

SAFETY

IN NUMBERS

Tires: Your safety and your life are riding on them.

Life-Saving Numbers

1

The number of times you should check your vehicle's tires monthly.

$\frac{2}{32}$ "

Point at which tread becomes even with tread-wear indicators, telling you it is time to replace your tires.

25%

TPMS-equipped vehicles will warn at this level of severe underinflation.

6 to 10

Number of years after which some tire manufacturers recommend you replace your vehicle's tires - even your spare!

Many drivers are aware of the importance of their vehicle's strength *during* a crash. But are we as familiar with one of the most important features of our vehicle in *avoiding* a crash - tires? As summer arrives and we venture out on road trips, it is the perfect time to learn more about tire safety.

Your vehicle's tires are the only thing between you and the road. To help ensure they can perform their best in a critical driving situation, invest a little time to incorporate tire safety into your regular vehicle maintenance. The time you spend checking your tires is minimal compared to the safety consequences of tire failure.

NHTSA's Crash Causation Survey found that there was an issue with a tire before the crash occurred in 1 of 11 crashes (9%). Issues included tread separations, blowouts, bald tires, and underinflation (www-nrd.nhtsa.dot.gov/Pubs/811617.pdf).

Underinflation leads to poor fuel economy, sluggish handling, longer stopping distances, and increased stress to tire components. Another concern is how heat affects tires. In the hot summer months, the high heat and hot roadways contribute to the breakdown of tires and a greater opportunity for tire failure.

For further information about tire safety, visit:
www.SaferCar.gov/Tire



U.S. Department of Transportation
National Highway Traffic Safety
Administration

★★★★★
NHTSA
www.nhtsa.gov

THE PROBLEM

Tire Inflation and TPMS

- Underinflated tires lead to sluggish handling, longer stopping distances, increased stress to tire components, and heat buildup. These in turn can lead to catastrophic failure of the tire, such as separation or blowout.
- Underinflation also decreases fuel economy. Proper inflation strikes the perfect balance of maximized safety and fuel economy – both related to the amount of surface contact between the tire and the road.
- A NHTSA study of tire inflation pressure and tire pressure monitoring systems (TPMS) showed that 12 percent of all passenger vehicles in the United States of model years 2004-2011 (with and without TPMS) have at least one tire underinflated by at least 25 percent (www-nrd.nhtsa.dot.gov/Pubs/811681.pdf).
- NHTSA estimates that TPMS reduces by half (56%) the likelihood that a vehicle will have one or more severely underinflated tires.
- TPMS is estimated to have saved more than \$510 million in fuel across the vehicle fleet during 2011.
- You can improve your gas mileage by up to 3.3 percent by keeping your tires inflated to the proper pressure (www.fueleconomy.gov/feg/drive.shtml).



Tire Pressure Monitoring System (TPMS) Indicator

All passenger cars, light trucks, and vans that are Model Year 2008 or newer are equipped with TPMS.

When the indicator illuminates, at least one of your tires is more than 25% underinflated. Inspect the tires and check the tire pressure as soon as possible.

Tire Aging

- Any rubber begins to break down over time. Heat accelerates this process. The rubber in your tires also breaks down over time, a process referred to as tire aging.
- Even though a tire may have a lot of remaining tread, its integrity may be compromised. The effect of aging may not be visibly detectable.
- Tires age whether they are driven on or not and are a concern for infrequently used vehicles and spare tires.
- An analysis of crashes in the National Automotive Sampling System from 2005-2007 estimates that 90 people die and an additional 3,200 are injured each year in crashes in which tire aging was a factor (www.scribd.com/doc/137377038/NHTSA-Report-on-tire-aging).
- As tires age, they are more prone to failure.
- Some tire manufacturers recommend replacing tires that are 6 to 10 years old, regardless of tread wear.

Relation to Crashes

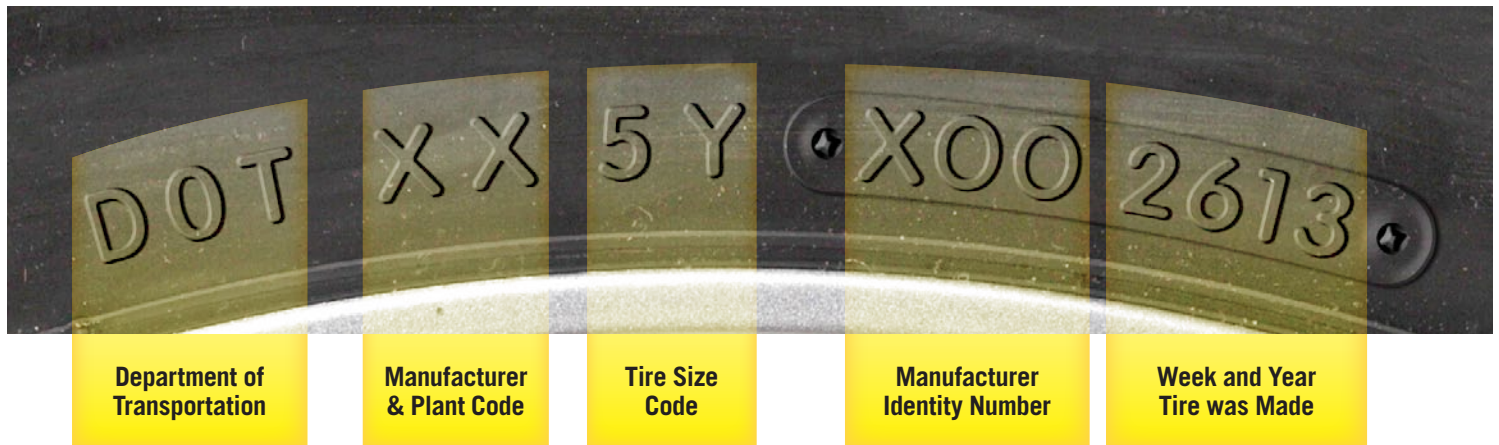
- NHTSA reviewed data from the National Motor Vehicle Crash Causation Survey for tire-involvement before the crash occurred (www-nrd.nhtsa.dot.gov/Pubs/811617.pdf).
- About 9 percent of the estimated total crashes were “tire-related crashes.” Some of the issues included tread separations, blowouts, bald tires, and underinflation.
- With tread depth at 2/32” or less, vehicles experienced tire problems before the crash three times more than vehicles with tread depth between 3 to 4/32”. According to the tire industry, the average new tire for a car starts with a tread depth of 10/32” to 11/32”.
- Data shows that many more vehicles than expected experienced tire problems when driven under adverse roadway conditions (wet roads, roads underwater, slick roads).





