TIRE RACK .com

TIRE & WHEEL OWNER'S MANUAL

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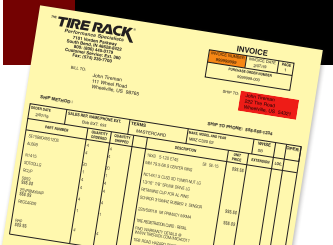
YOUR TIRE & WHEEL OWNER'S MANUAL

This Owner's Manual includes information you need to take care of your new tires and wheels. We want to help you get the most out of the purchase you made to enhance the performance and appearance of your vehicle.

We stand behind all of the products we sell and are ready to support every manufacturer's warranty should the need arise. If you have any questions, call us.

Questions about your invoice? Call Customer Service at 800-428-8355 ext. 4360



INSTALLING THEM YOURSELF?

See pages 4-8 for instructions.
Questions? Call us at 800-428-8355.

OR

WE HAVE 10,000+ INDEPENDENT RECOMMENDED INSTALLERS

See your local installation options at
www.tirerack.com/installer

Enter ZIP/Postal Code

Submit

PREPARING TO INSTALL A TIRE & WHEEL PACKAGE

CHECK TIRE POSITIONS

The first step before installing your Tire & Wheel Package is to match each assembly to its final position on your vehicle.

The most common type of tires sold today feature symmetric designs that can be installed in any position on your vehicle if you have the same size tires/wheels front and rear.

Some vehicles use a staggered fitment with different-sized tires/wheels front and rear. Confirm what you have by checking your invoice or looking at mounted tires and wheels and position accordingly. Normally, narrower is installed on the front and wider goes on the rear.

If your tires feature a directional tread design, look for the labels on the tire sidewalls indicating **DRIVER** or **PASSENGER SIDE**, and be sure to position for front and rear if you have a staggered fitment.

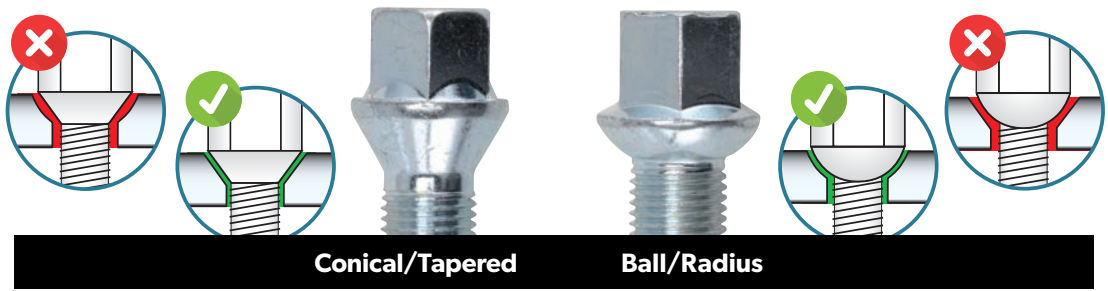
Asymmetric tires can be installed on either side of the vehicle. Some asymmetric designs appear to have directional features, but tires are very rarely asymmetric and directional. If your tires are truly asymmetric and directional you will find the vehicle side labels mentioned above to help you position them.

PROPER LUG NUTS OR LUG BOLTS

While many aftermarket wheels are designed to re-use the vehicle's original lug hardware, others require new, wheel-specific hardware to work safely with your new wheels.

The lug seats have to mate properly to the wheel in order to properly secure it to the vehicle's hub. **Using the wrong lug bolt or lug nut can damage the wheel and allow the wheel to work its way loose as you drive!**

Your invoice will list the new lug hardware with the appropriate quantity identified by our part description. If there is any doubt about your lug hardware, please contact us before attempting to mount your new wheels!



⚠ **ATTENTION: If your new wheels arrive packaged with brand new hardware, it's critical that you use only the new hardware we provided with the wheels!** Do not use your vehicle's original lug nuts or bolts unless your invoice has a note instructing you to re-use your original hardware.

However, any hardware provided by Tire Rack should NEVER be used with your Original Equipment wheels. This includes your spare wheel and tire, so keep a set of your original lug nuts or bolts in your glove box or trunk in case you need them in an emergency! The same is true for any adapter sockets, locking lug keys, or extenders we send with your new wheels.

