



**BE TIRESWISE:
SAVE MONEY AT THE
PUMP, INCREASE
EFFICIENCY, AND
PROTECT YOUR SAFETY**

DECEMBER 2014

Be TireWise: Save money at the pump, increase efficiency, and protect your safety

The choices you make when buying and maintaining your tires impacts the fuel efficiency and safety of your vehicles. The 232 million passenger cars and light trucks in the U.S. consume about 134 billion gallons of fuel each year. But making smart consumer choices when you purchase tires and maintaining your tires properly can cut fuel use and save you money at the pump, reducing the carbon pollution that causes climate change. In fact, proper tire maintenance combined with the use of low rolling resistance tires could save a driver up to \$80 per year and avoid up to 560 pounds of annual carbon dioxide pollution, equivalent to about 600 miles of emission-free driving. At the U.S. Department of Transportation, that's what we call being "TireWise."

Being TireWise can also protect your safety. Every year, there are roughly 11,000 tire-related vehicle crashes in the U.S.—and about 200 people die in those crashes. Many of these crashes can be prevented through proper tire maintenance—including tire inflation, balance, alignment, and rotation—and understanding tire labels, aging, recalls and complaints.

Below is some are some **helpful tips** to help you be TireWise and make smart choices about buying and maintaining your tires. Additional information on tire safety, maintenance and related fuel efficiency issues is available through USDOT's National Highway Traffic Safety Administration (NHTSA). Visit <http://www.SaferCar.gov/tires>. The "[TireWise](#)" page includes details on [how to read the information on the side of today's tires](#).

FOUR OUT OF FIVE AMERICAN DRIVERS HAVE UNDER-INFLATED TIRES

**** WHY YOU SHOULD KEEP YOUR TIRES IN GOOD SHAPE ****

KEEPING YOUR TIRES IN GOOD CONDITION IS GOOD FOR:

YOUR WALLET
Having properly inflated tires can save you up to 9 cents per gallon - that's up to \$49 for a driver each year.

YOUR SAFETY
Nearly 11,000 tire-related crashes occur in the U.S. each year.

THE PLANET
If 10 million Americans had properly inflated tires, there would be about 1.6 million fewer metric tons of carbon dioxide emissions every year.

HERE'S A SIMPLE CHECKLIST TO KEEP THEM IN TIP-TOP SHAPE

- 1 Check your tire pressure monthly (and check the treads, too)
- 2 Have a qualified technician balance your tires and align your wheels when you replace your tires
- 3 Follow your vehicle manufacturer's guidance on when and how to rotate your tires
- 4 Register your tires with the tire manufacturer by mail or online and check for tire recalls at SaferCar.gov to get more information about your tires

THESE SIMPLE STEPS WILL KEEP YOU SAFE, SAVE YOU MONEY AT THE PUMP, AND HELP PROTECT OUR ENVIRONMENT.



Know your options

- ***Tip #1 – Use NHTSA’s Uniform Tire Quality Grading Standards (UTQGS):*** These standards are used to rate more than 2,400 tire lines, including most used on passenger cars, minivans, SUVs and light pickup trucks. UTQGS are available [online](#) to let you compare tire tread wear, traction performance, and temperature resistance. This information can help you understand how long different tires’ treads will last before the tires need to be replaced, how well they will grip the road in emergencies, and how different tires will stand up to excessive speed, underinflation, and excessive loading.
- ***Tip #2 – Choose low rolling resistance tires:*** The relative fuel efficiency of tires is indicated by their “rolling resistance,” which refers to the amount of force required to move the tire down the road. The automotive industry estimates that a 10 percent reduction in tire rolling resistance results in a 1-2 percent improvement in vehicle fuel economy. While that might not seem like a lot, it can reduce fuel consumption by a couple of tanks per year and make the purchase of lower rolling resistance tires a better value than other tires over their lifetime. In fact, upgrading to low rolling resistance tires could save the typical driver up to \$31 per year and avoid up to 210 pounds of annual carbon pollution based on a 10 percent improvement in tire efficiency. NHTSA estimates that if just 10 percent of aftermarket tires were upgraded to tires with a 10 percent improvement in rolling resistance, the annual savings would be more than \$200 million from 72 million gallons of fuel and 690,000 metric tons of CO₂, equivalent to the emissions from more than 1.6 billion miles of emission-free driving. So the next time you need to replace your tires, **ask for a low rolling resistance option.**
- ***Tip #3 – Register your tires:*** When you purchase replacement tires, it is important to take the time to register your tires with the tire manufacturer by mail or online. You can check for tire recalls at www.safercar.gov. If your tires have been recalled, be sure to get them replaced for free right away.

