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Australia



Commercial road vehicles — Mechanical connections between towing vehicles

Part 1: Selection and marking of pin-type couplings and drawbar eyes



AS 2213.1:2022

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- Department of Defence (Australian Government)
- Heavy Vehicle Industry Australia
- Municipal Works Operations Association
- National Heavy Vehicle Regulator
- Queensland University of Technology
- Society of Automotive Engineers- Australasia
- Truck Industry Council

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Commercial road vehicles — Mechanical connections between towing vehicles

Part 1: Selection and marking of pin-type couplings and drawbar eyes

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Preface

This Standard was prepared by the Australian members of the Standards Australia/Standards New Zealand Committee ME-053, Heavy Road Vehicles, to supersede AS 2213.1:2001.

The objective of this document is to provide requirements for the selection and marking of pin-type couplings and drawbar eyes for use with motor vehicle and trailer combinations for general use.

This revision addresses the number of new combinations that have become common in the operating environment. Key changes to this revision include the following:

- (a) Clarity on the method of determining coupling ratings and applying this method to new vehicle types.
- (b) Inclusion of performance extension for rigid draw bar couplings with reference to UN/ECE Regulation 55.
- (c) Update to definitions and terminologies for consistency across legislation and standards.
- (d) Revised selection criteria to include distinction between hinged and rigid drawbars.
- (e) Revised selection criteria to include maintenance considerations.

A list of all parts in the AS 2213 series can be found in the Standards Australia online catalogue.

The terms “normative” and “informative” are used in Standards (and other publications) to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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Commercial road vehicles — Mechanical connections between towing vehicles

Part 1: Selection and marking of pin-type couplings and drawbar eyes

1 Scope

This document specifies requirements for the selection and marking of pin-type couplings and drawbar eyes and gives the methods for the determination of the *D*-values and the *V*-values for typical vehicle configurations for general use.

NOTE Typical examples of a pin-type coupling and drawbar are shown in [Appendix A](#).

2 Normative references

There are no normative references in this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

3 Terms and definitions

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

3.1

axle

one or more shafts, positioned in a line across a vehicle on which one or more wheels are intended to support the vehicle to move

3.2

axle group

group of one or more axles

3.3

B-double

combination consisting of a prime mover towing two semi-trailers where the two semi-trailers are connected by a fifth wheel, ballrace or turntable

3.4

combination

group of vehicles consisting of a motor vehicle such as a prime mover or rigid truck towing one or more other vehicle units such as a semi-trailer or trailer

3.5

converter dolly

trailer with one axle group or single axle, and a fifth wheel coupling, designed to convert a semi-trailer into a dog trailer or a full trailer

3.6

coupling

mechanical device used to couple a towing vehicle in a combination to a towed vehicle

3.7

critical coupling

maximum *D*-value coupling for a vehicle combination with more than one pin type coupling or drawbar eye

3.8
dog trailer
full trailer
trailer with—

- (a) one axle group at the front that is steered by connection to the towing vehicle by a drawbar;
and
- (b) one axle group at the rear

Note 1 to entry: For the purposes of this document this also includes a trailer consisting of a semi-trailer and a converter dolly

3.9
drawbar

part of a trailer that can be hinged or rigid that connects the trailer body to a coupling for towing purposes

3.10
drawbar eye
attachment designed to connect to a pin-type coupling

Note 1 to entry: this does not preclude use on either the towed or drawing vehicle.

3.11
D-value
theoretical reference value for the longitudinal forces experienced by the coupling of a particular vehicle combination, where the coupling is not designed to support imposed dynamic vertical loads

3.12
 D_c -value
theoretical reference value for the longitudinal forces experienced by the coupling of a particular vehicle combination, where the coupling is designed to support imposed dynamic vertical loads

Note 1 to entry: The D_c -value applies to rigid drawbar couplings (including tag trailers).

Note 2 to entry: Refer also to UN/ECE Regulation 55.

3.13
may
indicates the existence of an option

3.14
pig trailer
centre axle trailer
towed vehicle that is coupled in which the axle group is positioned close to the centre of the load space or longitudinal centre of gravity of the vehicle (when uniformly loaded) such that only a small static vertical load, generally not exceeding 10% of the load corresponding to the aggregate trailer mass (ATM) is applied to the coupling

3.15
pin-type coupling
coupling for connecting a towing vehicle to a trailer by means of a vertical pin through a drawbar eye

3.16
road train
combination, except a B-double, consisting of a motor vehicle towing at least two trailers (counting as a single trailer a converter dolly supporting a semi-trailer)

3.17
shall
indicates that a statement is mandatory