

Australian Standard<sup>®</sup>

**Heavy road vehicles—Mechanical  
coupling between prime movers and  
semitrailers—Interchangeability  
requirements**

**Part 1: Non-dedicated vehicle  
combinations**

**STANDARDS**  
Australia



This Australian Standard® was prepared by Committee ME-053, Heavy Road Vehicles. It was approved on behalf of the Council of Standards Australia on 13 July 2006. This Standard was published on 31 July 2006.

---

The following are represented on Committee ME-053:

- AUSTRROADS
  - Australian Automotive Aftermarket Association
  - Australian Road Transport Suppliers Association
  - Australian Trucking Association
  - Commonwealth Department of Transport and Regional Services
  - Department of Defence (Australia)
  - Land Transport Safety Authority
  - Maritime Safety Authority (New Zealand)
  - National Transport Commission
  - New Zealand Heavy Haulage Association
  - New Zealand Heavy Transport Wheel Aligners Association
  - New Zealand Truck and Trailer Manufacturers Federation
  - Road Transport Forum New Zealand
  - Society of Automotive Engineers-Australasia
  - The Commercial Vehicle Industry Association of Australia
  - The Institute of Road Transport Engineers of New Zealand
  - Truck Industry Council
  - WA Department for Planning and Infrastructure
- 

This Standard was issued in draft form for comment as DR 05196.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through public comment period.

---

### **Keeping Standards up-to-date**

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using the current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting [www.standards.org.au](http://www.standards.org.au)

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at [mail@standards.org.au](mailto:mail@standards.org.au), or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

---

Australian Standard<sup>®</sup>

**Heavy road vehicles—Mechanical  
coupling between prime movers and  
semitrailers—Interchangeability  
requirements**

**Part 1: Non-dedicated vehicle  
combinations**

Originally as part of AS D17—1970.  
Previous addition AS 2174.1—1994.  
Second edition 2006.

**COPYRIGHT**

© Standards Australia

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 7661 2

## PREFACE

This Standard was prepared by the Standards Australia Committee ME-053, Heavy Road Vehicles, to supersede AS 2174.1—1994, *Articulated vehicles—Mechanical coupling between prime movers and semitrailers—Interchangeability requirements*, Part 1: *Non-dedicated vehicle combinations*.

The objective of this Standard is to specify the requirements for interchangeability of non-dedicated articulated combination vehicles for coupling of prime movers, converter dollies and semitrailers to provide compatibility and adequate clearances in normal use on both sealed and unsealed roads.

This Standard is Part 1 of AS 2174, *Heavy road vehicles—Mechanical coupling between prime movers and semitrailers—Interchangeability requirements*, which is published in two parts as follows:

Part 1: Non-dedicated vehicle combinations

Part 2: Dedicated vehicle combinations

Recommendations for positions and heights of fifth wheels for articulated vehicles provide guidance to prime mover and trailer manufacturers so that interference free coupling and operation between vehicles will be assured.

In this revision, 'dedicated vehicle combination' has been redefined, the maximum height of fifth wheel coupler plate has been reduced to 1320 mm in the unladen condition for any vehicle.

## CONTENTS

	<i>Page</i>
1 SCOPE .....	4
2 REFERENCED DOCUMENTS .....	4
3 DEFINITIONS .....	4
4 COMPATIBILITY OF FIFTH WHEEL ASSEMBLIES AND SKID PLATES.....	5
5 SLIDING FIFTH WHEELS .....	5
6 POINT OF ARTICULATION OF FIFTH WHEEL AND KINGPIN.....	7
7 HEIGHT OF FIFTH WHEEL COUPLER FACE .....	8
8 INTERCHANGEABILITY CLEARANCES FOR PRIME MOVERS.....	8
9 INTERCHANGEABILITY CLEARANCES FOR SEMITRAILERS.....	9
10 INTERCHANGEABILITY CLEARANCES FOR REAR OF LEAD SEMITRAILERS USED IN MULTI-TRAILER COMBINATIONS .....	11
11 INTERCHANGEABILITY CLEARANCES FOR CONVERTER COUPLERS AND SEMI-TRAILERS USED IN ROAD TRAINS.....	12
12 ATTITUDE AND HEIGHT OF SEMITRAILER SKID PLATE.....	13

## STANDARDS AUSTRALIA

## Australian Standard

**Heavy road vehicles—Mechanical coupling between prime movers and semitrailers—Interchangeability requirements****Part 1: Non-dedicated vehicle combinations****1 SCOPE**

This Standard specifies requirements for interchangeability of non-dedicated articulated combination vehicles in normal use on both sealed and unsealed roads. These requirements are applicable to prime movers, converter dollies, and semitrailers.

This Standard covers the interchangeability for coupling of prime movers, converter dollies, and semitrailers to provide compatibility and adequate clearances, however it will not guarantee that any particular vehicle combination will satisfy legal requirements (e.g. vehicle dimensions, or load distribution), or provide optimum dynamic stability.

Clearances around the point of articulation are specified for operation of a vehicle at its maximum permitted dimensions, when at angles of pitch of 5° forward, 7° rearward, and for angles up to 45° of articulation.

**2 REFERENCED DOCUMENTS**

The following documents are referred to in this Standard:

## AS

2174 Heavy road vehicles—Mechanical coupling between prime movers and semitrailers—Interchangeability requirements

2174.2 Part 2: Dedicated vehicle combinations

## AS/NZS

4968 Heavy-road vehicles—Mechanical coupling between articulated vehicle combinations

4968.1 Part 1: Design criteria and selection requirements for fifth wheel, kingpin and associated equipment

4968.2 Part 2: Testing and installation of fifth wheel and associated equipment

4968.3 Part 3: Kingpins and associated equipment

**3 DEFINITIONS**

For the purpose of this Standard, the definitions given in the AS/NZS 4968 series and the definitions below apply.

**3.1 Centre of the axle group**

- (a) In the case of a single axle group, the centre of that axle.
- (b) In the case of a tandem axle group—
  - (i) where both axles are fitted with an equal number of tyres, a line located midway between those axles; or
  - (ii) where one axle is fitted with twice the number of tyres of the other, a line located one third of the way from the axle fitted with the greater number of tyres, towards the axle fitted with the lesser number of tyres.