Vehicle Standards Guide
(VSG-18)

Low friction plates on fifth wheels and skid plates

This guide provides advice to heavy motor vehicle owners, operators and modifiers about the installation of low friction plates to the fifth wheel or skid plate of heavy vehicles.

Introduction

In place of using grease on the upper surface of a fifth wheel coupling or on the skid plate of a semitrailer, some vehicle operators have adopted the use of low friction plates made from a synthetic material such as teflon.

While these types of plates are acceptable for use, and are available either as a genuine option from the coupling manufacturer or as an aftermarket fitting, incorrect fitting can have serious impacts on the integrity, functioning and safety of the coupling.

Installation requirements

When fitting or replacing a low friction plate there are a number of items that must be considered:

Drilling or machining of fifth wheels

In most cases, a fifth wheel has to be specifically designed and manufactured to be able to accommodate a low friction plate, either by including mounting holes or recesses on the upper surface intended to house the plate.

The installation of a low friction plate must not involve any drilling or machining of any fifth wheel component, unless:

- this is permitted by the fifth wheel manufacturer; or
- the fifth wheel has been re-tested and certified with the additional holes or recesses added to show compliance with Australian Design Rule (ADR) 62/... .

Certification of a fifth wheel requires extensive amounts of design and testing to ensure compliance with the strength and reliability requirements of ADR 62/... . Any modification, such as drilling ormachining, would invalidate the ADR62/... compliance and result in the coupling no longer being suitable for use on a road vehicle.

Spacing between fifth wheel, skid plate and kingpin

The dimensions of a fifth wheel, kingpin and skid plate are all set under AS4968 to ensure that all parts of the coupling are compatible and that the kingpin and fifth wheel (locking jaws) correctly engage.

Before installing a low friction plate to a fifth wheel, ensure the following are considered:

- The dimensions of the fifth wheel will meet the requirements of AS4968 with the low friction plates installed.
- The fifth wheel (once modified) meets the requirements of ADR 62/... . This is likely to be achieved through a Sub-Assembly Registration Number (SARN) or engineering report.

Before installing a low friction plate to a skid plate of a trailer, ensure the following are considered:

- The kingpin is highly likely to require re-positioning to continue to comply with the dimensional requirements of AS4968.
- Where the kingpin is re-positioned, the kingpin and its mounting must continue to comply with the requirements of ADR 62/..., which may require testing or advice from the kingpin manufacturer.

Where these modifications are performed, they must be performed in accordance with VS6 Modification Code P2.

Complying with the Heavy Vehicle National Law

The operator of a heavy vehicle must ensure that their vehicle complies with the 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

For more information about vehicle dimension limits, see the National heavy vehicle mass and dimension limits information sheet at www.nhvr.gov.au/road-access/mass-dimension-and-loading