

Rolling Right

Essential Tyre Tips

Tyres are the only point of contact between a vehicle and the road, making their performance vital to vehicle safety roadworthiness^{1, 2}.

While advancements in tyre technology, have improved safety and durability, poor tyre maintenance remains a significant risk factor—not just for drivers but for everyone sharing the road². A recent report from National Transport Insurance revealed that tyre-related issues accounted for 59% of the recorded mechanical failures³.

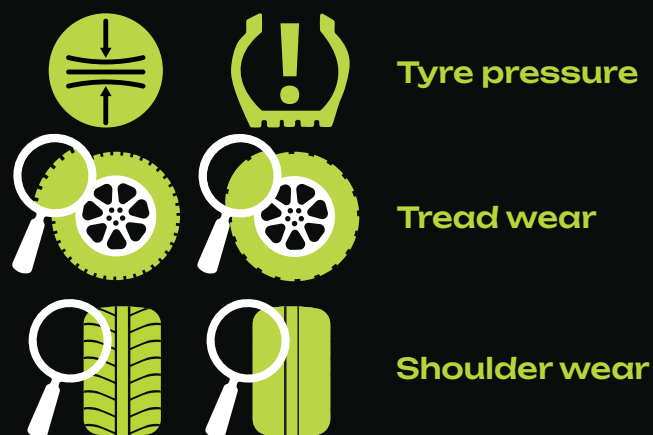


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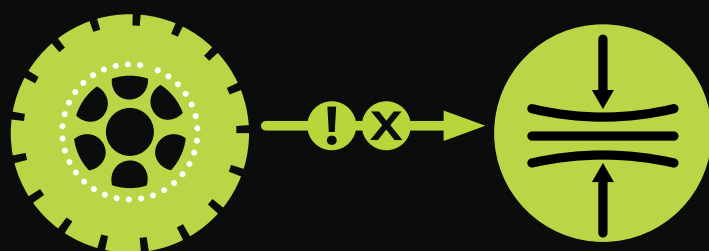
The original set of tyres, including the spare, is carefully selected through collaboration between vehicle and tyre manufacturers to ensure optimal handling and performance. Any changes in tyre size or type should strictly follow the manufacturer's guidelines to avoid compromising vehicle safety⁴. It's important to note that tyres have a finite lifespan, independent of their wear. As tyres age, the rubber deteriorates, reducing grip and traction. Manufacturers recommend replacing tyres once they reach 10 years of age, regardless of mileage or visual condition⁵.

Three key tyre maintenance aspects that require attention of all drivers and operators are:



Tyre Pressure

Tyre failure or improper performance significantly impairs vehicle control, leading to property damage, personal injury, or even fatalities.



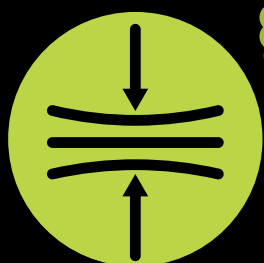
One of the most common causes of tyre failure is improper tyre pressure⁶.

A tyre's primary function is to maintain the correct air pressure within its structure.



Under-inflation prevents the tyre from functioning optimally, leading to rapid tread shoulder wear, increased fuel consumption, and compromised braking and steering performance⁴. Conversely, over-inflation can reduce traction—especially in wet conditions—and cause uneven tread wear⁷.

Checking tyre pressure is quick and simple. In just 5 minutes a week, you can ensure your tyres are properly inflated with just three easy steps⁸:



1. Check the recommended tyre pressure:

This information is typically located on the driver's side door frame, inside the fuel door, in the glove box, or in the car's manual. If you can't find it, consult your vehicle manufacturer or a qualified tyre expert.



2. Measure the tyre pressure:

Use an automatic air compressor or a tyre pressure gauge. Many petrol stations have automatic inflation machines that allow you to check and adjust tyre pressure. It's best to check and inflate tyres when they are cold, or at least 3 hours after the vehicle has been parked.

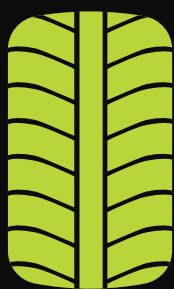


3. Inflate the tyres:

Using a tyre inflation machine, set the correct pressure (either in kPa or PSI), attach the hose, and the tyre will inflate automatically.

Tyre Tread

The tread on a tyre is essential for providing traction, enabling effective braking and steering—two crucial vehicle functions.



8mm

New tyres typically start with a tread depth of about 8mm.



As the tread wears down, the tyre's ability to expel water decreases, increasing braking distance and reducing safety^{9, 10}.

In Australia, tyres with a tread depth below 1.5mm are considered illegal and are commonly referred to as "bald tyres"—a sign of poor vehicle maintenance¹¹.

To measure the tread depth, you can use wear indicators, a tyre tread depth gauge, or the 20c test. Once the tread reaches the legal limit, the wear indicators will be flush with the tyre's surface, signalling it is time to replace the tyres to maintain road safety⁹.

Shoulder wear

Shoulder wear, often overlooked, indicates uneven contact with the road and may point to more serious mechanical issues. This type of wear is commonly caused by under-inflation or aggressive driving and often suggests poor alignment. It can also be linked to one-sided wear, which typically signals suspension problems^{12, 13}. Regular checks for shoulder wear are essential for maintaining optimal vehicle performance and preventing costly repairs^{12, 13}.



Recommendations

As a driver

- **Inspect Tyres Before Driving:** Check tyre condition for visible damage and ensure tyre pressure is at the recommended level.
- **Drive Smoothly:** Maintain a consistent speed and avoid rapid acceleration to reduce unnecessary wear and tear on tyres.
- **Choose the Right Tyres for the Road:** If driving long distances on unsealed roads, make sure your vehicle is equipped with tyres designed for such conditions.
- **Don't Forget the Spare Tyre:** Regularly check the spare tyre to ensure it is in good condition and ready for use in an emergency.
- **Use Repair Kits Responsibly:** Tyre repair and puncture kits should only be used as temporary solutions for minor issues. Have a professional inspect and repair the tyre as soon as possible.



As a manager

- **Train Drivers:** Provide training on performing quick visual tyre checks before each journey.
- **Include Tyre Checks in Pre-Start Inspections:** Ensure that drivers incorporate tyre inspections into their routine vehicle safety checks.
- **Plan for Seasonal Changes:** Take weather and road conditions of the upcoming season into account during vehicle servicing.
- **Monitor Tyre Age:** Keep a record of the age of each tyre and replace them as needed, even if they appear to be in good condition.
- **Schedule Regular Tyre Maintenance:** Implement routine checks for all vehicle tyres (including spares) and ensure proper maintenance, including the following best practices^{14, 15}:
 - Rotate tyres regularly to promote even wear.
 - Maintain correct tyre inflation levels.
 - Monitor tyre age and replace old tyres proactively.
 - Ensure professional wheel alignment and balancing.
 - Verify that tyre treads match, especially on the same axle.