Keep your tires properly inflated

Imagine pulling up to the pump and being able to slash nearly 10 cents off the price of a gallon of gas every time you fill up. You can do that just by properly inflating your tires.

Properly inflating your tires can save you as much as 9 cents per gallon of fuel.¹ Yet only 19 percent of consumers keep their tires properly inflated. That means as many as four out of five consumers are wasting money because of underinflated tires.



The image shows a standard vehicle tire and loading information label. It includes a tire icon, seating capacity information, a warning about weight limits, and a table of tire specifications. The table lists original and compact spare tire sizes along with their cold inflation pressures for front and rear axles. A reference to the owner's manual is also present.

| 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 | | |

¹ Keeping Your Vehicle in Shape, <http://www.fueleconomy.gov/feg/maintain.jsp>, Accessed December 5, 2014

The average vehicle consumes about 540 gallons of gasoline per year.² By keeping your tires properly inflated, you could save up to \$49 per year and 350 pounds of carbon dioxide pollution. That means if 10 million drivers improved their tire pressure management, they could save nearly \$500 million dollars and 1.6 million metric tons of carbon dioxide pollution a year.

➤ **Tip #4 – Learn how to check your tire pressure:** Checking your tire pressure is easy if you follow these five simple steps:

Step 1: Locate the recommended tire pressure on the Tire and Loading Information Labels on the driver’s side door edge or post or in the owner’s manual. The pressure values are shown in pounds per square inch (psi) and in kilopascals (kPa) for the tires on the vehicle and for the spare tire, if the vehicle is equipped with one. (The correct pressure for your tire is what the vehicle manufacturer has listed, NOT what is listed on the tire itself.)



Step 2: Check the pressure of all tires, including your spare, using a tire pressure gauge. To check the inflation pressure of a tire, first unscrew the valve stem cap. Make sure that your pressure gauge is reset. To reset a standard stick gauge, push the stick with the pressure scale back into the casing. Now you’re ready to check your pressure. Place your tire pressure gauge over the valve stem and press firmly to get a good fit. The tire’s inflation pressure is measured by the pressure gauge.



Step 3: If the tire pressure is too high in any of the tires, slowly release air by gently pressing on the tire valve stem so that you hear the air escaping until you get to the correct pressure.

Step 4: If the tire pressure is too low, note the difference between the measured tire pressure and the correct tire pressure. The “missing” pressure is what you will need to add. At a service station, add air pressure to each tire that is under inflated until the pressure is at the level recommended by the vehicle manufacturer.

Step 5: Check all the tires to make sure they have the correct air pressure. Some vehicles require different inflation pressures for tires on the front axle versus the rear axle. In addition, the spare tire may require a different inflation pressure than the other tires, particularly if it is a temporary use spare tire.

² Assuming EIA’s *Annual Energy Outlook 2014* estimate of an on road average fuel economy of 21.9 miles per gallon in 2013, [http://www.eia.gov/forecasts/aeo/pdf/0383\(2014\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2014).pdf), Accessed December 7, 2014, and annual mileage of 11,900 per vehicle.

- **Tip #5** – *Use the Right Tools*: When checking your tire pressure it's important to use the correct tools. Use your own pressure gauge – they cost only a few dollars – to ensure that you're getting an accurate reading. Gauges at gas stations have been out in the elements and are often inaccurate.



- **Tip #6** – *Check your tire pressure at least once a month*: Tires naturally lose air over time. Check your tire pressure at least once a month—including the tire pressure of your spare—and before any long road trip.

- **Tip #7** – *Don't wait until the "Tire Pressure Monitoring System (TPMS)" warning light goes on to check your tires*: Beginning in model year 2008, most new cars and light trucks were required to come equipped with TPMS. If tire pressure is 25 percent or more below your vehicle manufacturer's recommendation, this warning light will appear. Once all new light vehicles are equipped with compliant TPMSs, NHTSA expects that about 120 fatalities will be avoided and 8,500 injuries will be prevented or reduced in severity each year.



