For safety purposes, tires must be replaced when the tread is worn down to 2/32 of an inch in order to prevent skidding or hydroplaning. Visually check tires for signs of uneven wear – high or low areas, areas that are unusually smooth. Here’s an easy test:

Place a penny into a tread groove. If part of Lincoln’s head is covered by the tread, you’re driving with the proper amount of tread. If you can see all of his head, it’s time to replace the tire.

Unique to General Tires, built-in treadwear indicators, or “wear bars” that look like narrow strips of smooth rubber across the tread will begin to appear on the tire when the tread is worn down to one-sixteenth of an inch. When you see these “wear bars,” the tire is worn out and should be replaced.

Regular rotation helps extend the life and performance of tires – a great key to customer satisfaction. As a rule, tires should be rotated every 6,000 to 8,000 miles – or sooner if tires begin to show uneven wear. And if a customer has a full-size spare, this tire should be included in the rotation process too.
Alignment refers to the adjustment of a vehicle’s front and rear suspension parts. Potholes and rough roads can contribute to problems with alignment.

Proper alignment helps increase the life and performance of the tires. It also contributes to greater fuel economy. Front-wheel drive vehicles, and those with independent rear suspension, require alignment of all four wheels.

Balance occurs when the mass of a tire — mounted on its wheel and on the car’s axle — is uniformly distributed around the axle (the center of rotation).

Balancing helps to compensate for the weight of the tire and wheel assembly after the tire is mounted. You'll know that a wheel is out of balance when one area is heavier or lighter than the rest. This can cause erratic treadwear and vibration. A wheel that is unbalanced will tramp up-and-down or shake. Unbalanced tires also put undue stress on the front-end parts, causing tires to wear out well before their tread life warranty.

Balanced tires can spell the difference between a positive and negative driving experience. Drivers of high performance vehicles will be more sensitive to imbalance problems, but no driver is happy with an annoying vibration.
THE CARE AND HANDLING OF TIRES

Static Imbalance occurs when there is either a heavy or light spot in the tire. When this happens the tire typically won’t roll evenly and the tire/wheel assembly often jolts in an up-and-down movement.

Static Balance depends on an equal distribution of weight around the circumference of the wheel and tire assembly. Static balance can be measured by a machine where the tire is placed in its vertical axis on a non-rotating spindle tool, often a non-rotating bubble balancer.

Dynamic Imbalance occurs when there is unequal weight on both sides of the tire and the wheel assembly’s circumferential centerline. When this happens, the tire and wheel assembly often shake side-to-side.

Dynamic Balance is more comprehensive than static balance. On a test wheel, the tire assembly is accelerated up to a speed of 300 RPM or higher. As the tire rotates, sensors measure the forces of unbalance. These forces are resolved into static and couple values for the upper and lower plane of the wheel and compared to the imbalance tolerance based on the maximum allowable manufacturing limits. Balance weights are then placed on the inner and outer flanges of the tire assembly to correct the imbalance.

Proper inflation ensures:

• Safe handling,
• Better ride quality,
• Extended tread life
• Greater fuel economy
• And reduced exhaust emissions to harm the environment.

The correct tire pressure can be found on the vehicle placard which is located in one of the following places:

• In the car’s owner manual.
• On gas tank lid.
• On driver’s side door’s edge.
• Or on door post.
Be sure to double-check recommended inflation rates for front and rear tires – just like tire sizes, sometimes they differ.
THE CARE AND HANDLING OF TIRES

When you check a customer’s inflation pressure, be sure the tires are cool – meaning they are not hot from driving even a mile. And never “bleed” or reduce air pressure when tires are hot.

Because air is a gas, it expands when heated and contracts when cooled – even when it’s the air in your tire. And most parts of North America experience a major climate change in the fall and early winter months when tire inflation pressure is likely to go down!

Here’s a good rule of thumb:
Tires typically lose one pound per square inch (psi) of air pressure per month. Additionally, for every 10° Fahrenheit change in air temperature, your tire’s inflation pressure will change by one psi – increasing with higher temperatures and decreasing with lower temperatures. That means that a tire that contains 32 psi of air at 70 degrees F will show a little over 35 psi at 100 degrees F – even if the car has not been driven recently. So if you take a quick drive on the expressway and heat up the tires even more, the pressure could read up to 40 psi.

Vehicles equipped with Tire Pressure Monitoring Systems (TPMS) can help drivers detect loss of inflation pressure. Federal regulations require TPMS to warn drivers when tires are 25% under inflated. Unfortunately, for many vehicles this warning may come too late to prevent damage caused by under inflation. However, Continental Tires TPMS is very sophisticated – detecting even very subtle changes in pressure fluctuations.

Your customers must be aware that TPMS units are NOT a replacement for monthly tire pressure checks with a gauge.

Nitrogen gas can be safely used in place of compressed air to inflate tires. In fact, nitrogen may actually aid in tire pressure retention because it does not seep through a tire as quickly as compressed air. Other sources of potential air loss such as punctures, damage or a faulty valve will not be slowed by nitrogen inflation. Read more by clicking on the link: 07: More PDFs > Nitrogen

But whether tires are inflated with compressed air or nitrogen, they’ll still need to be checked every month for proper tire inflation.

Did you know that only 15% of drivers know how to properly read their tire pressure?
THE CARE AND HANDLING OF TIRES

Tread Drama: What's Wrong With This Picture?

One smart way to assure customer satisfaction is to learn how to diagnose treadwear issues. It’s a great way to help your customers prevent tire wear-related issues that have the potential to significantly shorten tire life.

Overinflation Issues:
On an overinflated tire, you will find that the center of the tread bears the brunt of the vehicle load. If this is the case, you will find that the inside tread of the tires wears out faster than the outside edges.

To prevent overinflation, be sure to check tires when they’re cold or before they’ve been driven.

Underinflation Issues:
Underinflation reduces tread life through increased treadwear on the tire’s shoulders. This generates excessive heat, which reduces a tire’s durability -- and can ultimately lead to tire failure. Underinflation also reduces fuel economy through increased rolling resistance. That’s because under-inflation makes the vehicle work harder.

Alignment Issues:
When a vehicle is out of alignment, steering is affected and the vehicle will often pull to one side. When this happens, you will notice uneven tire wear. Proper alignment assures precise steering and even treadwear.

⚠️ WARNING: A vehicle is properly aligned when all suspension and steering components are sound and when the tire and wheel assemblies are running straight and true. Tires will wear evenly if the vehicle’s suspension system allows them to meet the road evenly.