TIRE & WHEEL PACKAGE INSTALLATION

The best place to find the correct procedure for tire/wheel removal is in your vehicle's owner's manual.

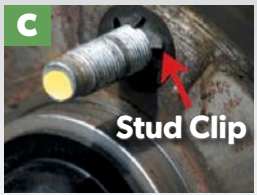
Step 1: To remove your old wheels and tires, break the lug nuts or bolts loose before raising the vehicle. We recommend using hand tools exclusively A. **When removing or installing lug nuts or bolts, never use powered impact wrenches of any type, as an impact wrench may damage the lugs or the studs.**

Step 2: Raise your vehicle slightly with a jack B, and support the lifted vehicle with jack stands (if available). **Be sure to use your jack and jack stands only on a flat, level surface when working on your vehicle.** Remove your old wheels and tires.

Step 3: Test fit each new wheel in its final position. Check for proper fit as described in Step 4.

ATTENTION: Check the condition of the vehicle's lug studs or wheel bolts as you loosen and tighten them. If you feel any resistance or see any roughness after removing the wheels, correct it before reinstalling the wheels. Most automotive stores sell taps and thread repair kits.

Wheels must fit flat against the vehicle's hubs. Remove any rust and dirt from the mounting surface of the brake rotors and drums. Remove any stud clips C, retaining bolts or locator pins D. These devices aid with brake and wheel installation on the vehicle assembly line, but do not perform any other function and should be removed before mounting new wheels. Failure to remove them will cause vibrations and possible damage to the wheel and the hubs. Locator pins can be found on some Volvo, Nissan, Fiat, Saab, Tesla and Infiniti models. Large bolts holding Hyundai rotors to their hubs should not be removed.



If aftermarket wheels have previously been used, verify that the previous wheels' hub centering rings have been removed.

If your vehicle is equipped with drum brakes and if the drum's outer flange or balance weights protrude farther out than the center of the drum, verify that the wheel seats on the hub are not against the drum's outer flange or balance weights.

If you have any questions, please call us.

Step 4: Check the fit of the wheel onto the hub of the vehicle E. Some applications may require the use of a centering ring to create the proper fit onto the hub. The bolt circle of the wheel must match that of your vehicle and the wheel must make full contact to the mating surface of the hub. If the wheel does not match up to the bolt circle of the vehicle, or the wheel does not have full contact to the mounting surface, please contact us at 800-428-8355, ext. 4360.

Step 5: In order to verify that you have matching lug or bolt thread sizes, first install the lug nuts or bolts on the hub **by hand without the wheel** F. If you feel resistance while doing this, inspect the lug stud and nut (or hub and bolt) to see if the threads are clean or obstructed. If the lug nut or bolt appears obstructed or does not match the thread pitch of your hubs, try another one. If another lug doesn't thread any better, give us a call. We will verify that you have the correct hardware for your application.

⚠ **NOTE: Do not force your lug nuts or bolts on with a wrench.** They should be able to be turned by hand. If they don't, something is wrong! Please call Tire Rack's customer service department at 800-428-8355, ext. 4360. Only after the lugs have been installed by hand until finger tight should you snug them down with your four-way wrench or a socket on a breaker bar.

Step 6: For the next inspections it will be necessary to temporarily install the wheel by snugging down the lug nuts or bolts G in order to verify brake and suspension clearance. You should have at least 3-4mm of clearance between your wheels and the brakes on the vehicle.

Step 7: Put your vehicle's transmission into neutral and turn each wheel by hand while making certain that the outer edge of the disc brake caliper doesn't touch the inside of the rim or that the side of the caliper doesn't come into contact with the backside of the wheel or the wheel balancing weights.

(continued on next page)

TIRE & WHEEL PACKAGE INSTALLATION (continued)

Once you have completed your test fit, we suggest removing the wheel and applying a thin coating of anti-seize around the axle hubs to help prevent rust and permit easier removal when it's time to rotate your tires. **Do not apply anti-seize compound to the lug hardware or studs.**

If you have any concerns, CALL US! We will be happy to help you solve your problem.

