 Updating, replacing and tuning of modules (ECUs) .....                                                                | 28        |
| 7.7.1    | UC 7.1 Updating and replacing modules .....                                                                                | 28        |
| 7.7.2    | UC 7.2 Tuning kit .....                                                                                                    | 28        |
| 7.8      | UC 8 Electronic maintenance history .....                                                                                  | 28        |
| 7.9      | UC 9 Repair assistance technical support .....                                                                             | 28        |
| 7.10     | UC 10 Request contact for specific RMI .....                                                                               | 28        |
| 7.10.1   | UC 10.1 Electronic tool information (Diagnostic, Reprogramming, VCI) .....                                                 | 28        |
| 7.10.2   | UC 10.2 Test equipment and diagnostic tool manufacturers .....                                                             | 28        |
| 7.10.3   | UC 10.3 Training material (delegate information) .....                                                                     | 28        |
| 7.10.4   | UC 10.4 Redistributors .....                                                                                               | 28        |
| 7.10.5   | UC 10.5 Republishers .....                                                                                                 | 29        |
| 7.10.6   | UC 10.6 Inspection and testing services .....                                                                              | 29        |
| 7.10.7   | UC 10.7 Alternative fuels retrofit systems .....                                                                           | 29        |
| 7.10.8   | UC 10.8 Engine and components remanufacturing .....                                                                        | 29        |
| 7.10.9   | UC 10.9 Component and parts manufacturers .....                                                                            | 29        |
| 7.10.10  | UC 10.10 Validation of independently developed non-proprietary VCIs .....                                                  | 29        |
| 7.11     | UC 11 Courses and training information .....                                                                               | 29        |
| <b>8</b> | <b>Technical requirements .....</b>                                                                                        | <b>29</b> |
| 8.1      | Requirements cluster — Access-related data administration .....                                                            | 29        |
| 8.1.1    | [TREQ-1] General access-related data administration .....                                                                  | 29        |
| 8.1.2    | [TREQ-2] Administration of IO data by the VM .....                                                                         | 29        |
| 8.1.3    | [TREQ-3] Administration of IO employee data by the VM .....                                                                | 29        |
| 8.1.4    | [TREQ-4] Administration of payment data by the VM .....                                                                    | 29        |
| 8.1.5    | [TREQ-5] Administration of access event data by the VM .....                                                               | 29        |
| 8.1.6    | [TREQ-6] Administration of access event data to security-related RMI by the VM .....                                       | 30        |
| 8.2      | Requirements cluster — IT architecture .....                                                                               | 30        |
| 8.2.1    | [TREQ-7] Conceptual architecture .....                                                                                     | 30        |
| 8.2.2    | [TREQ-8] Implementation principles .....                                                                                   | 30        |
| 8.3      | Requirements cluster — External interfaces .....                                                                           | 30        |
| 8.3.1    | [TREQ-9] Vehicle communication interface (VCI) .....                                                                       | 30        |
| 8.3.2    | [TREQ-10] Trust centre (certificate management) .....                                                                      | 30        |
| 8.3.3    | [TREQ-11] Parts ordering for security-related features .....                                                               | 30        |
| 8.3.4    | [TREQ-12] Partnered accessory provider systems .....                                                                       | 30        |
| 8.4      | Requirements cluster — Technical infrastructure .....                                                                      | 30        |
| 8.4.1    | [TREQ-13] Type of device .....                                                                                             | 30        |
| 8.4.2    | [TREQ-14] Hardware features .....                                                                                          | 30        |
| 8.4.3    | [TREQ-15] Operating systems .....                                                                                          | 30        |
| 8.4.4    | [TREQ-16] Web browsers .....                                                                                               | 30        |
| 8.4.5    | [TREQ-17] Presentation formats for information packages .....                                                              | 31        |
| 8.4.6    | [TREQ-18] Internet connection .....                                                                                        | 31        |
| 8.4.7    | [TREQ-19] Performance of the VM RMI system .....                                                                           | 31        |
| 8.5      | Requirements cluster — Co-existence of VM software installed on IO client .....                                            | 31        |
| 8.5.1    | [TREQ-20] Requirements for installing VM-specific software on the IO client .....                                          | 31        |
| 8.5.2    | [TREQ-21] Requirements for updating of installed VM data and applications on the IO client .....                           | 31        |
| 8.5.3    | [TREQ-22] Requirements for the operation of VM-specific software on the IO client .....                                    | 31        |
| 8.5.4    | [TREQ-23] Requirements for the uninstalling of VM-specific software on the IO client .....                                 | 31        |
| 8.5.5    | [TREQ-24] Requirements for restoring in case of an abnormal termination of the VM-specific software on the IO client ..... | 31        |
| 8.6      | Requirements cluster — Operations .....                                                                                    | 31        |

