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Australian Standard®

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**Hoists and ramps for people with  
disabilities—Vehicle-mounted**

**Part 1: Product requirements**

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**STANDARDS AUSTRALIA**



This Australian Standard was prepared by Committee ME/67, Mobility Appliances for People with Disabilities. It was approved on behalf of the Council of Standards Australia on 22 August 1990 and published on 11 February 1991.

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The following interests are represented on Committee ME/67:

ACROD

Attorney-Generals Department

Australian Association of Occupational Therapists

Commercial Vehicle Industry Association of Australia

Confederation of Australian Industry

Crippled Childrens Association of South Australia

Department of Health, New South Wales

Department of Health, Queensland

Department of the Premier and Cabinet, South Australia

Department of Veterans Affairs

Disability Advisory Council of Australia

Disabled Peoples International (Australia)

Federal Chamber of Automotive Industries

Health Department, Victoria

Institution of Engineers, Australia

Metal Trades Industry Association of Australia

National Committee Independent Living Centres

Paraplegic and Quadriplegic Association of New South Wales

Paraplegic and Quadriplegic Association of Victoria

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disabilities—Vehicle-mounted**

**Part 1: Product requirements**

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First published as AS 3856.1—1991.

## PREFACE

This Standard was prepared by the Standards Australia Committee on Mobility Appliances for People with Disabilities, following a request from Standards Australia Committee ME/5, Cranes, for a Standard which would provide a national reference document for the design of hoists and ramps and the installation of such hoists and ramps into or onto motor vehicles for the transportation of people with disabilities. A subsequent survey among manufacturers of hoists and ramps, persons involved in modifying road vehicles to attain hoists or ramps, road traffic authorities, and bus and taxi service providers verified the need for such a Standard.

So that products may comply with a Standard both before and after their installation in a vehicle, two Standards have been prepared, viz this Standard, and *Hoists and ramps for people with disabilities—Vehicle mounted, Part 2: Installation requirements*. This Standard requires products to be tested in their fully assembled condition, but with the appliance not attached to a vehicle.

The Standard covers ramps as well as hoists because some hoisting appliances deploy a platform which forms a ramp or a set of ramps during the operating cycle.

The Standard covers only those appliances which necessarily are attached to a vehicle during their use. The types of appliances which are placed next to a vehicle for hoisting a person into the vehicle are covered in AS 3581, *Mechanical aids for patient lifting and moving—Safety requirements*.

The specified minimum safe working load for a hoist platform takes into account the fact that an attendant may be on the platform at the same time as a wheelchair occupant.

While it is recognized that users of vehicle mounted hoists and ramps may or may not be in the company of an attendant, the requirements in the Standard do not cover all requirements for the sole operation of an appliance by a user.

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## STANDARDS AUSTRALIA

## Australian Standard

## Hoists and ramps for people with disabilities—Vehicle-mounted

## Part 1: Product requirements

## SECTION 1 SCOPE AND GENERAL

**1.1 SCOPE** This Standard specifies requirements for the design and performance of hoists and ramps which are intended to be installed in motor vehicles, for use by people with disabilities in boarding, and alighting from motor vehicles.

Freestanding hoisting appliances or appliances for hoisting unoccupied wheelchairs into or onto a motor vehicle are not included.

**1.2 APPLICATION** This Standard is intended as a reference for persons concerned with the manufacture of hoists and ramps and their installation into or onto motor vehicles, community transport organizers, regulatory authorities, and users.

**1.3 TYPES OF APPLIANCES** The following types of appliances are referred to in this Standard:

- (a) Type A—an appliance incorporating a platform which is required to be raised and lowered under load. The platform is deployed, stored, raised, and lowered by power or gravity, or by a combination of these means.
- (b) Type B—an appliance incorporating a platform which is required to be raised and lowered under load. The platform is deployed and stored manually, and raised and lowered by power or gravity, or by a combination of these means.
- (c) Type C—an appliance incorporating a sling, seat, or harness. The sling, seat, or harness is deployed and stored either manually or by power, and is raised and lowered by power or gravity, or by a combination of these means.
- (d) Type D—an appliance incorporating one or more ramps which remain in the inclined position during use. The ramp/s is/are deployed and stored by power or gravity, or by a combination of these means.
- (e) Type E—an appliance incorporating one or more ramps which remain in the inclined position during use. The ramp/s is/are deployed and stored manually.

## NOTES:

- 1 Type A and Type B appliances include appliances which, during their operation, deploy a platform which changes attitude from an inclined plane to a horizontal plane or to a plane which is parallel with the plane of the floor of the vehicle to which the appliance is attached.
- 2 Type A and Type B appliances which in the stored position, may form a step or set of stairs.

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

AS	
1554	SAA Structural Steel Welding Code
1554.1	Part 1: Welding of steel structures
2019	Fluid power—Hydraulic and pneumatic cylinders—Bore and rod dimensions
3581	Mechanical aids for patient lifting and moving—Safety requirements
ISO	
7176-13	Wheelchairs—Part 13: Coefficient of friction of test surfaces

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

- 1.5.1 Appliance**—a hoist or ramp.
- 1.5.2 Deploy**—move an appliance from a stored position to an operating position.
- 1.5.3 Edge barrier**—a barrier attached to the side edges of a platform extending above the surface of the platform when in use.
- 1.5.4 Hoist**—any appliance attached to the vehicle during use, which is used for raising or lowering people into or out of the vehicle.
- 1.5.5 Inner roll stop**—a barrier located at the interface between the platform and the vehicle.
- 1.5.6 Interlock**—the arrangement in which the operation or position of one mechanism automatically allows or prevents the operation of another.