



Tow trucks—Tilt, slide and underlift vehicles



This Australian Standard® was prepared by Committee ME-005, Cranes. It was approved on behalf of the Council of Standards Australia on 25 September 2015.
This Standard was published on 19 October 2015.

The following are represented on Committee ME-005:

- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Australian Institute for Non-Destructive Testing
- Bureau of Steel Manufacturers of Australia
- The Crane Industry Council of Australia
- Concrete Pumping Association of NSW
- Department of Commerce, WorkSafe Division, WA
- Department of Justice and Attorney General, Qld
- Department of Trade and Investment, NSW
- Elevating Work Platform Association of Australia
- Engineers Australia
- National Road Transport Association
- SafeWork NSW
- Transport for NSW
- WorkSafe Victoria

Additional Interests:

- Bacchus Marsh Towing
- Barnes Towing and Salvage, Qld
- CVIAQ
- Department of Defence
- Department of Transport, WA
- Gross Towing and Equipment
- Leighton Contractors
- MTA
- National Heavy Vehicle Regulator
- North Shore City Towing
- NRMA
- RACQ
- Suburban Towing and Equipment

This Standard was issued in draft form for comment as DR AS 1418.20:2014.

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 the 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Standards may also be withdrawn.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 a 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

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, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard[®]

Tow trucks—Tilt, slide and underlift vehicles

First published as AS 5400:2015.

COPYRIGHT

© Standards Australia Limited

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, unless otherwise permitted under the Copyright Act 1968.

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 1 76035 273 8

PREFACE

This Standard was prepared by the Standards Australia Committee ME-005, Cranes.

The objective of this Standard is to set out requirements for the design of tow trucks for reference by tow truck designers, users and regulators.

All road-going vehicles in Australia are subject to the *Motor Vehicles Standards Act 1989*, and are required to comply with the associated safety and environmental standards, known as the Australian Design Rules (ADRs).

The ADRs concern the design of tow trucks as a vehicle but they do not cover the design, testing and other aspects of the hoisting, winching and other equipment associated with towing operations. These were previously covered in an earlier edition of AS 1418.5, but were excised from the 1995 edition of the Standard. Standards Australia was approached by the Australian Motor Vehicle Certification Board and the Technical Liaison Group, which comprise the Commonwealth Department of Infrastructure and Regional Development, all jurisdictions' vehicle regulators, and industry and peak user stakeholders, to facilitate developing a standard that will incorporate these items.

This Standard has no legal standing in its own right, and only has the legal status afforded it if it is incorporated in the ADRs or Commonwealth or State/Territory legislation, or called up in a contract, e.g. a contract to supply. The requirements specified in this Standard are not intended to be retrospective, but to apply once the Standard is referenced in the ADRs or legislation, or otherwise adopted.

In addition to the ADRs, tow trucks may also be subject to other national and local legislation relating to their design, registration and use. These include National Heavy Vehicle Legislation, which is model legislation enacted in most Australia jurisdictions in February 2014. This Standard does not provide any guidance on these other requirements, and a person intending to use a tow truck should ensure they comply with the necessary legislation and procedures in place in their registering jurisdiction.

At the time of publication the National Heavy Vehicle Legislation has not been enacted in Western Australia or the Northern Territory.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	4
1.2 REFERENCED DOCUMENTS.....	4
1.3 DEFINITIONS.....	5
1.4 NEW DESIGNS AND INNOVATIONS	9
1.5 RELATIONSHIP TO VSB 6	9
SECTION 2 DESIGN	
2.1 GENERAL.....	10
2.2 SECURING DEVICES	10
2.3 COMBINATION TOW TRUCKS	10
2.4 CONTROLS	11
2.5 OPERATIONAL EQUIPMENT	11
2.6 WARNING DEVICES.....	12
SECTION 3 TESTING AND REPAIRS	
3.1 GENERAL.....	13
3.2 TESTING AND PROCEDURES	13
3.3 STABILITY AND STRUCTURAL TESTS	13
3.4 COMMISSIONING INSPECTION AND CHECKS.....	13
3.5 REPAIRS.....	13
SECTION 4 INFORMATION AND MARKING	
4.1 INFORMATION TO BE PROVIDED WITH THE TOW TRUCK	14
4.2 MARKING	14

