

Vehicle Standards Information 16

October 2021

Tyre maintenance and repair

This Vehicle Standards Information sheet provides guidance on good tyre maintenance, and outlines the requirements associated with tyre repair.

This information sheet applies to vehicles with a Gross Vehicle Mass (GVM) of 4.5 tonne or less. For heavy vehicle requirements please refer to the National Heavy Vehicle Regulator website at nhvr.gov.au

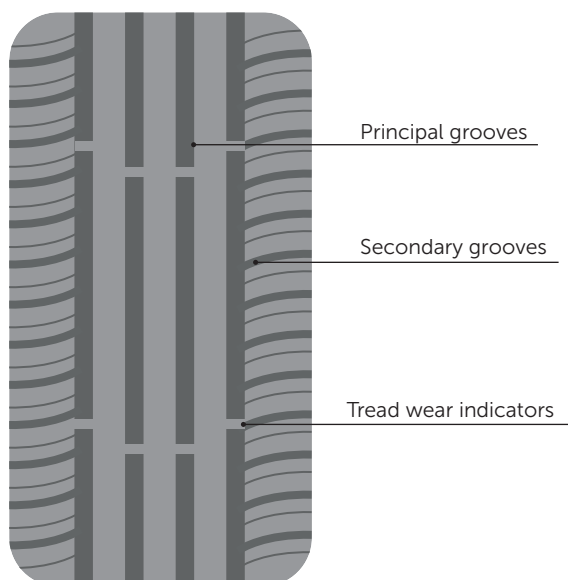


Figure 1: key features of a typical tyre tread pattern

Introduction

Tyres are the only contact points of a vehicle with the roadway and are one of the most important components in keeping the occupants of a vehicle safe. In the event of emergency braking, steering, or cornering to avoid potential collisions, the handling and traction provided by the tyres will play a large role in the eventual result. Therefore, it is essential to maintain your tyres and check them regularly as they have a critical role in road safety.

Requirements

All tyres fitted to the road wheels of a vehicle, must be of a type constructed and certified for normal road use. Except at the tread wear indicators, tyres must have a minimum tread depth of 1.5mm in all principal grooves.

The **principal grooves** are the wide grooves that are usually positioned in the central zone of the tyre but may run across the tread.

Tread wear indicators are usually located in the principal grooves of the tyre and indicate the degree of tyre tread wear. Where tread wear indicators are provided, the tread must not be worn to the extent that any tread wear indicator contacts the road surface.

A tyre is not unroadworthy if there is less than 1.5mm of tread in the **secondary grooves**, which are typically shallower than the principal grooves. Figure 1 highlights some key features of a typical tyre tread pattern.

A tyre must not have excessive uneven wear across its width.

Tyres manufactured as "Run Flat" must be fitted to an EH2 or EH2+ rim to ensure that the tyre operates safely. Run flat tyres must only be fitted to vehicles fitted with a functioning tyre pressure monitoring system, or similar warning system, which provides an alarm to the driver as there is little or no tell-tale that these tyres have deflated until the tyre suffers structural failure.

Maintenance

The tyre pressure should be regularly checked and adjusted to the recommended pressure as necessary. The valve cap, which protects the valve body from debris, must be firmly screwed on to the valve after checking and adjusting the tyre pressures. The tyres should also be checked to ensure they are free from any deep cuts, cracks, bulges or any other damage or defects likely to cause failure of the tyre. Any tyre with this type of damage or deterioration must be removed from the vehicle.

Tyre inflation kits

Many vehicles are fitted with tyre inflation kits in place of a spare tyre. These kits use a sealant to patch a leaking tyre and are typically for emergency use only. Tyre inflation kits must only be used in compliance with the manufacturer's instructions.

Repairs to tyres

In order to ensure that tyres are repaired correctly and continue to be considered roadworthy, the repair procedure adopted by the Tyre and Rim Association of Australia should be followed.

Tyres which have tread or casing separation or other damage such as broken, kinked or exposed bead wires, or cracks or cuts which extend into the tyre fabric should not be repaired.

Repairs are only allowed in the crown area of the tyre as illustrated by the unshaded area in Figure 2. Repairs are not permitted in the bead, sidewall or shoulder area of the tyre.

In order to carry out a satisfactory permanent repair, the tyre must be removed from the rim as this is the only way to adequately assess the condition of the tyre. The tyre must be carefully examined for any damage or faults which would make it unsafe for further use.

The tyre must be free of signs of delamination, pinching, internal separation or any other sign of failure.

If the tyre is suitable for repair, the area to be repaired must then be properly prepared on the inside of the tyre and an appropriate patch or mushroom headed plug installed, and vulcanised from the inside. In all repairs, external damage must be properly sealed to prevent moisture and contaminants from entering the structure of the tyre carcass.

Repair of punctures in tubeless tyres by insertion of plugs or loops of adhesive, or sealant impregnated cord, without removing the tyre from the rim is not a satisfactory procedure. This method is acceptable only as an emergency repair in exceptional circumstances to enable the vehicle to be driven to a service centre, where proper repairs can be made.

Tyres marked with "Do not repair" must not be repaired.

Run flat tyres may have additional restrictions placed on repair which can affect the capacity to repair the tyre. It is recommended that you contact the tyre manufacturer prior to repairing a run flat tyre.

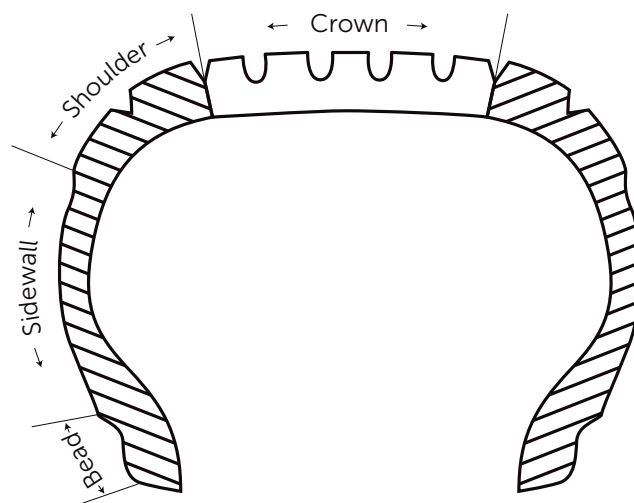


Figure 2: cross section of a tyre

If you have any doubt regarding the condition of the tyres on your vehicle or doubts regarding the quality of repairs you should contact a reputable tyre dealer where the tyres can be examined and if necessary correctly repaired or replaced.

For further information

Further information is available on the VicRoads website: vicroads.vic.gov.au or by calling VicRoads on **13 11 71** (TTY **13 36 77**, Speak and Listen **1300 555 727**).