

Australian Standard™

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**Heavy duty towing components**

**Part 1: 70 mm and 110 mm diameter  
towballs for heavy duty couplings**

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This Australian Standard was prepared by Committee ME/53, Semitrailer and Heavy Trailer Couplings. It was approved on behalf of the Council of Standards Australia on 13 February 1998 and published on 5 May 1998.

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The following interests are represented on Committee ME/53:

Australian Road Research Board  
Australian Road Transport Suppliers  
AUSTROADS  
Commercial Vehicle Industry Association of Australia  
Department of Defence  
Department of Transport (Australia)  
Federal Chamber of Automotive Industries  
Institute of Metals and Materials  
Institute of Road Transport Engineers  
Mechanical Coupling Manufacturers  
National Road Transport Commission  
Society of Automotive Engineers, Australasia  
Telstra Corporation  
Victorian Road Transport Association

Additional interests participating in preparation of Standard:

Mechanical coupling manufacturers

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First published as AS 3819.1—1998.

## PREFACE

The Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME/53, Semitrailer and Heavy Trailer Couplings.

This Standard is the result of a consensus among Australian and New Zealand representatives on the Joint Committee to produce it as an Australian Standard.

The Standard applies to heavy duty towballs, of 70 mm and 110 mm diameter, for heavy duty couplings. These are designed to suit vehicles towing trailers above 3.5 t aggregate trailer mass (ATM) and for dealing with heavy duty towing components.

This Standard is Part 1 of a series dealing with heavy duty towing components. The other Part in the series is—

Part 2: Heavy duty coupling bodies for 70 mm and 110 mm ball towballs.

The term ‘normative’ has been used in this Standard to define the application of the appendix to which it applies. A ‘normative’ appendix is an integral part of a Standard.

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# STANDARDS AUSTRALIA

## Australian Standard

### Heavy duty towing components

#### Part 1: 70 mm and 110 mm diameter towballs for heavy duty couplings

**1 SCOPE** This Standard specifies requirements for heavy duty couplings, that are suitable for vehicles towing medium and heavy trailers on sealed and unsealed roads, and covers two sizes of towballs—

- (a) 70 mm for up to 10 t ATM single trailer only; and
- (b) 110 mm for trailers intended for use above 10 t ATM.

**NOTES:**

- 1 Coupling bodies are specified in AS 3819.2.
- 2 For the 70 mm diameter towball, the design and construction are specified for shank-type and unshanked-type towballs.

**2 OBJECTIVE** The objective of this Standard is to ensure full interchangeability of couplings on trailers throughout the medium and heavy transport industry.

**3 REFERENCED DOCUMENTS** The following documents are referred to in this Standard:

**AS**

- 1237 Flat metal washers for general engineering purposes (metric series)
- 1391 Methods for tensile testing of metals
- 1444 Wrought alloy steels—Standard, hardenability (H) series and hardened and tempered to designated mechanical properties
- 1815 Metallic materials—Rockwell hardness test
- 2465 Unified hexagon bolts, screws and nuts (UNC and UNF threads)
- 2536 Surface texture
- 3819 Heavy trailer towing components
- 3819.2 Part 2: Heavy duty coupling bodies for 70 mm and 110 mm towballs

**AS/NZS**

- 1111 ISO metric hexagon commercial bolts and screws
- 1112 ISO metric hexagon nuts, including thin nuts, slotted nuts and castle nuts

**ADR**

- Australian Design Rules for Motor Vehicles and Trailers  
Part B: Definitions and vehicle categories

**4 DEFINITIONS** For the purpose of this Standard, the definitions below apply.

**4.1 Aggregate trailer mass (ATM)**—the total mass of the laden trailer when carrying the maximum load recommended by the manufacturer. This includes any mass imposed on the towing vehicle when the combination vehicle is resting on a horizontal supporting plane.