STANDARDS AUSTRALIA

Australian Standard**Tow trucks—Tilt, slide and underlift vehicles**

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies the requirements for the lifting and winching mechanisms for tow trucks of the tilt and/or slide, and underlift variety, including those fitted to the tow truck's tray, and ancillary items used to secure the towed vehicle and to help safeguard the persons in the removal operation.

NOTE: Unless specified otherwise, the term 'tow truck' is used to describe all the vehicle types defined in this Standard.

This Standard does not apply to the design of the host vehicle and integral components relative to its operation as a vehicle in road transport. These aspects of the vehicle are covered by the Australian Design Rules (ADRs) and Vehicle Standards Bulletin 6 (VSB 6).

This Standard does not apply to mobile cranes or vehicle loading cranes used in towing operations. Mobile cranes used for over-lift operations shall comply with AS 1418.5, and vehicle loading cranes used for all-up lift operations shall comply with AS 1418.11.

This Standard does not apply to devices used for A-frame towing, to vehicles intended to be used for shunting operations or to car carriers.

This Standard does not designate vehicle categories and associated operational activities for the purposes of registration, licensing and other regulatory requirements.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

1353	Flat synthetic-webbing slings
1353.1	Part 1: Product specification
1418	Cranes, hoists and winches
1418.1	Part 1: General requirements
1418.5	Part 5: Mobile cranes
1418.11	Part 11: Vehicle-loading cranes
1666	Wire-rope slings
1666.1	Part 1: Product specification
2321	Short-link chain for lifting purposes
2550	Cranes, hoists and winches—Safe use
2550.1	Part 1: General requirements
2741	Shackles
3569	Steel wire ropes—Product specification
3775	Chain slings—Grade T(80) and V(100)
3775.1	Part 1: Product specification
3776	Lifting components for Grade T chain slings

- AS
 4024 Safety of machinery
 4024.1604 Part 1604: Design of controls, interlocks and guarding—Emergency stop—
 Principles for design
- AS/NZS
 4380 Motor vehicles—Cargo restraint systems—Transport webbing and
 components
 4344 Motor vehicles—Cargo restraint systems—Transport chain and components
 4345 Motor vehicles—Cargo restraint systems—Transport fibre ropes
- ISO
 13850 Safety of machinery—Emergency stop—Principles for design
- ADR
 Definitions and Vehicle Categories
- SAE
 J706 Rating of winches
- VSBS
 VSB 6 National Code of Practice for Heavy Vehicle Modifications
 NOTE: This document is available as a free download from the Commonwealth
 Department of Infrastructure and Regional Development website.
- EN
 12385 Steel Wire Ropes
 14492 Cranes—Power driven winches and hoists
 14492-1 Part 1: Power driven winches
- The American Society of Mechanical Engineers (ASME)
 B30.9 Slings
 B30.26 Rigging hardware

1.3 DEFINITIONS

For the purposes of this Standard, the definitions given in AS 1418.1, ADR – *Definitions and Vehicle Categories* and those below apply.

1.3.1 All-up operation

A towing operation in which the removed vehicle is lifted and placed onto the tray of the host vehicle.

1.3.2 Australian Design Rules (ADRs)

A series of design and safety standards that apply to vehicles supplied to the Australian market for use in transport.

1.3.3 Car carrier

A vehicle used to transport cars and other motor vehicles that are driven onto it.

1.3.4 Competent person

A person who has acquired through training, qualification, experience or a combination of these, the knowledge and skill to enable them correctly perform the required task.