

Vehicle Standards Information – No.31

Guide on fitting ladder racks to light vehicles

Roads and Maritime Services | January 2019

Purpose

This Vehicle Standards Information (VSI) No. 31 is intended as a general guide to the safety and legal requirements that apply to fitting a ladder rack to the front of a light motor vehicle.

Introduction

A ladder rack is an assembly mounted on a vehicle's front bumper or bull bar/nudge bar, comprising two vertical members (posts), and a horizontal member (bar) spanning the posts, that is used to support the front end of a load fitted longitudinally along the vehicle's length.

Note: Ladder racks are also known by a variety of terms, including plumbers' racks, builders' racks and H-racks. A typical ladder rack is shown in Figure 1.

Ladder racks fitted to vehicles must not cause danger to any person, and the vehicle must continue to comply with applicable vehicle standards. Care must be taken when using the ladder rack to ensure it does not overload the vehicle or affect its handling.



Figure 1: Typical example of a ladder rack fitted to a utility

General requirements

DESIGN AND FITTING

The ladder rack and vehicle must be compatible, and a ladder rack should be designed and manufactured for the vehicle model to which it is fitted. In particular, the mounting structure must be able to support the fully loaded ladder rack; and the fully loaded ladder rack does not overload the vehicle's front axle.

Information stating a ladder rack's compatibility with a vehicle model should be available at the point of purchase. Mounting instructions should also be provided with the ladder rack, along with the mass of the ladder rack and the maximum load the ladder rack can support; this may be provided by indelible markings or labels fixed in a prominent position.

There are a number of specific requirements that must be observed when fitting a ladder rack to a vehicle, including:

- The ladder rack must be designed, built and fitted to the vehicle in a way that minimises the likelihood of injury to a person making contact with the vehicle.
- There must be no pointed or sharp edges.
- To meet these requirements, the components should be fabricated from cylindrical sections and be free of burrs.
- The ladder rack must be installed in accordance with the manufacturer's instructions.
- The ladder rack must be mounted, either directly or on brackets, on or behind the supporting bumper or bull bar/nudge bar. No part of the ladder rack or brackets can extend beyond the bumper or bull bar/nudge bar.
- Brackets connecting the ladder rack to the vehicle should not protrude above the top of the bumper or bull bar/nudge bar.
- The ladder rack must be properly secured to the mounting structure.
- The ladder rack must be fitted to ensure the driver has a clear view of the road ahead as far as reasonably practicable.
- The ladder rack must not obscure the vehicle's front number-plate; refer to Vehicle Standard Information 58 *Number-plate visibility* for more information.

USE

Ladder racks are typically used to carry relatively light loads on vehicles like utilities rather than in packing them in larger, heavier vehicles. It is important to ensure the load can be safely carried on the ladder rack, and there are a number of precautions that should be observed to help ensure the task does not create a road safety risk to the vehicle's occupants and other road users. It is particularly important that the mass and overall length of the load is known, as this will determine whether the ladder rack can be used, and how the load is to be placed and supported.

- The ladder rack must be capable of safely supporting the load placed on it.
- The combined mass of the load and the ladder rack must not overload the vehicle's front axle, and must not overload the vehicle.
Note: Details of a vehicle's overall load carrying capacity and the load distribution on the different axles should be in the user's manual or from the vehicle manufacturer.
- The load must not project more than 1.2 metres in front of the vehicle's headlights.
- The load must be securely attached to the ladder rack and other supporting devices fitted to the vehicle (e.g. roof bars).
- The load must be arranged so it does not prevent the driver from safely driving or controlling the vehicle.

NB If the ladder rack or vehicle do not meet any of these requirements, an alternative means must be used to transport the load.

Ladder racks that are not permanently fixed to the vehicle should be removed when they are not being used to transport a load. If the ladder rack is removed, the vehicle must not be used if a bracket protrudes above the top of the bumper or bull bar/nudge bar.

Penalties may apply if:

- The ladder rack does not meet the specifications outlined above.
- The vehicle is used contrary to the safety requirements outlined above.

FURTHER INFORMATION

- Information about vehicle construction and registration requirements in NSW can be accessed by calling Roads and Maritime Technical Enquiries on 1300 137 302.

Contact us

If you have any questions or would like more on the Roads and Maritime Technical Enquiries:



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