

# Tech 101 – Choosing the right tires

Kurt Ernst at 8:00 am |



Photo by [Tup Wanders](#).

Chances are good that most Hemmings readers own more than a single pair of shoes. Those with a passion for playing tennis understand that stepping onto the court in a pair of wing-tips will likely result in a sub-standard performance, and those who prefer ballroom dancing probably don't do so in a pair of steel-toed boots. Footwear tends to be rather narrowly focused these days, and the proper footwear can make all the difference in an athlete's performance. The same can be said of tires, yet most consumers only think about tires when it's time for a new set. Choosing the proper tire is far more important than choosing the proper pair of shoes, because to quote an oft-used advertising slogan, your life is riding on your tires.

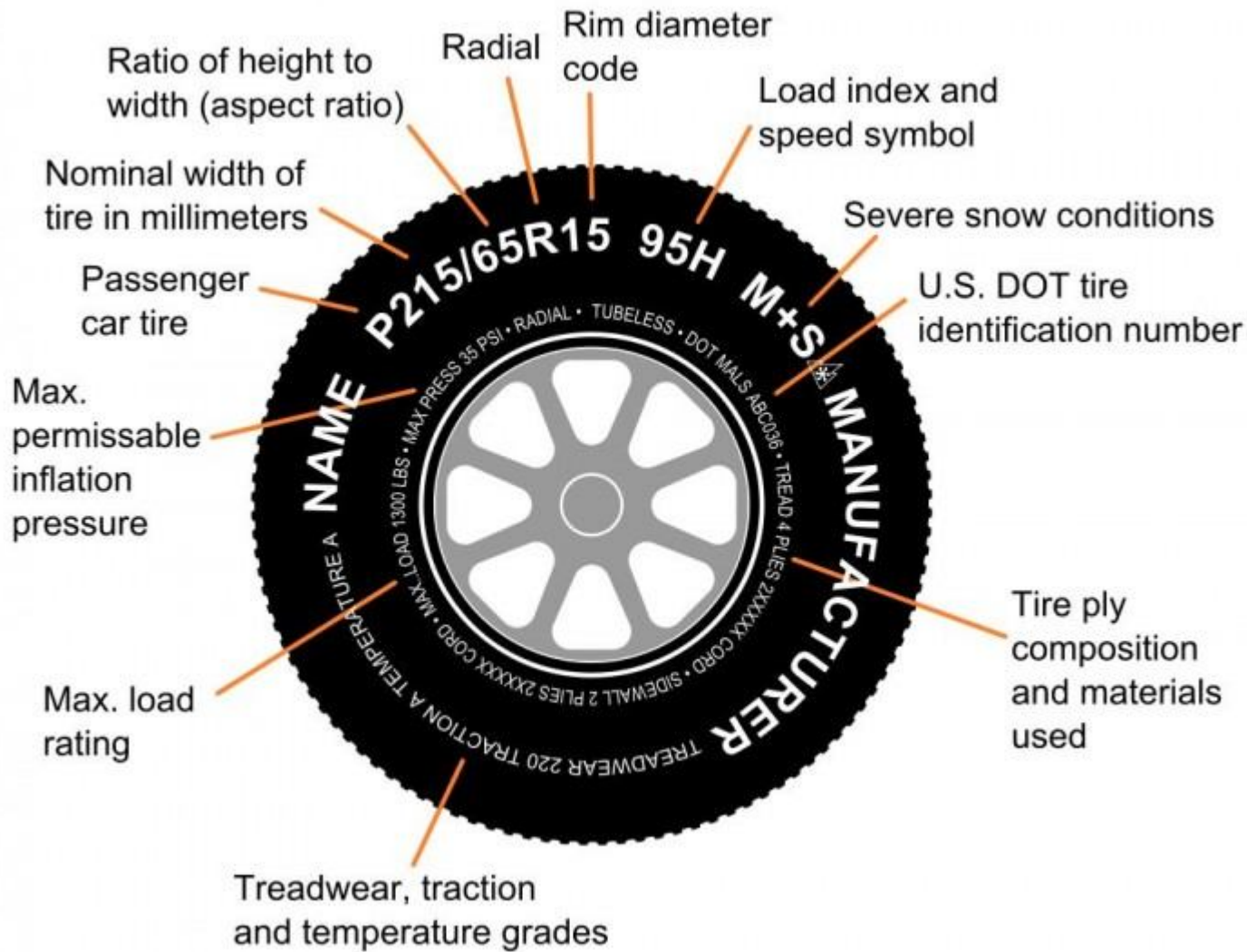
First, it's important to understand that every tire produced today is a compromise. Some favor grip and the ability to withstand extreme forces and heat loads over longevity, while others favor high mileage at the expense of traction. Season-specific winter tires can offer improved performance on snow and ice, at the expense of handling and feel in

warm, dry weather. The “all-season radial” has become the darling of the automotive industry, but it’s important to understand that just because a tire is certified to perform under a variety of conditions does not mean it will do so optimally.

