

# Vehicle standards information



# 21

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## Vehicles modified for people with disabilities

### Introduction

There are very few production vehicles made for people with disabilities. In most cases, standard production vehicles are specially modified to cater for drivers and passengers with disabilities. Modifications can range from simple additions of a steering wheel spinner knob to major modifications to the vehicle body structure such as extending the body length and altering the roof of the vehicle.

The extent of modifications required to be carried out to a vehicle so that a driver with disabilities can safely control it will usually be determined when the person undertakes assessment and training by a recognised and trained Occupational Therapist. Such therapists are employed by a range of organisations (such as the Cumberland Health and Research Centre) or are in private practice. The Australian Association of Occupational Therapists - NSW, telephone number (02) 9648 3225, is able to supply a list of the locations of Occupational Therapists with the appropriate training. The Commonwealth Rehabilitation Service, telephone number 1800 277 277, also provides assessment and training in many locations throughout NSW as part of their rehabilitation programs.

**It is always recommended that you seek the advice of an Occupational Therapist, qualified in driver assessment and training, before you have your vehicle modified. Once you have successfully undergone an assessment and training program, the RTA will give you every assistance it can to enable you to obtain your driving licence and register your vehicle.**

The driver's licence for a person with disabilities will be conditional on the fitting of any special equipment or modifications which the licensee's vehicle may require to enable the person to drive. The licence must be endorsed accordingly. Further information about driver licences can be obtained by contacting the RTA on telephone number 13 22 13.

### Registration of vehicles modified for people with disabilities

When a vehicle is modified, the vehicle owner is responsible for the vehicle's continued compliance with safety and roadworthiness standards. Registration and licencing officers will generally not attempt to evaluate equipment or modifications on vehicles which have been specially modified for people with disabilities. However, they may require further information or certification or take other appropriate action if a modified vehicle appears to be unsafe or does not meet acceptable standards.

For vehicle owners and operators in New South Wales

Providing there is no adverse effect on the operation of affected components, there is no objection to carrying out minor modifications such as:

- Fitting a properly designed steering wheel spinner knob obtained from a recognised supplier of this equipment.
- Fitting additional grab handles to aid entry to and exit from the vehicle.
- Fitting roof racks to carry wheelchair lifting and storage equipment.
- Extending control levers.

**If you fit a steering wheel spinner knob, you must notify the RTA, complete a disability driving test and have your licence endorsed for this modification. Any other modifications that are essential for you to control your vehicle will require that your driver's licence be suitably endorsed as well.**

When modifications are made which affect the performance or driveability or affect the structural integrity of the vehicle, occupant seating and restraints or any standards covered by the Australian Design Rules applicable to the vehicle, for example:

- 'Stretched' vehicles with roof alterations;
  - Seat modifications such as special seats which pivot and rotate to assist access into and out of the vehicle;
  - Wheelchair racks mounted at the rear of the vehicle;
  - Fitting hand controls;
  - Modifying foot pedals and pedal brackets;
  - Special seat belt installations; and
  - Restraints for wheelchairs carrying passengers in vehicles;
- the RTA's Authorised Officer will ask you to provide evidence that the safety standards originally built into the vehicle have been maintained.

## There are two ways of doing this:

### firstly by:

- Certification of the modifications by an RTA engineering signatory who is recognised by the RTA for this purpose. For a fee, an engineering signatory will check that the modifications are sound and meet the requirements of the Road Transport (Vehicle Registration) Regulation 2007 and Australian Design Rules. If the modifications are satisfactory, the signatory will issue an engineering certificate, which you should present to the RTA. A list of engineering signatories with experience in automotive design, familiar with vehicle construction requirements in NSW, who have indicated that they are available for consultation, undertake technical assessments and issue engineering certificates is contained in Vehicle standards information (VSI) No. 15 *Engineering Signatories*.

The RTA also maintains a list of 'Restricted' engineering signatories who have specialised skills and are able to certify vehicles manufactured or modified by themselves or under their personal supervision. VSI No. 2 *Restricted Signatories* and contains some signatories who specialise in the modification of vehicles for people with disabilities. VSIs No's. 2 and 15 can be obtained from any RTA Motor Registry.

### and secondly by:

- Evaluation of the modifications by the Department of Transport and Regional Services (DOTARS). This method is suitable for manufacturers who carry out identical modifications to a number of vehicles and approval by DOTARS allows either a second manufacturer or low volume "compliance plate" to be fitted to the modified vehicle. For more information about vehicle certifications and compliance plates you should contact:

Administrator of Vehicle Standards, Department of Transport and Regional Services,  
GPO Box 594, Canberra, ACT 2601, T (02) 6274 7111

## Importing a vehicle specially designed for people with disabilities

If you wish to import a vehicle from overseas that suits your special needs, you must first obtain written approval from DOTARS. You may contact DOTARS at the address provided above or you can contact the Client Operations Section, T 6274 7506.

## Changing over a vehicle

Vehicles driven by people with disabilities are often specially modified to meet that person's specific disability requirements and physical capabilities.

Even if the original vehicle will be used by a person with similar disabilities, the modifications on the vehicle will most likely not be suitable for use by the new owner. Therefore, when vehicles are changed over, the vehicle should be returned to standard configuration. For example, where steering or braking effort are reduced significantly, these systems should be returned to original prior to disposal of the vehicle.

Modifications for occupants with disabilities may be transferred to the replacement vehicle but remember that if the modifications were of a nature that previously required engineering certification, then re-certification of the installation in the replacement vehicle will be required.

## Some guidelines for vehicles used by people with disabilities

### **Vehicles driven by driver's with leg disabilities**

If the vehicle is fitted with automatic transmission and the accelerator and brake can be operated with the right leg, or both legs (one to each control), adjustments may not be required. However, for left leg operation only, the accelerator should be fitted to the left of the footbrake.