|           |                                                                                               |           |
|-----------|-----------------------------------------------------------------------------------------------|-----------|
| 8.6.1     | [TREQ-25] VM RMI system availability time .....                                               | 31        |
| 8.6.2     | [TREQ-26] Support for the usage of the VM RMI system .....                                    | 31        |
| 8.6.3     | [TREQ-27] Operation of the IO PC .....                                                        | 31        |
| 8.6.4     | [TREQ-28] Requirements cluster "functional user interface" .....                              | 31        |
| 8.7       | ISO 18541-2:2014, Annex A .....                                                               | 32        |
| <b>9</b>  | <b>Functional user interface requirements .....</b>                                           | <b>32</b> |
| 9.1       | Requirements cluster 1 — Standardized access mode .....                                       | 32        |
| 9.1.1     | VM RMI system standardized navigation .....                                                   | 32        |
| 9.1.2     | [FREQ-1] RMI access mode .....                                                                | 32        |
| 9.1.3     | [FREQ-2] Registration and login support .....                                                 | 32        |
| 9.2       | Requirements cluster 2 — Use cases map .....                                                  | 32        |
| 9.2.1     | [FREQ-3] VM RMI system implemented use cases map .....                                        | 32        |
| 9.2.2     | [FREQ-4] Download area .....                                                                  | 33        |
| 9.3       | Requirements cluster 3 — Navigational pathway .....                                           | 33        |
| 9.3.1     | [FREQ-5] Navigational pathway .....                                                           | 33        |
| <b>10</b> | <b>Conformance test cases .....</b>                                                           | <b>34</b> |
| 10.1      | CT cluster 1 — Test technical infrastructure .....                                            | 34        |
| 10.1.1    | [RMI-CT_TREQ-13, 14, 15, 16, 18, Annex A] Test client configuration .....                     | 34        |
| 10.1.2    | [RMI-CT_TREQ-17] Test presentation formats for information packages .....                     | 34        |
| 10.2      | CT cluster 2 — Test client's external interfaces .....                                        | 34        |
| 10.2.1    | [RMI-CT_TREQ-9] Test vehicle communication interface .....                                    | 34        |
| 10.2.2    | [RMI-CT_TREQ-11] Test parts ordering for security-related features .....                      | 34        |
| 10.2.3    | [RMI-CT_TREQ-12] Test partnered accessory provider systems .....                              | 34        |
| 10.3      | CT cluster 3 — Test user authentication, authorization and administration .....               | 34        |
| 10.3.1    | [RMI-CT_UC1.1] Test to register IO for use of the VM RMI system .....                         | 34        |
| 10.3.2    | [RMI-CT_UC1.2_A] Test to register IO employee for use of the VM RMI system — Scenario A ..... | 34        |
| 10.3.3    | [RMI-CT_UC1.2_B] Test to register IO employee for use of the VM RMI system — Scenario B ..... | 34        |
| 10.3.4    | [RMI-CT_UC1.3] Test to maintain IO status .....                                               | 34        |
| 10.3.5    | [RMI-CT_UC1.4] Test to maintain user status .....                                             | 34        |
| 10.3.6    | [RMI-CT_UC1.5] Test to de-register an IO employee .....                                       | 34        |
| 10.3.7    | [RMI-CT_UC1.6] Test login to VM RMI system .....                                              | 34        |
| 10.3.8    | [RMI-CT_UC1.7] Test for granting access to security-related RMI .....                         | 35        |
| 10.4      | CT cluster 4 – Test functional user interface implementation .....                            | 35        |
| 10.4.1    | [RMI-CT_FREQ-1] Test for RMI access mode .....                                                | 35        |
| 10.4.2    | [RMI-CT_FREQ-2] Test for registration and login support .....                                 | 35        |
| 10.4.3    | [RMI-CT_FREQ-3] Test for implemented use cases map .....                                      | 35        |
| 10.4.4    | [RMI-CT_FREQ-4] Test for download area .....                                                  | 35        |
| 10.4.5    | [RMI-CT_FREQ-5] Test for navigational pathway .....                                           | 35        |
| 10.5      | CT cluster 5 – Test payment for RMI .....                                                     | 35        |
| 10.5.1    | [RMI-CT_UC2] Test payment for RMI .....                                                       | 35        |
| 10.6      | CT cluster 6 – Test for vehicle identification .....                                          | 35        |
| 10.6.1    | [RMI-CT_UC3.1] Test vehicle identification through use of VIN .....                           | 35        |
| 10.6.2    | [RMI-CT_UC3.2] Test vehicle identification via product features .....                         | 35        |
| 10.6.3    | [RMI-CT_UC3.3] Test vehicle identification through product identifier .....                   | 35        |
| 10.6.4    | [RMI-CT_UC3.4] Test unequivocal engine identification .....                                   | 36        |
| 10.6.5    | [RMI-CT_UC3.5] Test engine type identification via engine features .....                      | 37        |
| 10.7      | CT cluster 7 — Test selection methods for RMI .....                                           | 38        |
| 10.7.1    | [RMI-CT_UC4.1] Test selection of information type .....                                       | 38        |
| 10.7.2    | [RMI-CT_UC4.2] Test search by standardized terms .....                                        | 38        |
| 10.7.3    | [RMI-CT_UC4.3] Test navigation using product structure .....                                  | 38        |
| 10.7.4    | [RMI-CT_UC4.4] Test selection by document identifier .....                                    | 38        |
| 10.8      | CT cluster 8 – Test retrieval of information packages .....                                   | 38        |
| 10.8.1    | [RMI-CT_UC5.1.1] Test retrieval of general workshop procedures .....                          | 38        |
| 10.8.2    | [RMI-CT_UC5.1.2] Test retrieval of body repair procedures .....                               | 38        |
| 10.8.3    | [RMI-CT_UC5.1.3] Test retrieval of temporary repair procedures .....                          | 38        |