Tire Identification Number (TIN)

The last four digits of the TIN show the week and year of manufacture. Use this date code to determine the age of your tires. For this particular tire, the “2613” indicates the tire was manufactured in the 26th week of 2013.



Tire and Loading Information Label

All passenger cars, light trucks, and vans that are Model Year 2006 or newer have this label.

Located on the driver's side door edge or door post, the placard provides information about proper tire inflation pressure and maximum load for the specific vehicle.

For older vehicles, a black-and-white label may be located in the glove box.



TIRE AND LOADING INFORMATION		
SEATING CAPACITY TOTAL 5 FRONT 2 REAR 3		
The combined weight of occupants and cargo should never exceed XXX kg or XXX lbs.		
ORIGINAL TIRE SIZE	COLD TIRE INFLATION PRESSURE	SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION
P195/70R14	FRONT 200kPa, 29PSI	
	REAR 200kPa, 29PSI	
COMPACT SPARE TIRE	COLD TIRE INFLATION PRESSURE	
T125/70D15	420kPa, 60PSI	

WHAT YOU CAN DO



Proper Tire Inflation

- Follow the recommended tire pressure in pounds per square inch (psi) for your vehicle. This information is found on the vehicle placard and in your vehicle owner's manual.
- Remember that the correct inflation pressure for your vehicle is found on the vehicle placard, **not** on the tire sidewall.
- Understand that tires may lose 1 psi every month.
- Know where the TPMS warning is on your vehicle dashboard, if equipped with TPMS, and take action if you receive this warning.
- Don't forget to check the inflation pressure in your spare tire as well as all tires on infrequently used vehicles.
- Carry a tire pressure gauge in your vehicle to ensure an accurate reading of tire inflation pressure. Don't rely simply on visual inspection of your tires to determine whether they are underinflated (www.safercar.gov/Vehicle+Shoppers/Tires/Tires+Rating/General+Information).
- Check out NHTSA's tire safety brochure: *Tire Safety – Everything Rides On It* (www.nhtsa.gov/DOT/NHTSA/Vehicle%20Safety/Articles/Associated%20Files/brochure.pdf).

Tire Aging

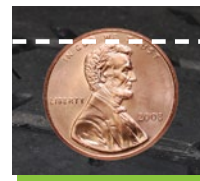
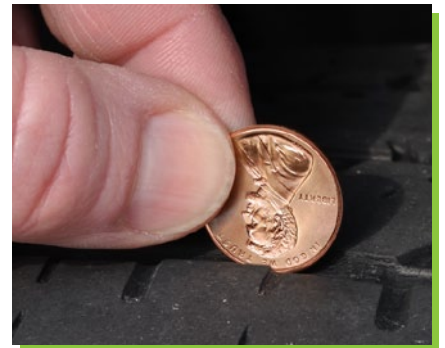
- Check your vehicle owner's manual for specific recommendations for tire replacement for your vehicle. Some tire manufacturers cite 6 years, others recommend 10 years as the maximum service life for tires.
- Look at the sidewall of your tire for the tire identification number (TIN). The last four digits are the week and year of manufacture. Some older tires may have the TIN on the inside sidewall.



- Don't forget about your spare tire. Just because the tire hasn't been used and the tread is not worn, the tire may be too old to operate safely.
- Be aware of tires on vehicles with occasional use – like recreation vehicles, collector cars, community vehicles, and 15-passenger vans – as they are also susceptible to tire aging.
- Remember that the effects of tire aging may not be visible, so do not rely on visual inspection for damage to know whether the tire may have degraded over time (www.safercar.gov/Vehicle+Shoppers/Tires/Tires+Rating/Tire+Aging).

Tire Tread

- Monitor the tread on **all** tires on your vehicle. Tires are not safe and should be replaced when the tread is worn down to 2/32".
- Look for the treadwear indicators – raised sections spaced throughout the bottom of the tread grooves. When they appear even with the outside of the tread, it is time to replace your tires.
- Try the penny test. Place a penny in the tread of your tires with Lincoln's head upside down and facing you. If you can see the top of Lincoln's head, your tire has less than 2/32" of tread and you are ready for new tires.



If your tire has less than 2/32" of tread, you are ready for new tires.

For further information about tire safety, visit:
www.SaferCar.gov/Tire

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