



---

# Road vehicles — Passenger-car and trailer combinations — Lateral stability test

*Véhicules routiers — Ensembles voiture particulière et remorque  
— Essai de stabilité latérale*

**ISO 9815**

---

**Fourth edition  
2024-09**

This is a preview of ISO 9815:2024. Click [here](#) to purchase the full version from the ANSI store.



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2024

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  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of ISO 9815:2024. [Click here to purchase the full version from the ANSI store.](#)

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms, definitions</b> .....	<b>1</b>
<b>4 Measurement variables</b> .....	<b>2</b>
<b>5 General conditions</b> .....	<b>2</b>
5.1 Conformity.....	2
5.2 Measuring equipment.....	2
5.3 Test track.....	2
5.4 Wind velocity.....	3
5.5 Loading conditions.....	3
5.5.1 Towing vehicle.....	3
5.5.2 Trailer.....	3
5.5.3 Static load on the coupling ball.....	3
5.5.4 Adjustment of load-distributing coupling mechanisms.....	4
<b>6 Test method</b> .....	<b>5</b>
6.1 General.....	5
6.2 Test runs.....	5
6.2.1 Speed.....	5
6.2.2 Steering impulse.....	5
6.2.3 Number of test runs.....	7
<b>7 Data analysis</b> .....	<b>7</b>
7.1 General.....	7
7.2 Individual test runs.....	8
7.2.1 Effective longitudinal vehicle acceleration.....	8
7.2.2 Test speed.....	8
7.2.3 Damping the oscillation of the articulation angle.....	8
7.2.4 Yaw velocity ratio.....	9
7.3 Zero-damping speed.....	10
7.4 Reference-damping speed.....	10
7.5 Reference-speed damping.....	10
<b>8 Data presentation</b> .....	<b>10</b>
8.1 General data.....	10
8.2 Test conditions.....	10
8.3 Results.....	11
<b>Annex A (normative) Test report — General data (supplement to ISO 15037-1:2019, Annex A)</b> .....	<b>12</b>
<b>Annex B (normative) Test results</b> .....	<b>15</b>
<b>Annex C (informative) Steady-state behaviour</b> .....	<b>16</b>
<b>Bibliography</b> .....	<b>17</b>

This is a preview of ISO 9815:2024. [Click here to purchase the full version from the ANSI store.](#)

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 document 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)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

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

For an explanation of 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 33, *Vehicle dynamics, chassis components and driving automation systems testing*.

This fourth edition cancels and replaces the third edition (ISO 9815:2010), which has been technically revised.

The main changes are as follows:

- additions have been made to [6.2.1](#), [6.2.2](#) and [6.2.3](#);
- additions have been made to [7.2.1](#), [7.2.2](#), [7.2.3](#) and [7.2.4](#);
- references have been updated to ISO 4138:2021 and ISO 15037-1:2019.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

The main purpose of this document is to provide repeatable and discriminatory test results.

The dynamic behaviour of a road vehicle is a very important aspect of active vehicle safety. Any given vehicle, together with its driver and the prevailing environment, constitutes a closed-loop system that is unique. The task of evaluating the dynamic behaviour is therefore very difficult since the significant interaction of these driver-vehicle-environment elements are each complex in themselves. A complete and accurate description of the behaviour of the road vehicle must necessarily involve information obtained from a number of different tests.

Since this test method quantifies only one small part of the complete vehicle handling characteristics, the results of these tests can only be considered significant for a correspondingly small part of the overall dynamic behaviour.

Moreover, insufficient knowledge is available concerning the relationship between overall vehicle dynamic properties and accident avoidance. A substantial amount of work is necessary to acquire sufficient and reliable data on the correlation between accident avoidance and vehicle dynamic properties in general and the results of these tests in particular. Consequently, any application of this test method for regulation purposes requires proven correlation between test results and accident statistics.