

## Three Really Good Reasons - And A Few More - To Rotate Your Tires

Rotating your vehicle's tires – periodically changing their position on the vehicle from front to back and/or side to side – delivers three main benefits.

- 1. Tire rotation can preserve balanced handling and help maintain traction.** That's especially important when roads are slick from rain or snow.
- 2. Many tire manufacturers require regular rotation in order to keep their tire warranties valid.** (When you purchase your tires at any Raffield Tire location, we'll rotate them free of charge for as long as they're on your car.)
- 3. Rotating your tires helps even out tire wear.** By allowing every tire to work in each of the vehicle's four positions, you'll promote even wear across the tire tread pattern. That prolongs tire life.

### How Often Should Your Tires Be Rotated?

We recommend every 3,000 to 5,000 miles, even if they don't show obvious signs of wear. Tire rotation is best performed while your vehicle is off the ground, so having it done during oil changes makes a lot of sense. With your vehicle on the lift we can also inspect your tires for any damage and uneven wear, check the pressure and overall tread depth, and remove any stones or debris from between the treads.

### Fast Facts About Tires

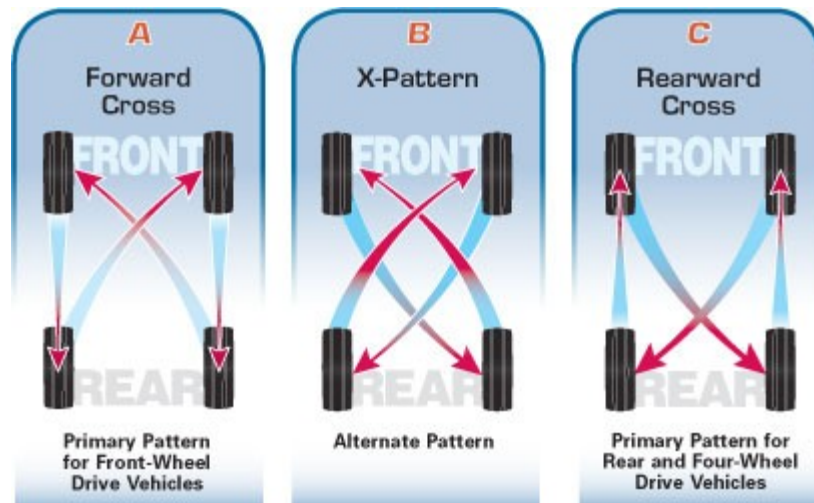
- The tires on the front axle of your vehicle need to accomplish very different tasks than the tires on the rear axle.
- Tires on a front-wheel drive vehicle need to respond very differently than those on a *rear-wheel* drive vehicle.
- Tires on a performance vehicle will wear more rapidly than those on, say, a family sedan.

Ideally, all four tires will wear evenly, allowing them to respond equally well to the driver's input. Also, when all your tires wear out together, you can replace them with an entire set of new tires, rather than being forced to buy them individually or in pairs. By replacing tires in sets of four, you'll maintain the original handling balance. In addition, tire manufacturers are constantly improving their tires. When you replace them four at a time, you'll experience the full benefit of the latest tire technology, instead of settling for a “mismatched ride.”

### Four-Tire Rotation Patterns

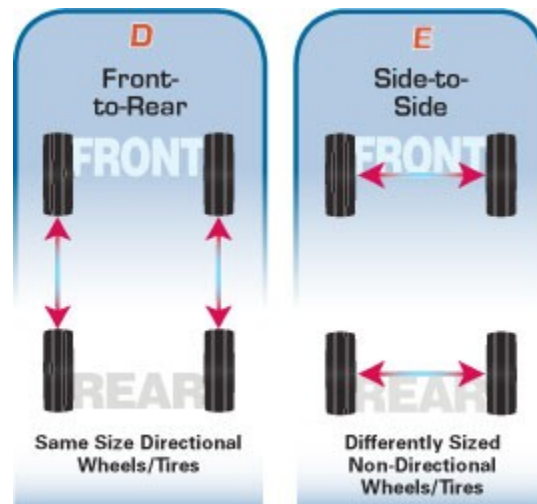
What tire rotation pattern should you follow? The Tire & Rim Association has identified three traditional rotation patterns covering most vehicles. (Applies to vehicles equipped with non-directional tires and wheels which are the same size and offset.)

- On front-wheel drive cars, rotate the tires in a forward cross pattern (**Figure A**) or the alternative X pattern (**Figure B**).
- On rear-wheel or four-wheel drive vehicles, rotate the tires in a rearward cross pattern (**Figure C**) or the alternative X pattern (**Figure B**).



Today's performance tires and wheel trends have dictated the need for two additional tire rotation patterns.

- The "Front-to-Rear" (**Figure D**) pattern may be used for vehicles equipped with the same sized directional wheels and/or directional tires.
- A "Side-to-Side" (**Figure E**) pattern may be used for vehicles equipped with different sized non-directional tires and wheels on the front axle, compared to the rear axle.



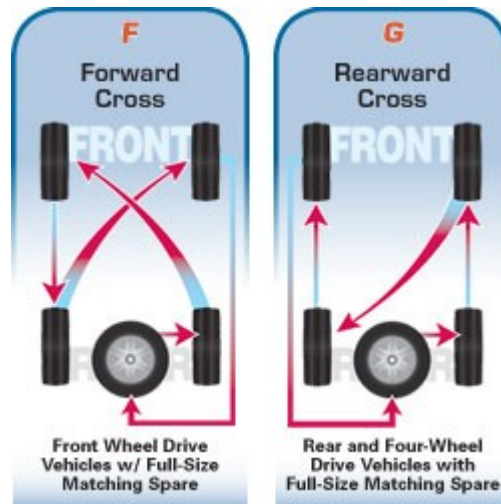
If neither of those two rotation patterns provides even wear, dismount and rebalance the tires. Vehicles that use different sized directional wheels and tires, and/or wheels with different front and rear offsets with directional tires will require dismounting, mounting and rebalancing before rotating the tires.

### Five-Tire Rotation Patterns

Many vehicles are equipped with a temporary spare that cannot be included in a tire rotation program. But if the vehicle's spare tire and wheel (if non-directional and not branded "for temporary use") match the four wheels and tires on the ground, it should be included in the rotation pattern. Follow the vehicle manufacturer's recommended tire rotation procedures. If that's not available,

insert the spare in the right rear position at every rotation. Place the tire that would have gone to the right rear in the trunk as the spare until the next tire rotation.

- On front-wheel drive cars with full-size matching spare, rotate the tires in a forward cross pattern (**Figure F**).
- On rear-wheel or four-wheel drive cars with full-size matching spare, rotate the tires in a rearward cross pattern (**Figure G**).



Five-tire rotation results in equally distributed use that will help maintain equivalent tread depths on all five tires throughout their life. Another reason to follow a five-tire rotation pattern: if a new spare is used in conjunction with three partially worn tires, driveline damage can result in four-wheel drive and all-wheel drive vehicles.