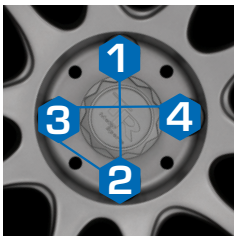
Step 8: Proper installation requires that the wheel lug torque be set to the recommended specification for your vehicle. These torque specifications can be found in your vehicle's owner's manual, shop repair manual or obtained from your vehicle dealer. Finish tightening the lugs down with an accurate torque wrench. Use a crisscross sequence (see diagrams) until they have reached their proper torque value. Be careful because if you over-torque a wheel you can strip a lug nut, stretch or break a wheel stud, and cause the wheel, brake rotor and/or brake drum to distort.

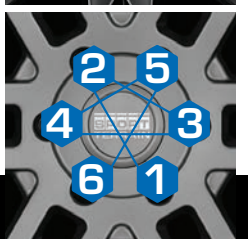
Gorilla Home Use Torque Wrench
www.tirerack.com/torque

⚠ **NOTE: In order to ensure even and accurate torque values at each lug, it is recommended to torque "in the air."** This entails lowering the jack just enough for the vehicle's weight to prevent the tire from spinning while applying final torque, and then lowering all the way to the ground.

⚠ **NOTE: After installing new wheels you should re-torque your lug hardware after the first 50 to 100 miles of driving.** This is necessary because as the wheels are breaking in they may compress slightly allowing their lugs to lose some of their torque. Simply repeat the same torque procedure listed in step 8.

Read more at www.tirerack.com/torquing





TIGHTENING AND LOOSENING PATTERNS

WHEEL PRESERVATION AND CLEANING

Your wheels are often the dirtiest part of your vehicle because they are constantly exposed to the elements (corrosive brake dust, ocean or road salt, stones, cinders and sticky tar). Damage caused by prolonged exposure to these elements will void the finish warranty on your wheels. It's important to clean them properly and often.

Here are a few tips to help maintain a wheel's original splendor:

- **Apply a coat of wax.**
- **Treat the finish of your wheels as you would treat the finish of your vehicle.**
- **Beware of automatic car washes.**
- **Never allow your wheels and tires to be steam cleaned.**
- **Don't clean hot wheels — wait until they cool.**
- **Clean your tires and wheels first, one at a time.**

Read the complete article at
www.tirerack.com/wheelcare

CHECKING TIRE INFLATION PRESSURE

www.tirerack.com/gauges

Before driving on your new Tire & Wheel Package, be sure to set the correct cold inflation pressure to match your vehicle, driving needs and ambient conditions. Review your invoice for any special cold inflation pressure requirement notations. If none are listed, check your vehicle's placard for the proper cold inflation pressure.

Tire pressure should be checked once a week, early in the morning before the vehicle has been driven. The heat of the day and/or driving more than a few miles will cause an incorrect cold pressure reading.

⚠ **NOTE:** If your vehicle is equipped with a spare, this would be a great time to check and reset its tire pressure.

ONE OF THESE TIRES IS UNDERINFLATED BY 10 PSI.

It's tough to tell. Tire pressure must be checked with a quality air gauge as the inflation pressure cannot be accurately estimated through visual inspection.

www.tirerack.com/correctpressure

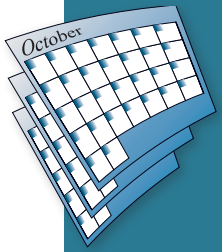
UNDERINFLATION

If your vehicle's tires are **underinflated by only 6 psi** it could lead to tire failure. Additionally, the tire's tread life could be reduced by as much as 25%. Lower inflation pressure will allow the tire to deflect (bend) more as it rolls. This will build up internal heat, increase rolling resistance and cause a reduction in fuel economy of up to 5%. You would experience a significant loss of steering precision and cornering stability.

OVERINFLATION

If your tires are **overinflated by 6 psi,** they could be damaged more easily when running over potholes or debris in the road. Higher inflated tires cannot isolate road irregularities well, causing them to ride harsher. However, higher inflation pressures usually provide an improvement in steering response and cornering stability up to a point.

