
Permissible mechanical connection combinations between towed and towing agricultural vehicles

Combinaisons de liaisons mécaniques autorisées entre véhicules agricoles remorqués et remorqueurs

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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 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*.

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.

Permissible mechanical connection combinations between towed and towing agricultural vehicles

1 Scope

This document provides a list of the recommended mechanical connection combination standards for towing and towed agricultural vehicles.

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 terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Hitch compatibility

[Table 1](#) defines the recommended connection combinations for agricultural vehicles.

The recommendations for connection combinations are only applicable if the connections devices for each combination meet the corresponding standards for towing and towed vehicles.

Before any use of this document on agricultural vehicles, the user is invited to check the current version of the International Standards listed in [Table 1](#).

Table 1 — Permissible mechanical connection combinations between towing and towed vehicles

Towing vehicle connection	Towed vehicle connection
ISO 6489-1 ^{a,c} Hook type	ISO 5692-1 Hitch ring (50 mm hole centre, 30 mm ring diameter)
	ISO 5692-3 shape Y Swivel hitch ring (50 mm hole, shape Y)
	ISO 20019 hitch ring (50 mm hole centre, 30 mm to 41 mm ring diameter)
ISO 6489-2 Bolt/clevis type	ISO 5692-2 Coupling ring (40 mm socket)
	ISO 8755 40 mm drawbar coupling
ISO 6489-2 Shape A — non automatic bolt/clevis type	ISO 1102 50 mm drawbar coupling
ISO 6489-3 Drawbar (category 2)	ISO 5692-1 Hitch ring (50 mm hole centre, 30 mm ring diameter)
	ISO 5692-2 Coupling ring (40 mm socket)
	ISO 8755 ^b 40 mm drawbar coupling
	ISO 1102 ^b 50 mm drawbar coupling
	ISO 21244 implement hitch ring (category 2)
ISO 6489-3 Drawbar (all other categories)	ISO 21244 implement hitch ring (All other categories)
ISO 6489-4 Piton-type	ISO 5692-1 hitch ring (50 mm hole centre, 30 mm ring diameter)
	ISO 5692-3 shape Y Swivel hitch ring (50 mm hole, shape Y)
ISO 6489-5 Non-swivel clevis coupling	ISO 5692-3 Swivel hitch rings
ISO 24347 Ball-type	ISO 24347 80 mm ball diameter
^a Connecting an ISO 6489-1:2001 hook, manufactured in accordance with the maximum sizes permitted, to hitch-rings in accordance with ISO 5692-1 and of minimum dimensions (30 mm ring diameter) according to ISO 20019 could result in a “jerky” connection between the tractor and the trailer and result in less driving comfort. ^b Primarily used on trailers towed behind trucks (on-road). ^c In case a hitch hook according to ISO 6489-1:1991 is used, it can be only used with a hitch ring according to ISO 5692:1979. ^d Contains specifications for both towing and towed vehicle. ^e Contains specification for attaching to ISO 730/ISO 730:2009/Amd 1:2014 three-point hitch and towed vehicle.	

Table 1 (continued)

Towing vehicle connection	Towed vehicle connection
ISO 730/ISO 730 Amd1 ^d Rear-mounted three-point linkage	ISO 730/ISO 730 Amd1 Rear-mounted three-point linkage ^d
	ISO 11001-1 U-Frame ^e
	ISO 11001-2 A-Frame ^e
	ISO 11001-3 Link ^e
	ISO 11001-4 Bar ^e
^a Connecting an ISO 6489-1:2001 hook, manufactured in accordance with the maximum sizes permitted, to hitch-rings in accordance with ISO 5692-1 and of minimum dimensions (30 mm ring diameter) according to ISO 20019 could result in a “jerky” connection between the tractor and the trailer and result in less driving comfort. ^b Primarily used on trailers towed behind trucks (on-road). ^c In case a hitch hook according to ISO 6489-1:1991 is used, it can be only used with a hitch ring according to ISO 5692:1979. ^d Contains specifications for both towing and towed vehicle. ^e Contains specification for attaching to ISO 730/ISO 730:2009/Amd 1:2014 three-point hitch and towed vehicle.	

Bibliography

- [1] ISO 730, *Agricultural wheeled tractors — Rear-mounted three-point linkage — Categories 1N, 1, 2N, 2, 3N, 3, 4N and 4*
- [2] ISO 1102, *Commercial road vehicles — 50 mm drawbar eye — Interchangeability*
- [3] ISO 5692:1979¹⁾, *Agricultural vehicles — Mechanical connections on towed vehicles — Hitch-rings — Specifications*
- [4] ISO 5692-1, *Agricultural vehicles — Mechanical connections on towed vehicles — Part 1: Dimensions for hitch rings of 50/30 mm cross section*
- [5] ISO 5692-2, *Agricultural vehicles — Mechanical connections on towed vehicles — Part 2: Coupling ring 40 with socket*
- [6] ISO 5692-3, *Agricultural vehicles — Mechanical connections on towed vehicles — Part 3: Swivel hitch rings*
- [7] ISO 6489-1:1991¹⁾, *Agricultural vehicles — Mechanical connections on towing vehicles — Part 1: Hook type*
- [8] ISO 6489-1, *Agricultural vehicles — Mechanical connections between towed and towing vehicles — Part 1: Dimensions of hitch-hooks*
- [9] ISO 6489-2, *Agricultural vehicles — Mechanical connections between towed and towing vehicles — Part 2: Specifications for clevis coupling 40*
- [10] ISO 6489-3, *Agricultural vehicles — Mechanical connections between towed and towing vehicles — Part 3: Tractor drawbar*
- [11] ISO 6489-4, *Agricultural vehicles — Mechanical connections between towed and towing vehicles — Part 4: Dimensions of piton-type coupling*
- [12] ISO 6489-5, *Agricultural vehicles — Mechanical connections between towed and towing vehicles — Part 5: Specifications for non-swivel clevis couplings*
- [13] ISO 8755, *Commercial road vehicles — 40 mm drawbar eye — Interchangeability*
- [14] ISO 11001-1, *Agricultural wheeled tractors — Three-point hitch couplers — Part 1: U-frame coupler*
- [15] ISO 11001-2, *Agricultural wheeled tractors and implements — Three-point hitch couplers — Part 2: A-frame coupler*
- [16] ISO 11001-3, *Agricultural wheeled tractors and implements — Three-point hitch couplers — Part 3: Link coupler*
- [17] ISO 11001-4, *Agricultural wheeled tractors and implements — Three-point hitch couplers — Part 4: Bar coupler*
- [18] ISO 20019, *Agricultural vehicles — Mechanical connections on towed vehicles — Dimensions for hitch rings*
- [19] ISO 21244, *Agricultural equipment — Mechanical connections between towed and towing vehicles — Implement hitch rings and attachment to tractor drawbars*
- [20] ISO 24347, *Agricultural vehicles — Mechanical connections between towed and towing vehicles — Dimensions of ball coupling device (80 mm)*

1) Withdrawn.