|          |                                                                                                                       |    |
|----------|-----------------------------------------------------------------------------------------------------------------------|----|
| 10.8.4   | [RMI-CT_UC5.1.4] Test retrieval of preparation for PTI .....                                                          | 38 |
| 10.8.5   | [RMI-CT_UC5.2] Test retrieval of wiring diagrams .....                                                                | 39 |
| 10.8.6   | [RMI-CT_UC5.3] Test retrieval of technical service bulletin .....                                                     | 39 |
| 10.8.7   | [RMI-CT_UC5.4] Test retrieval of recall information .....                                                             | 39 |
| 10.8.8   | [RMI-CT_UC5.5] Test retrieval of maintenance schedule .....                                                           | 39 |
| 10.8.9   | [RMI-CT_UC5.6.1] Test retrieval of spare parts (identification) .....                                                 | 39 |
| 10.8.10  | [RMI-CT_UC5.6.2] Test retrieval of spare parts (access) .....                                                         | 39 |
| 10.8.11  | [RMI-CT_UC5.7.1] Test retrieval of accessory information factory fitted<br>(included in general RMI) .....            | 39 |
| 10.8.12  | [RMI-CT_UC5.7.2] Test retrieval of accessory information partnered<br>with a VM part number .....                     | 39 |
| 10.8.13  | [RMI-CT_UC5.7.3] Test retrieval of fitting information for accessories with<br>no VM part number .....                | 39 |
| 10.8.14  | [RMI-CT_UC5.8] Test retrieval of labour times .....                                                                   | 39 |
| 10.8.15  | [RMI-CT_UC5.9] Test retrieval of converted vehicle information .....                                                  | 39 |
| 10.8.16  | [RMI-CT_UC5.10] Test retrieval of special tool information .....                                                      | 40 |
| 10.8.17  | [RMI-CT_UC5.11] Test type-approval related information .....                                                          | 40 |
| 10.9     | CT cluster 9 — Test vehicle diagnostics .....                                                                         | 40 |
| 10.9.1   | [RMI-CT_UC6.1] Test DTC resolution .....                                                                              | 40 |
| 10.9.2   | [RMI-CT_UC6.2] Test VM symptom resolution .....                                                                       | 41 |
| 10.9.3   | [RMI-CT_UC6.3] Test integrated diagnostics .....                                                                      | 41 |
| 10.10    | CT cluster 10 — Test updating, replacing and tuning of modules (ECUs) .....                                           | 41 |
| 10.10.1  | [RMI-CT_UC7.1] Test updating and replacing modules information .....                                                  | 41 |
| 10.10.2  | [RMI-CT_UC7.2] Test tuning kit .....                                                                                  | 41 |
| 10.11    | CT cluster 11 — Test electronic maintenance history .....                                                             | 41 |
| 10.11.1  | [RMI-CT_UC8] Test electronic maintenance history information .....                                                    | 41 |
| 10.12    | CT cluster 12 — Test repair assistance, technical support .....                                                       | 41 |
| 10.12.1  | [RMI-CT_UC9] Test repair assistance technical support information .....                                               | 41 |
| 10.13    | CT cluster 13 — Test request for contact information .....                                                            | 41 |
| 10.13.1  | [RMI-CT_UC10.1] Test for retrieval of electronic tool information<br>(Diagnostic, Reprogramming, VCI) .....           | 41 |
| 10.13.2  | [RMI-CT_UC10.2] Test for retrieval of test equipment and diagnostic tool<br>manufacturers information .....           | 41 |
| 10.13.3  | [RMI-CT_UC10.3] Test for retrieval of training material (delegate<br>information) .....                               | 41 |
| 10.13.4  | [RMI-CT_UC10.4] Test for retrieval of redistributor contact information .....                                         | 41 |
| 10.13.5  | [RMI-CT_UC10.5] Test for retrieval of republisher contact information .....                                           | 42 |
| 10.13.6  | [RMI-CT_UC10.6] Test for retrieval of inspection and testing services<br>information .....                            | 42 |
| 10.13.7  | [RMI-CT_UC10.7] Test for retrieval of alternative fuels retrofit system<br>information .....                          | 42 |
| 10.13.8  | [RMI-CT_UC10.8] Test for retrieval of engine and components<br>remanufacturing information .....                      | 42 |
| 10.13.9  | [RMI-CT_UC10.9] Test for retrieval of component and parts<br>manufacturer information .....                           | 42 |
| 10.13.10 | [RMI-CT_UC10.10] Test for retrieval of validation of independently<br>developed non-proprietary VCI information ..... | 42 |
| 10.14    | CT cluster 14 — Test courses and training information .....                                                           | 42 |
| 10.14.1  | [RMI-CT_UC11] Test for courses and training information .....                                                         | 42 |
| 10.15    | CT cluster 15 — Test data administration requirements .....                                                           | 42 |
| 10.15.1  | [RMI-CT_TREQ-1] Test general access-related data administration .....                                                 | 42 |
| 10.15.2  | [RMI-CT_TREQ-2] Test administration of IO data by the VM .....                                                        | 42 |
| 10.15.3  | [RMI-CT_TREQ-3] Test administration of IO employee data by the VM .....                                               | 42 |
| 10.15.4  | [RMI-CT_TREQ-4] Test administration of payment data by VM .....                                                       | 42 |
| 10.15.5  | [RMI-CT_TREQ-5] Test administration of access event data by VM .....                                                  | 43 |
| 10.15.6  | [RMI-CT_TREQ-6] Test administration of access event data to security-<br>related RMI by VM .....                      | 43 |