THE EFFECTS OF TIME AND TEMPERATURE



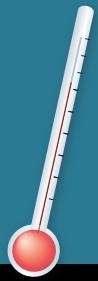
For each month that passes you

Lose 1psi

AND

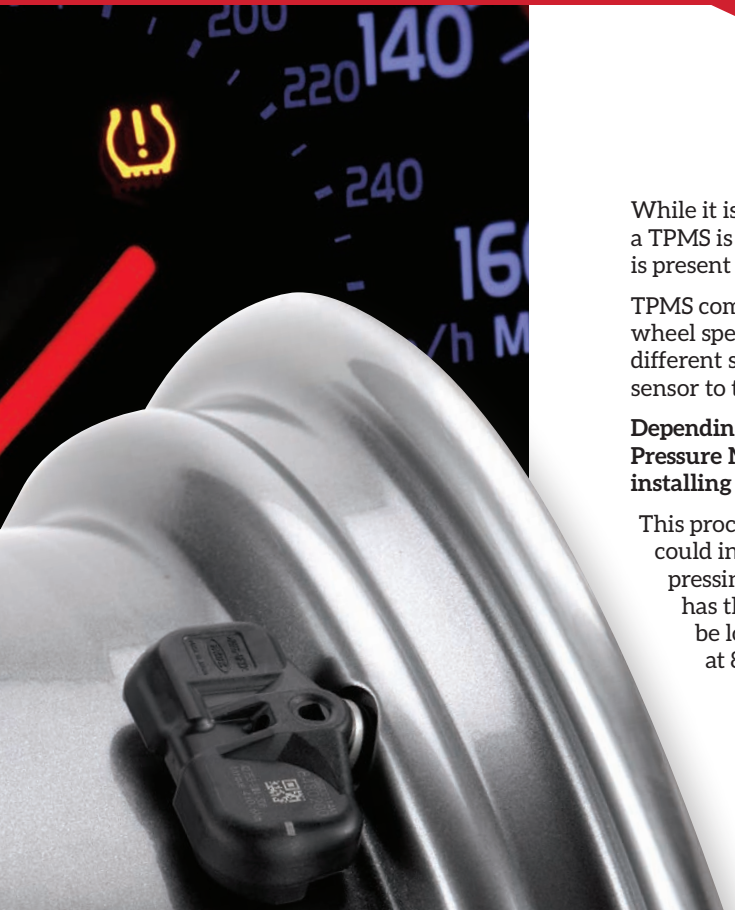
For every 10°F change in ambient temperature you

Lose or Gain 1psi



If the last time you checked your tire pressure was months or seasons ago, it could be lower than you think.

TIRE PRESSURE MONITORING SYSTEMS (TPMS)



While it isn't a substitute for regular monitoring of your vehicle's tire pressures, a TPMS is a helpful tool for informing the driver when a low-pressure situation is present that was either unnoticed or occurs while driving.

TPMS comes in one of two varieties: an indirect system that uses the vehicle's wheel speed sensors to determine when an underinflated tire is rolling at a different speed than the others, or a direct system that attaches a pressure sensor to the wheel (shown).

Depending on your vehicle year, make, and model and the type of Tire Pressure Monitoring System it uses, you may have to reset your TPMS after installing your new Tire & Wheel Package.

This process could be as simple as pressing a button or taking a short drive, it could involve a basic sequence of cycling the vehicle's ignition switch and pressing the brake pedal, or it may require a trip to a service center that has the appropriate tools. The correct method for your vehicle can be located in your vehicle's owner's manual, or you can call us at 800-428-8355, ext. 4360.

BREAKING IN YOUR TIRES

MAXIMIZE PERFORMANCE AND RIDE QUALITY

Tires are comprised of many layers of rubber, steel and fabric. Due to these different components, your new tires require a break-in period.

As tires are cured, a release lubricant is applied to prevent them from sticking in their mold. Some of the lubricant stays on the surface of your tires. While this helps protect them from aging before they begin to be used, it will also reduce new tire traction until it is worn away. Five hundred miles of easy acceleration, cornering and braking will allow the mold release lubricant to wear off, allowing the other tire components to begin working together.

It is also important to note that your old tires probably had very little tread depth remaining when you felt it was time to replace them. As any autocrosser or racer who has tread rubber shaved off of his tires will tell you, low tread depth tires respond more quickly. Don't be surprised if your new tires are a little slower to respond (even if you use the exact same tire as before). Their new, full depth brings with it a little more tread squirm until it wears down.

