

How Old — and Dangerous — Are Your Tyres?

During a recent Concours, the discussion wandered on to near disasters when tyres failed catastrophically on Register TRs.

It seems that there have been at least 3 such incidents within the last year, which prompted me to do a little research and put some stuff together. I am not a tyre expert so all the information is gathered from other sources and discussions with tyre professionals.



For years, people have relied on a tyre's tread depth to determine its condition. But the rubber compounds in a tyre oxidize and deteriorate with time, regardless of the condition of the tread. An old tyre poses a safety hazard.

The age warning also applies to spare tyres and "new" tyres that have never been used but are old.

What Happens to a Tyre as It Ages?

"If you take a rubber band that's been sitting around a long time and

stretch it, you will start to see cracks in the rubber," That's essentially what happens to a tyre that's put on a vehicle and driven. Cracks in the rubber begin to develop over time. They may appear on the surface and inside the tyre as well. This cracking can eventually cause the steel belts in the tread to separate from the rest of the tyre.

Aged" tyres are often unsuspectingly put into service after having served as a spare, stored in garages or warehouses, or simply used on a vehicle that is infrequently driven. In many instances these tyres show no visible sign of deterioration.

How Long Does a Tyre Last?

Mercedes, BMW, Audi, VW, Nissan and Toyota all advise their customers to replace tyres six years after their production date. Most quality Tyre warranties are 5 years.

Heat: Tyres age more quickly in warmer climates and environmental conditions like exposure to sunlight and coastal climates can hasten the aging process.

How To Determine the Age of a Tyre

The sidewall of a tyre is littered with numbers and letters. They all mean something, but deciphering them can be a challenge.

Tyres made after 2000 have a four-digit DOT code. The first two numbers represent the week in which the tyre was made. The second two represent the year. For example: 5107 means the tyre was completed the 51st week of 2007. Tyres with a three-digit code were made prior to 2000 and are trickier to decode. The first two digits still tell you the week, but the third digit tells you the year in the decade that it was created. The hard part is knowing what decade that was. Some tyres made in the 1990s — but not all — have a triangle after the DOT code, denoting that decade. But for tyres without that, a code of "328" could be from the 32nd week of 1988 — or 1978.



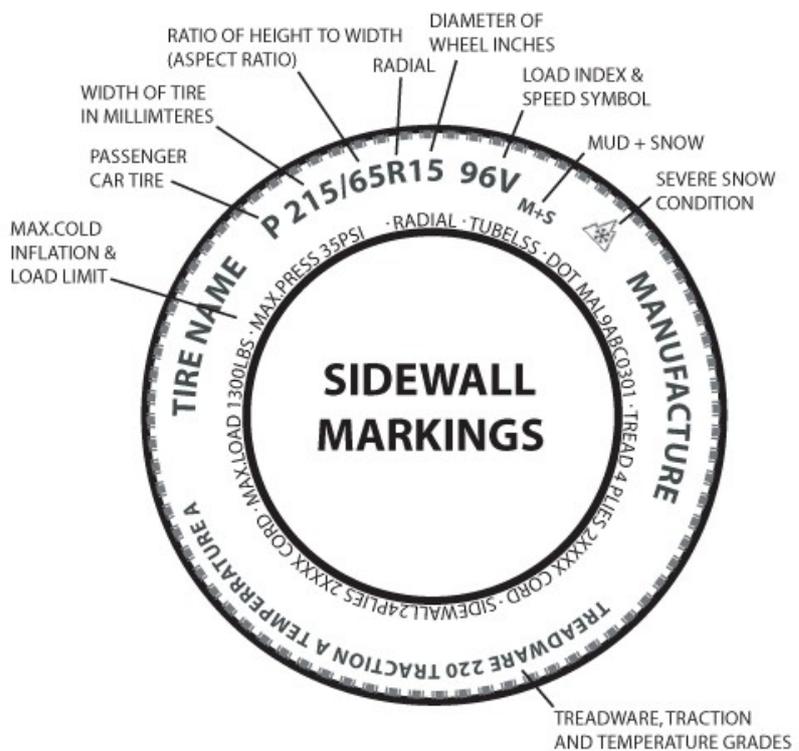
Reading the Sidewall Markings & Speed Rating

The speed rating of any tyre is a measurement of the top safe speed the tyre can carry a load under specified conditions. It is also an indication of how the tyre will handle at lower speeds. A higher rated tyre will give you better traction and improved steering response even at 50mph.

Below is a listing of common speed ratings:

- Q = 99 MPH, 160km/h
- S = 112 MPH, 180km/h
- T = 118 MPH, 190km/h
- U = 124 MPH, 200km/h
- H = 130 MPH, 210km/h
- V = 149 MPH, 240km/h
- Z = 149 MPH, 240km/h and over
- W = 168 MPH, 270km/h
- Y = 186 MPH, 300km/h

Never mix tyres with different speed ratings on your vehicle.



Installing tubes in tubeless tyres fitted to Wire Wheels.

Older tube type tyres were nearly as smooth as a baby's bottom inside whereas a tubeless tyre has quite pronounced ridges on the inside.



Tubes reduce the flexibility of tubeless tyres, and tubes tend to squirm around inside the casing as they flex under load thereby increasing rolling resistance and consuming a bit more energy and with the added internal friction this extra energy is turned into heat in the tyre. The heat will be sufficient to vulcanise the tube to the casing with almost certain failure.

Modern tyre fitters are not trained in fitting tyres with tubes, so they do not use enough TALC to coat all surfaces of the tube to reduce the friction and heat build up.

(I had 3 out of 4 tubes do this on my car because the tyre fitter did not use enough TALC when fitting the tubes. I have also had a number of reports from register members who confirm they have experienced the same problem)

As a rule of thumb, if you put tubes in tubeless tyres you should de-rate the tyre by one letter grade, or about 18 mph (30 kph) off of the rated 10-minute top speed.

Oversize inner tubes are a definite no-no, as any fold or wrinkle in the tube is almost guaranteed to split the tube. When installing inner tubes, inflate and deflate the tyre a couple of times to allow the tube to settle in to a comfortable position without wrinkles or excessive stretching. NEVER leave any manufacturer's stickers inside the tyre if you will be using tubes.

Cheers

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