



## Vehicle Standards Guide (VSG-12)

### Truck-mounted attenuators

#### Purpose

This guide provides advice to heavy motor vehicle owners, operators and modifiers about the fitting and use of truck-mounted attenuators (TMAs).

#### Introduction

The use of TMAs in the road construction and maintenance, traffic control and incident response sectors has steadily increased and is now a regular part of ensuring the safety of those working on and near roads.

However, fitting attenuator units can result in a vehicle exceeding dimension limits for rear overhang and overall length when deployed. To ensure attenuators units are fitted and used safely and effectively, the National Heavy Vehicle Regulator (NHVR) has issued the *National Heavy Vehicle Standards (Truck-mounted attenuator) Exemption Notice 2017 (No. 1)* (the Notice) to provide the necessary exemptions from the *Heavy Vehicle (Vehicle Standards) National Regulation* (heavy vehicle safety standards).

#### Fitting an attenuator unit

Fitting of an attenuator unit to a vehicle is a modification under the *Heavy Vehicle National Law* (HVNL) and requires approval by a suitably qualified approved vehicle examiner (AVE). As fitting an attenuator unit results in the vehicle being configured in a way that can exceed dimension limits, an exemption is required before the modification can be assessed and approved. An AVE can approve this modification if it complies with the conditions of the Notice. Depending on what is required to fit the attenuator unit, there may be a number of modifications that require approval, including:

#### Fitting a body

Generally, the fitting of an attenuator is approved under *Vehicle Standards Bulletin 6: National Code of Practice for Heavy Vehicle Modifications (VSB6) Modification Code J1 Body Fitment*). When designing the installation, it is important to take into account the position of the attenuator unit on the vehicle and ensure when the unit is deployed:

- in any position, the minimum front axle load is suitable to allow effective steering and braking

As a guide, the Performance Based Standards (PBS) *Steer tyre friction demand standard* may be referenced about suitable steer axle loading.

- the mounting location of the unit on the vehicle does not result in the vehicle becoming unstable or unsafe
- lighting, reflectors and rear marking plates required by the heavy vehicle safety standards must be fitted to the rear of the unit/vehicle so the vehicle complies both when the unit is stowed (raised) and deployed (lowered).

#### Chassis modifications

If the installation of the attenuator unit requires any modifications to the vehicle's chassis, including drilling of holes or installation of additional cross members, these modifications must be carried out and certified in accordance with VSB6 Modification Code H4 *Chassis Frame Alteration*.

#### Brake modifications

Many TMAs are fitted with an automated braking system that, in the event of an impact with the rear of the attenuator, will apply the vehicle's brakes. Fitting of this secondary method of applying the vehicle's brakes must be carried out and certified in accordance with VSB6 Modification Code G6 *Fitting of air operated accessories*.

#### Vehicle dimensions

When designing the installation of a TMA, it is important that it complies with the dimension limits set out in the Notice. When the attenuator unit is stowed (raised), the vehicle must comply with all regulation dimension requirements. When deployed (lowered), a vehicle may have a rear overhang of up to 6.5 m and may be up to 14 m in overall length.

#### Warning light

A vehicle fitted with an attenuator must be fitted with a flashing warning light to ensure other road users can readily identify the vehicle. A warning light must:

- be visible for at least 500m in all directions. If it is not possible to achieve this with one flashing light, additional flashing lights must be used until the 500m visibility requirement is met
- the light must emit a yellow light in a rotating and flashing effect
- flash at between 120 and 200 times each minute
- have a power of at least 24W for LED technology or 55W for another other type of light
- not be a strobe light.

## Warning pattern

To ensure the attenuator unit is easily seen, the Notice requires that it be fitted with a warning pattern on both sides and the rear (in the deployed configuration). This pattern must cover an area of at least 0.16m<sup>2</sup> and have diagonal stripes that are at least 100mm wide alternately coloured either red and white, black and yellow or black and white.



Figure 1. Examples of warning patterns

If reflective material is used in the warning pattern, the colour of reflectors used must comply with the heavy vehicle safety standards:

- only yellow reflective material may be fitted to the side of a vehicle.
- only red reflective material may be fitted to the rear of a heavy vehicle.

## Using an attenuator

The attenuator may only be deployed when the vehicle is actively engaged in road construction, repair or maintenance, traffic control operations or road incident response. At all other times when the vehicle is on a road, the attenuator must be in the stowed position and comply with all dimension requirements.

When the attenuator is deployed, the flashing warning light/s must be switched on.

If the vehicle is driven on a road while the attenuator is deployed, an access authority may be required. The operator of the vehicle should ensure that any necessary access authorities have been obtained prior to using the vehicle on a road.

## Conflict with other instruments

Previously, state and territory transport authorities from New South Wales, Queensland, Victoria and Western Australia developed the *National Guidelines for the use of truck and trailer mounted attenuators (TMA's)*. These guidelines acknowledge that a requirement of the guidelines may be inconsistent with a state or territory law.

Where a requirement of the guidelines is inconsistent with the Notice or HVNL, the Notice and HVNL are to apply.

## Complying with the Heavy Vehicle National Law

The operator of a heavy vehicle must ensure that their vehicle complies with the *Australian Design Rules (ADRs)*, *Heavy Vehicle National Law* and heavy vehicle safety standards. Using or permitting another person to use a defective heavy vehicle, or a heavy vehicle with unapproved modifications on a road is an offence.

Penalties can include on-the-spot fines or prosecution. Formal warnings or a defect notice may also be issued. For more information see the *Heavy vehicle defects—Compliance and enforcement bulletin* at [www.nhvr.gov.au/ce-bulletins](http://www.nhvr.gov.au/ce-bulletins)

### About the NHVR

The NHVR has a dedicated Vehicle Standards team to help with modification applications and advise on any technical aspects.

#### For more information:

Email: [vehiclestandards@nhvr.gov.au](mailto:vehiclestandards@nhvr.gov.au)

Visit: [www.nhvr.gov.au/hvmodifications](http://www.nhvr.gov.au/hvmodifications)

Subscribe: [www.nhvr.gov.au/subscribe](http://www.nhvr.gov.au/subscribe)

Fax: 07 3309 8777

Post: PO Box 492, Fortitude Valley QLD 4006

Phone: 1300 MYNHVR\* (1300 696 487)

\*Standard 1300 call charges apply. Please check with your phone provider

**Please note:** While every attempt has been made to ensure the accuracy of the content of this Vehicle Standards Guide, it should not be relied upon as legal advice.



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