Personally, I own three sets of tires (and to my wife’s dismay, three sets of wheels) for my own car. Currently, it rides on a set of high-performance winter tires, a brand and model of which I’ve used across several vehicles over a number of years. These give reasonable feel in cold weather, but greatly improved performance over stock all-season tires in snow and on ice. Thankfully, they’re durable as well, and chances are I’ll be able to get four or five seasons of use from them before it’s time for a new set. The wheels these tires are mounted on are two inches smaller in diameter than the car’s stock wheels (16 inches versus the stock 18 inches), which allows me to run a taller shoulder (a big plus on the pothole-laden roads of Vermont and New York). The tires are also narrower than stock, which gives them better bite in snow, at the expense of dry-weather grip.

The car’s stock tires are billed as high-performance all-season radials, but the emphasis is on longevity over grip. On the autocross course or on the track, these tires are the car’s biggest limit to good lap times (aside from the driver, of course), as they offer only marginal feel and limited lateral grip. On the plus side, they work reasonably well as street tires in wet weather and when temperatures plunge into the freezing range, and these tires and wheels are generally my “shoulder season” choice between fall and winter and between winter and spring. If I had to drive on snow or ice with them, I could do so with a reasonable amount of confidence, and it’s a safe bet they’ll deliver more mileage than a set of dedicated high-performance tires.

The summer tires that I prefer optimize grip at temperatures above 50 degrees, but are near-horrifying to drive when the temps drop below 40. The rubber compound used is designed to resist overheating at high speeds, and also softens noticeably when the tires get a bit of heat in them. As a result, they work extremely well on the track, on the autocross course and on the street in warmer temperatures. They even work well in the rain, but wouldn’t work at all on ice and snow. Most consumers would be horrified at their treadwear, as a set will only last for around 20,000 miles (or a few weekends at the track); admittedly, these are a guilty pleasure for those who relish the joys of a properly apexed corner.



*Tire code diagram. Illustration by [Flanker](#).*

The takeaway from this is that no one tire will precisely meet all needs. Those living where winter is a reality for a portion of the year (or in the case of 2014, perhaps the majority of the year) understand the benefit of winter tires, while those living in tropical climates like Florida understand that wet-weather performance may be the most critical thing to consider. Choosing the ideal tire, then, is a matter of selecting the one that best meets your expectations among a few key factors, including:

**Size.** If you're deviating from the manufacturer's recommended tread width and aspect ratio, are you doing so for a valid reason, and have you verified with an expert that the tire will function properly with the car's wheels and suspension components?

**Load Range.** Are you buying a tire designed to support the weight of your vehicle, passengers and cargo?

**Speed Rating.** If your car is capable of 150 MPH, and if you intend to reach this speed in a closed-course environment, are your tires rated appropriately? Ferrari and Goodyear were both named in a lawsuit stemming from a fatal accident at the Silver State Classic open road rally in Nevada, after a stock Goodyear tire on an entered Ferrari failed at a speed it was never designed to support. Never “under-tire” a car that will be used in competition of any kind.

**Treadwear Rating.** Though not linked to a tangible longevity, the higher the treadwear rating, the longer a tire will last. Technically speaking, a tire with a treadwear rating of 200 isn’t guaranteed to last twice as long as a tire with a treadwear rating of 100, nor will it last precisely half as long as a tire rated at 400. Instead, its useful life will be somewhere between the two extremes, as many variables come into play when determining tire life.

**Price.** In a perfect world, no one would have to worry about the price of a set of tires. Given today’s rising cost of living and shrinking family budgets, the temptation to buy the cheapest possible tires may be great, but remember their significance. Tires, as much as brakes and road conditions, determine stopping distances, and the difference in price between a premium set of tires and a discount set of tires won’t pay for the cost of towing, medical bills, or a lawsuit. Saving money on tires may well prove to be a false economy.