

# Inflation Pressures

## Overview

Although an accurate overall guide to tyre inflation pressure is not possible, it is possible to give a basic overview of optimal tyre pressure based on vehicle weight (assuming the car is front engine, rear wheel drive). There are a number of factors which will alter the accuracy of the table below. For example, front-wheel drive cars, which place a much higher load on the front tyres, require a higher inflation pressure. Vehicles with independent rear suspension (IRS) can often run lower tyre pressures than non-IRS cars because they're able to control camber settings more closely.

## Inflation Pressures

Vehicle Weight	Cold Inflation Pressure	Hot Inflation Pressure
Less than 800kg	20 - 24psi	27 - 34psi
800kg - 1000kg	22 - 26psi	30 - 36psi
1000kg - 1200kg	24 - 28psi	33 - 38psi
1200kg - 1400kg	26 - 32psi	35 - 40psi
1400kg +	28 - 36psi	38 - 46psi

## Important Notes

As previously mentioned, the above table is intended for use only as a rough guide. Optimal inflation pressures differ from one car to another (even amongst FR vehicles), based on such factors as camber, IRS, and suspension type. Optimal pressures are often best determined by on-track performance and individual driver preference. Additionally, some tyre manufacturers (such as Hoosier) recommend that their tyres be inflated at higher than normal pressures because they're more suited to such conditions.

# Breaking In Tyres

## Overview

Breaking in new tyres is an effective procedure for increasing the competitive life of a tyre, although its initial benefits are not always noticeable. The break-in procedure can be summarised in two phases: the initial run, and the 'cure' time.

## The Initial Run

The purpose of the initial run is to gradually increase the temperature of the tyre to the point that the car is being run at optimal race temperature. This process should be undertaken over a period of 10-15 minutes, or over 3-5 laps (depending on track length). Ideally, each lap should be 2-5 seconds faster than the previous lap, while the final lap is the fastest possible. Wear-inducing driving, such as late breaking, wheel spin, or sliding should be avoided. During the initial run, tyre pressure should be set to between 3 and 5 psi higher than normal.

## The Cure Time

Following the initial run, the tyres should be left to cool down, or 'cure'. Preferably, tyres should be left for a minimum of 24 hours before being used again. The curing process can be stretched for as long as a week with continued benefits to a tyre's competitive life. For best results, tyres should be either removed, or the vehicle should be jacked up. The potential benefits to be gained from breaking in tyres are large, and can save time and money by reducing the frequency of tyre changes.

# Tyre Buffing

## Overview

Tyre buffing is a process of shaving a portion of tread off a tyre in order to gain increased traction in dry tarmac conditions. This works largely by removing tread 'blocks', which are the areas of rubber between tread grooves. When the tyre heats up, these tread blocks expand and the surface area of the tyre which contacts the road decreases (and consequently traction also decreases). Tread blocks also heat up faster and again reduce traction. This overall process is referred to as 'tread flex'.

## Advantages of Buffing

Tyre buffing minimises the problems associated with tread-flex by shaving the tread of a tyre until tread-flex is no longer a concern. The lower temperature which the tyre runs at decreases inflation pressure build up, and the absence of tread flex reduces irregular wear of the tyre shoulder.

## Disadvantages of Buffing

The major disadvantage of tyre buffing is significantly reduced handling capabilities in the wet. With no tread grooves, the risk of aquaplaning is greatly enhanced. For optimal wet weather, new tyres with maximum tread depth are recommended.