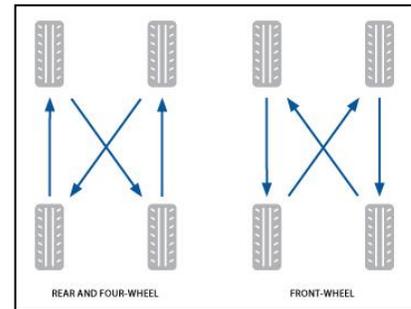
The primary goal of TPMS is to reduce underinflation in order to make vehicles safer to operate; however, a further benefit of reduced underinflation is improved fuel economy. By combining estimates of reduced underinflation due to TPMS with estimates of increases in fuel economy resulting from increases in tire pressure, it's possible to estimate the amount of fuel that TPMS will save an average vehicle during a given period of time. During 2011, TPMS was estimated to have saved 143 million gallons of fuel, reduced 1.4 million metric tons of carbon dioxide emission and saved \$511 million across the light vehicle fleet.

It is important for consumers to note that the TPMS warns only when a tire is **significantly** underinflated. **Drivers should still check their air pressure each month as smaller loses of pressure can still affect the safety and fuel efficiency of your vehicle. TPMS does not take the place of routine tire pressure checks.** Be sure to have your TPMS system checked if you see a malfunction indicator.

- **Tip #8** – *Check your tires when your vehicle is "cold" to get an accurate reading*: To get an accurate tire pressure reading, you must measure tire pressure when the tires are "cold," meaning that the vehicle has not been driven for at least three hours. As the vehicle is driven, the tires warm up. The pressure inside a tire increases as the tire's temperature increases. If you have been driving your vehicle and think a tire is underinflated, fill it to the recommended cold inflation pressure indicated on your vehicle's tire information placard or certification label. While your tire may still be slightly underinflated due to the slightly higher inflation pressure of a warm tire, it is safer to drive with air pressure that is slightly lower than the vehicle manufacturer's recommended cold inflation pressure than to drive with a significantly underinflated tire. Since this is a temporary fix, don't forget to recheck and adjust the tire's pressure when you can obtain a cold reading.

Balance and align your tires

- ***Tip #9 – Balance and align your tires:*** Having your new tires balanced and a vehicle wheel alignment performed by a qualified technician are important to maximize the life of your tires and for the safe operation of your vehicle. Tire balancing ensures your wheels rotate properly and don't cause the vehicle to shake or vibrate. New tires should always be balanced when installed. A wheel alignment maximizes the life of your new tires and prevents your car from veering to the right or left when driving on a straight, level road.
- ***Tip #10 – Rotate your tires:*** Rotating your tires can help to ensure that they wear at the same rate. Check your owner's manual for information on how frequently the tires on your vehicle should be rotated and the best pattern for rotation. If recommended by the vehicle manufacturer, rotate tires every 5,000 to 8,000 miles or at the interval recommended by the vehicle manufacturer.



For some vehicles, tire rotation is not recommended. If your front and rear tires are different sizes, you may not be able to rotate your tires. Check your owner's manual for guidance.

Know when to buy new tires

Tire aging occurs when the rubber and other components in a tire change over time due to service, storage, and environmental conditions. Most of us drive our vehicles enough that the tires' treads wear out, and we replace our tires before aging becomes an issue. However, if you own or use recreational vehicles, [15-passenger vans](#), collector cars, any other vehicles you don't drive regularly, or if your annual mileage is low, you could be at risk. Exposure to sunlight and warmer climate, such as in Sun Belt states, poor storage and poor maintenance also contribute to tire aging. Spare tires on all vehicles are prone to aging because they seldom get replaced, so make sure to replace yours regularly.

- ***Tip #11 – Check your tires at least once a month for worn out tread or other signs of aging:*** Tire tread provides the gripping action and traction that prevents your car or truck from slipping and sliding, especially when the road is icy or wet. Tires are not safe and should be replaced when the tread is worn down to 2/32 of an inch. Tires have built-in “treadwear indicators” – raised sections that run in between the tire's tread. When the tread is worn down so that it's level with the tread indicator, it's time to replace your tires.



Further Reading

For more information on these and other issues, please visit www.safercar.gov/Tires.