International Standard

ISO 20019

Agricultural vehicles — Mechanical connections on towed vehicles — Dimensions for hitch rings

Véhicules agricoles — Liaisons mécaniques sur véhicules remorqués — Dimensions des anneaux d'attelage

Second edition
2025-10

Reference number
ISO 20019:2025(en)

© ISO 2025



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

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
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Interchangeability dimensions **1**
4.1 General 1
4.2 Trailer shank travel angles 1
5 Construction **2**
Bibliography **4**

© ISO 2025 – All rights reserved

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 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).

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. 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.

This document was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 4, *Tractors*.

This second edition cancels and replaces the first edition (ISO 20019:2001), which has been technically revised. It also incorporates the Technical Corrigendum ISO 20019:2001/Cor. 1:2004.

The main changes are as follows:

— deletion of the manufacturing requirements;

— modification of the hitch shank specifications.

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.

© ISO 2025 – All rights reserved

Agricultural vehicles — Mechanical connections on towed vehicles — Dimensions for hitch rings

1 Scope

This document specifies dimensional requirements for the attachment of agricultural, non-balanced trailers and implements by means of hitch rings to the rear of towing vehicles equipped with a hook specified in ISO 6489-1. It ensures the interchangeability of the mechanical connections on agricultural towed vehicles.

This document is applicable to rings whose coupling point is below the centre-line of the rear axle and the power take-off (PTO) of the tractor.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

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

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

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

4 Interchangeability dimensions

4.1 General

The hitch ring and shank shall have the dimensions given in Figures 1 to 2.

4.2 Trailer shank travel angles

When the trailer shank fitted with the specified hitch ring is fixed to the tractor attachment, the shank shall be free to turn so that the angles formed with the horizontal situated in the tractor's plane of symmetry and passing through the coupling point have the following minimum values.

— Angle of yaw: rotation around a vertical axis passing through the coupling point, minimum value of 60° on both sides.

— Angle of pitch: rotation around a horizontal axis passing through the coupling point and perpendicular to the vehicle's longitudinal plane of symmetry, minimum value of 20° top and bottom.

  Allowance should be made for the towing vehicle being up to ±3° from the horizontal, due to the front or rear tyre sizes.

— Angle of roll: rotation around a horizontal axis passing through the coupling point and located in the vehicle's plane of symmetry, minimum value of 20° top and bottom.

© ISO 2025 – All rights reserved