|                           |                                                                                                                                           |           |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 10.16                     | CT cluster 16— Test VM software installation on the IO client.....                                                                        | 43        |
| 10.16.1                   | [RMI-CT_TREQ-20] Test for requirements for installing VM-specific software on the IO client.....                                          | 43        |
| 10.16.2                   | [RMI-CT_TREQ-21] Test for requirements for updating of installed VM data and applications on the IO client.....                           | 43        |
| 10.16.3                   | [RMI-CT_TREQ-22] Test for requirements for the operation of VM-specific software on the IO client.....                                    | 43        |
| 10.16.4                   | [RMI-CT_TREQ-23] Test for requirements for the uninstalling of VM-specific software on the IO client.....                                 | 43        |
| 10.16.5                   | [RMI-CT_TREQ-24] Test for requirements for restoring in case of an abnormal termination of the VM specific software on the IO client..... | 43        |
| 10.17                     | CT cluster 17 — Test VM RMI operations.....                                                                                               | 43        |
| 10.17.1                   | [RMI-CT_TREQ-25] Test for VM RMI system availability time.....                                                                            | 43        |
| 10.17.2                   | [RMI-CT_TREQ-26] Test for support for the usage of the VM RMI system.....                                                                 | 43        |
| 10.18                     | CT cluster 18 — Test trust centre (certificate management).....                                                                           | 43        |
| 10.18.1                   | [RMI-CT_TREQ-10] Test for trust centre (certificate management).....                                                                      | 43        |
| <b>Bibliography .....</b> |                                                                                                                                           | <b>44</b> |

iTeh Standards  
(<https://standards.itih.ai>)  
Document Preview

ISO 18541-5:2018

<https://standards.itih.ai/catalog/standards/iso/d3826193-c793-4a7e-84f6-50d912d9b79/iso-18541-5-2018>

## 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](http://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](http://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](http://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<sup>[1]</sup>

"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<sup>[4]</sup>, 2002/24/EC<sup>[2]</sup>, 2003/37/EC<sup>[3]</sup> 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<sup>1)</sup> and heavy duty vehicles<sup>2)</sup> based on Directive 2007/46/EC<sup>[4]</sup>.

The purpose of the EC Mandate M/421<sup>[1]</sup> 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.

(<https://standards.iteh.ai>)  
Document Preview

ISO 18541-5:2018

<https://standards.iteh.ai/catalog/standards/iso/d3826193-c793-4a7e-84f6-50d912d9b79/iso-18541-5-2018>

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<sup>[5]</sup>, 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<sup>[6]</sup> 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<sup>[6]</sup>.

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<sup>[8]</sup>, COMMISSION REGULATION (EU) No 582/2011 of 25 May 2011<sup>[9]</sup> 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<sup>[10]</sup> 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