








CLASSIFICATION OF TYPICAL TYRE DAMAGE

<p>Centre Wear</p>  <p>Causes</p> <ul style="list-style-type: none"> ●Overinflation ●Improper matching of tyres and rims ●Rotate tyres unperiodically 	<p>Shoulder Wear</p>  <p>Causes</p> <ul style="list-style-type: none"> ●Underinflation and / or overload ●Improper matching of tyres and rims ●Rotate tyres unperiodically 	<p>One-sided Wear</p>  <p>Causes</p> <ul style="list-style-type: none"> ●Improper wheel alignment (especially faulty toe-in) ●Rotate tyres unperiodically ●Overload
<p>Heel and Toe Wear</p>  <p>Causes</p> <ul style="list-style-type: none"> ●Underinflation and / or overload ●Rotate tyres unperiodically 	<p>Tread Cut (Through)</p>  <p>Causes</p> <ul style="list-style-type: none"> ●Obstacles such as sharp stones, pieces of glass, nails, screws, steel plates, etc 	<p>Side Cut (Through)</p>  <p>Causes</p> <ul style="list-style-type: none"> ●Sharp objects such as nails, sharp stones, pieces of glass, metal, etc. ●Tyres are more likely to suffer cut under improper air pressure and overload
<p>CBU (Cord Broken Up)</p>  <p>Causes</p> <ul style="list-style-type: none"> ●Excessive distortion or pinching between object and wheel (tyre) ●Hard hit against the object ●Low aspect ratio tyre is more likely to CBU 	<p>Checking / Side Crack</p>  <p>Causes</p> <ul style="list-style-type: none"> ●Excessive deformation in shoulders and sidewalls due to underinflation and / or overload ●Rubber deterioration due to chemicals (such as cosmetic wax), oil and ozone 	<p>Run Flat</p>  <p>Causes</p> <ul style="list-style-type: none"> ●Continuous run after puncture ●Excessive underinflation (close to a flat condition)

Tyre Safety Information



Check your tyres once a month to maintain safety and comfort when driving!

- TYRE CHECK POINTS**
- Maintain correct inflation pressure
 - Inspect tread grooves to ensure tyres are safe and legal
 - Visually check tyre failures and damage

Contents

- 1 Basic Tyre Information 3P**
- 2 Correct Inflation Pressure? 4P/5P**
- 3 Sufficient Tread Grooves? 6P**
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4 Important Functions of Tyres

Supporting the weight of your vehicle



Absorbing road shocks



Providing traction and braking



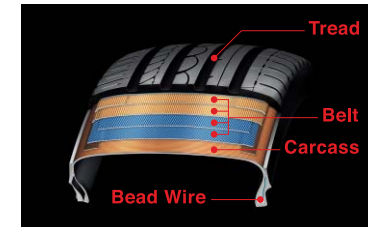
Changing and Maintaining direction of travel



Basic Tyre Information

The inside of the tyre is made of...

As illustrated, the tyre is not just rubber: it's a complicated mixture of steel cords and fibers.



The tyre size code tells you...

265 / 35 ZR 20 99 Y

① ② ③ ④ ⑤ ⑥

- ① Section Width (mm)
 - ② Aspect Ratio (%)
 - ③ Radial Construction
 - ④ Rim Diameter (inch)
 - ⑤ Load Index
 - ⑥ Speed Symbol
- *ZR: Speed Category Over 240km/h



●Load Index (LI)

The number 99 (775kg) indicates the maximum load carrying capacity. *For details, please contact a member of staff.

●Speed Symbol

The speed symbol indicates the permissible speed (max.speed = capacity), specified conditions.

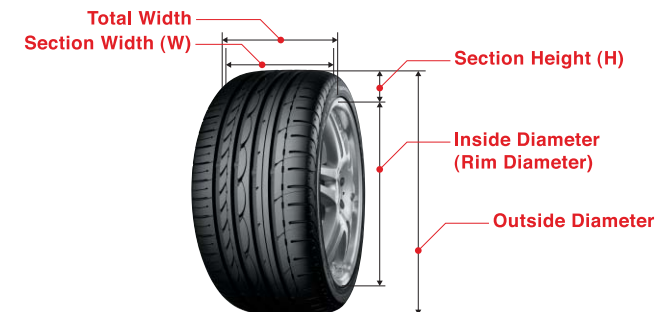
Speed Symbol	Q	R	S	T	H	V	W	Y
Max.speed (km/h)	160	170	180	190	210	240	270	300

●Aspect Ratio

The aspect ratio is the ratio of a tyre's section height (H) to its section width (W)
 Aspect ratio (%) = $H/W \times 100$

Measuring the size of a tyre...

The picture shows where the tyre is measured for the tyre size code.



Do you know that the tyre inflation pressure falls naturally by approximately 10-20kPa (0.1-0.2bar/1.5-3.0psi) a month? The inflation pressure leaks whether you use your car or not!

Negative Effects of Low Inflation Pressure!

1 Lowers Fuel Economy!

If the tyre pressure is only 155kPa (1.55bar, 22.5psi), 30% lower than the specified pressure of 220kPa (2.2bar, 31.9psi)...

a loss of fuel consumption is around 2%



2 Cause of Abnormal Wear!

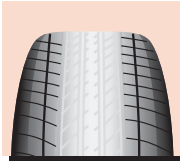
If the proper inflation pressure is not applied, abnormal wear, as shown below, may occur. In the worst case, the tyre could burst due to underinflation.