A vehicle with a manual transmission is not recommended unless the driver has mobility in the hip, knee and ankles of both legs and retains the normal function of both arms and hands.

When neither leg can be used, hand controls should be fitted. Australian Standard AS 3954-1991 Parts 1 and 2 *Motor Vehicle Controls - Adaptive Systems for People with Disabilities*, gives detailed requirements for hand controls and pedal modifications.

### **Vehicles driven by driver's with arm disabilities**

If the vehicle has a manual transmission, the driver must be able to use both arms, retain good upper limb function and dexterity in both hands.

The use of one arm may be sufficient to drive a vehicle with automatic transmission, but the driver must be able to reach and operate all the controls (extensions to the controls may be required). A steering wheel spinner knob is required and power steering is recommended.

### **Vehicles driven by driver's with neck or head disabilities**

If the driver has restriction to head rotation, an external mirror should be fitted to each side of the vehicle to improve rear and side vision. An alternative internal mirror which provides a wider field of view might also be required.

## Wheelchair occupants in motor vehicles

Wheelchair occupant restraint systems can give protection in most accidents if they are properly installed and worn correctly. However in general, wheelchairs are not well suited to the requirements of vehicle seating and the safety of passengers is best assured by the use of normal passenger seats and seat belts. Wheelchair occupants should transfer to passenger seats in vehicles and use the seat belt provided whenever that is practicable. Unoccupied wheelchairs should be restrained.

Effective restraint for people occupying wheelchairs requires the wheelchair to be secured and the occupant restrained by a seat belt which itself is secured to the vehicle.

Australian Standard AS2942-1994 gives detailed requirements for restraining wheelchairs and occupants in motor vehicles.

It is recommended that vehicles which carry people in wheelchairs be fitted with a fire extinguisher (dry chemical type) complying with Australian Standard, AS 1841.5-2007 *Portable Fire Extinguishers - Powder Type*, with a minimum capacity of 2.5 kilograms. Australian Standard AS2444-2001, *Portable Fire Extinguishers - Selection and Location*, gives more information about installing fire extinguishers. In addition, the NSW Fire Brigade highly recommends that a fire blanket manufactured to the requirements of AS/NZS 3504:2006 *Fire Blankets* be carried in the vehicle as a means of smothering a fire. The smallest size recommended is 1 metre x 1.8 metres to provide adequate protection for the person.

Vehicles providing rear access for wheelchairs should be equipped with clearly visible hazard warning lights to alert drivers of vehicles approaching from behind during loading and unloading of any wheelchair/s.

When a vehicle is driven by a person who is a wheelchair user and is the only person in the vehicle, it is recommended that communication equipment such as a mobile telephone or 2-way radio equipment be carried for the purpose of contacting help in the event of a breakdown or an emergency.

## Vehicle mounted hoists and ramps for people with disabilities

Manufacturers and installers of this type of equipment should be aware of the requirements of Australian Standard AS/NZS 3856-1998 Parts 1 and 2, *Hoists and ramps for people with disabilities - Vehicle Mounted*.

Sometimes the installation of this equipment necessitates removal or modification of part of the vehicle structure, typically providing another access door for wheelchair occupants when a wheelchair hoist is fitted. In such cases where the structure of the vehicle is altered, an engineering certificate covering the modifications will be required for registration of the vehicle.

Often, buses are modified in this manner and in such cases, care should be taken not to negate the proper functioning of any emergency exit required under the Road Transport (Vehicle Registration) Regulation 2007 or the Australian Design Rules.

## Restraint of children with disabilities in motor vehicles

Australian Standard/New Zealand Standard AS/NZS 4370:1996 sets out options for restraining a child with one or more disabilities while travelling in a motor vehicle, to minimize the risk of bodily injury in an impact.

## Who can supply the special equipment I need?

The driver assessment and training centres shown below maintain lists of suppliers of equipment and the companies who modify vehicles for people with disabilities. You should contact them for this advice. Most of the associations such as Spinal Cord Injuries Australia T (02) 9661 8855, the Amputee Association of Sydney Inc. T (02) 9630 1194, and the Paraplegic and Quadriplegic Association of NSW T (02) 8741 5600, will also be able to help you with this advice.

If you have specialised needs, Technical Aid to the Disabled, a volunteer organisation operating in NSW (Ryde) and other states may be able to offer their advice and assistance. The telephone number is (02) 9808 2022.

## Contact details for additional information

### Vehicle construction requirements

Roads and Traffic Authority; see 'Further enquiries' below.

### Driver licensing enquiries

Roads and Traffic Authority, Level 9, 260 Elizabeth Street, SURRY HILLS, NSW 2010, T 13 22 13

### Driver assessment and training

Cumberland Health and Research Centre, Driving Rehabilitation Section, East Street (PO Box 170), Lidcombe, NSW 2141, T (02) 9351 9282

Royal Rehabilitation Centre Sydney, Coorabel Driving Centre, 227 Morrison Road, Ryde, NSW 2112, T (02) 9807 1144

Commonwealth Rehabilitation Service, Suite 5, 32A Oxford Street, Darlinghurst, NSW 2010, T 1800 277 277

Australian Association of Occupational Therapists - NSW, Unit 20, 8 Avenue of Americas, Newington, NSW 2112, T (02) 9648 3225

For the location of driver assessment and training in country areas, you should contact the Cumberland Health and Research Centre or the Australian Association of Occupational Therapists listed above.



**For further enquiries:**



RTA Technical Enquiries, PO Box 1120, Parramatta NSW 2124



1300 137 302



02 9843 3821



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