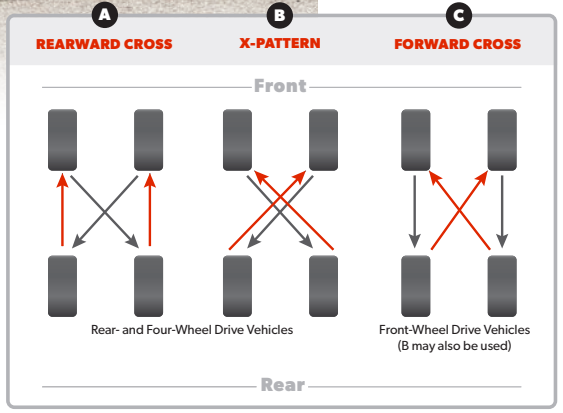
⚠ **NOTE:** Be careful whenever you explore the capabilities of your new tires. Remember that every tire requires a break-in period of 500 miles for optimum performance.

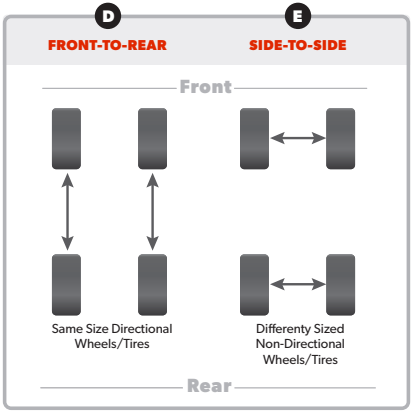
⚠ **NOTE:** The colored stripes or graphics that often appear on the tread of new tires will wear away during the break-in period.

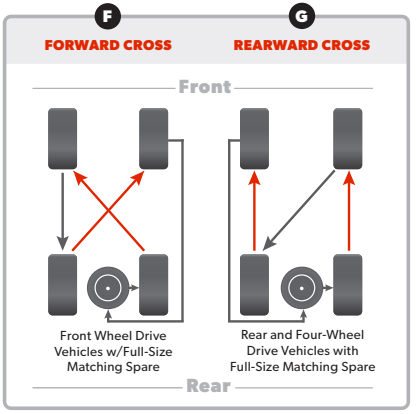
ROTATING YOUR TIRES

After installing new tires on your car, it can be easy to not think about them for a while. But new tires need the most attention to rotation intervals to help you get the smoothest, most even wear possible over the lifetime of your investment. If not rotated often enough, the deep tread of new tires can be more susceptible to noise-generating irregular wear patterns. We recommend tires be rotated every 3,000 to 5,000 miles, even if they don't show signs of wear. You can keep track of your rotation intervals on the handy service log in the back of this manual.

⚠ **ATTENTION:** Your vehicle's owner's manual will have specific recommendations on tire rotation mileage intervals. But also consider that as many newer vehicles are moving towards longer service intervals, some manufacturer-recommended rotation intervals may be longer than what is ideal for your tires.







Learn more at www.tirerack.com/rotation

TIRE SERVICE/MAINTENANCE RECORD

TRY OUR APP!

Vehicle

Year Make Model

Vehicle Placard Specified Cold Tire Pressures

Front psi Rear psi Spare psi Wheel Lug Torque ft lbs.

Tire Set #1

Size Make Model

Tire Set #2

Size Make Model

Tire Set #3

Size Make Model

Tire Rack Tire Service Recommendations

- Tire pressures should be set to vehicle placard specifications and checked monthly/before long trips.
- Vehicle alignment should be checked/reset when new tires are installed or any irregular wear is apparent.
- Rotate tires every 3,000 to 5,000 miles. Rotations early in the tire's life are most important to prevent irregular wear. Summer/all-season/winter tires should be rotated every time they are installed seasonally.

Date of Service	Odometer Reading	Tire Rotation	Tires Installed/Seasonal Changeover		Balance or Alignment
			Summer/ All-Season	*Winter*	

Download this PDF at www.tirerack.com/servicelog

GET THE MOST OUT OF YOUR TIRES WITH OUR APP!

TIRE RACK GARAGE

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Keep track of tire pressure, rotation, tread depth, alignment and more.
www.tirerack.com/garage

Questions About Your Order?

We're here to help!

800-428-8355

Sales, ext. 4370
Customer Service, ext. 4360