Shoulder Wear



If the inflation pressure is too low, it causes excessive wear on both sides of tread.

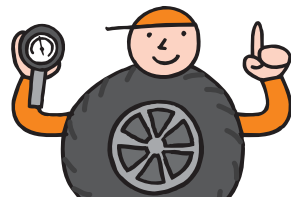
Centre Wear



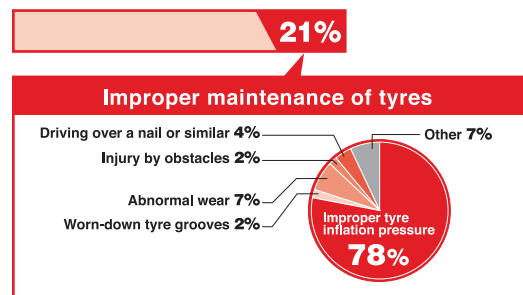
If the inflation pressure is too high, it causes excessive wear on the centre part of tread.

Lack of proper tyre maintenance (e.g. underinflation) causes problems!

About 21% of cars do not have properly maintained tyres. 78% of this is due to improper tyre inflation pressure*.



■ Survey results of improper car maintenance (2007)



*Source: JATMA

Check your tyre inflation pressure once a month!

How to check the inflation pressure

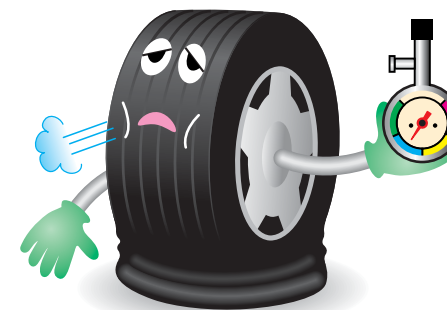
Remove the valve cap on the wheel, attach the inflation pressure gauge to the valve, pressing firmly to avoid escaping air, then check the number. Don't forget to put the valve cap back on when you have finished.

*Please check the valve base for damage and air leakage.

The recommended inflation pressure is written on a label stuck in one of these places inside the driver's door. You can also refer to the vehicle owner's manual for the recommended inflation pressure.

The inflation pressure should be measured when the tyre is cold. When driving, the temperature inside the tyre rises causing inflation to expand and the inflation pressure to increase. As a result, measurements taken immediately after driving will be inaccurate.

Go to a tyre shop when your tyres need to be inflated.



Worn tyres are a sign of danger. Tread grooves are vital for safe driving! Tread wear causes poor tyre performance and can lead to serious problems!

Any tyre can fail if it is used wrongly or if it is not maintained. Failures and damage to tyres can threaten safe driving!

Dangers of Using Worn Tyres!

1 Worn tyres need a longer stopping distance on wet roads!

According to JATMA* study

■ Comparison of the stopping distance of new tyres and worn tyres on wet surface.



At the same speed (80km/h) and from the same braking point, there is a difference of 10 metres!
*Japan Automobile Tire Manufacturers Association

2 Driving in the rain with worn tyres is very dangerous!

Driving fast on a wet road with worn tyres may lead to slipping (hydroplaning phenomenon).



Replace the tyre immediately when the tread wear indicator shows!

The Tread wear indicator appears when the tread has worn out to 1.6mm. Never use a tyre where even just one tread wear indicator is exposed.



Abnormal Wear

Shoulder Wear

If the inflation pressure is too low, it causes excessive wear on both sides of tread.



Centre Wear

If the inflation pressure is too high, it causes excessive wear on the centre part of tread.



One-side Wear

● Improper wheel alignment (especially faulty camber)
● Overloading

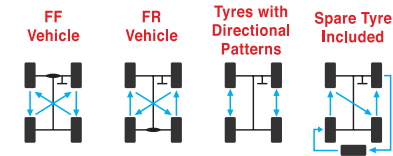


Advantages of Tyre Rotation

- Prevention of Uneven Tread Wear
- Extension of Tyre Service Life
- Averaging of Tyre Fatigue

Note: The front-wheel tyres of an FF vehicle wear two or three times faster than the rear-wheel tyres because the front-wheel tyres function for both driving and steering.

Example of Tyre Rotation



For longer tyre life, it is necessary to rotate your tyres periodically (after 5,000km for the first rotation and then every 10,000km).

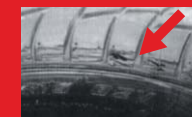
It is recommended that you change your tyre if tyre wear progress to an advanced stage!

Damage & Crack

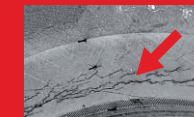
Side Cut



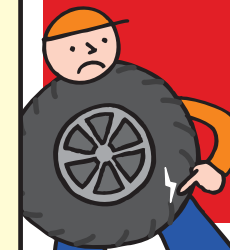
Scratching



Side Crack



Groove Crack



Causes

- Obstacles on the road
- Scratching into a curb or similar

Causes

- Underinflation and / or overload
- Growth of cuts
- Rubber deteriorations due to sun (UV rays) and heat
- Extreme load concentration due to running into a curb or similar

It is recommended that you change your tyres if damage or cracks appear!