

Tips to Extend Tire Life

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Ag tires are expensive, yet here are some simple steps farmers can take to maintain them. In essence, it's like throwing away money by not getting the most life out of farm tires. Data books provided by tire manufacturers are often long, boring and complicated, so to help simplify these recommendations, we've summed up the information in a few important tips.

Inflation

Perhaps the most important advice for making tires last longer is to keep the inflation at optimal levels for the amount of load. Under inflation can cause the tire to flex too much, resulting in sidewall cracks. It can also make the sides of the tread wear excessively. On the other hand, if a tire is overinflated, it will experience uneven wear, usually in the center in the tread.

Unlike car tires, which you can generally get by with checking once a month, ag tires need to be adjusted with every change of application. Because of this, operators should have a good understanding of their tires' recommended inflation levels. Also, consider investing in technology that can monitor and adjust tire inflation from the cab. Here are some examples of when you'll need to make those adjustments:

- **In the field:** As a general rule, lowering your tire pressure to the lowest recommended PSI is the best solution. Lowering the PSI increases the tire's footprint, which maximizes traction and minimizes compaction. However, the total weight of the machine and its application will affect this scenario. Proper air pressure must be maintained to handle the load.
- **On the road:** Driving on the pavement can cause ag tires to wear very quickly and unevenly. Minimize this wear by increasing pressure to the highest recommended PSI during road transport. Again, the total weight of the machine and its application will affect this scenario.

- **On slopes:** For tires that are 12 PSI or greater, manufacturers generally recommend that the inflation be increased by 4 PSI when working on slopes greater than 11 degrees (20 percent grade). For tires less than 12 PSI, increase inflation by about 30 percent to improve performance.
- **In storage:** When storing farm equipment, especially for extended periods of time, it's best to block it up and take the wheels off, keeping them out of sunlight and away from sources of ozone, such as motors, generators and arc welders. Reduce the tire pressure by approximately 10 PSI and store the wheels vertically so that they're standing on the treads. If it's not possible to take the wheels off the machine, increase inflation about 25 percent more than what's recommended for an actual load. This will help prevent the tires from developing bulges or becoming permanently misshapen under the equipment's weight.

Ballasting

Proper tire ballasting is important for maximizing traction on heavy farm equipment. A few good rules of thumb are not to use more ballasting than necessary, adjust the ballast as tractor use varies, and to remove extra ballasts at the end of the season.

If you choose to use liquid ballasts instead of weights, there are a few other pointers to keep in mind:

- If you're using water, don't let it freeze in cold weather.
- Calcium chloride can be used as an alternative to water in cold temperatures, since it won't freeze. However, calcium chloride is highly corrosive and can cause the wheels to rust. Keep an eye on the area around the valve stem, where the rust will be most evident. Additionally, consider using a non-corrosive liquid ballast instead.
- Make sure you have a liquid ballast gauge to check inflation pressures, because a standard pressure gauge will no longer work.

Performance Adjustments

In addition to managing tire inflation and ballasts, there are several other tips to keep in mind for prolonging tire life while maximizing machine performance.

- **Watching your speed:** Many people tend to overlook the maximum speed rating of their tires, especially since most farm tires are only rated at 25 miles per hour or less. Going faster than the recommended speed generates heat. Excessive heat breaks down rubber and causes the interior liners and belts to separate. In other words, it ruins tires.
- **Managing slip:** Ideally, you want to have about 8- to 12-percent tire slip. Less than 8-percent slip means that either there is too much ballast or the machine is overpowered for the application. More than 12-percent slip can mean that there is not enough ballast, the tire inflation is too high or the tractor does not have adequate power for pulling the implement.
- **Mixing radial and bias tires:** Some farmers ask if they can use both radial and bias tires on the same machine. The answer is yes, although you lose the benefits of radial tires when mixing the two. If using both radial and bias tires, make sure they're all the same size. Also, on duals, the radial tires need to be mounted on the inside position with bias tires on the outside.
- **Controlling "power hop":** Mechanical front-wheel drive (MFWD) and four-wheel drive (4WD) tractors can experience a bouncing effect called power hop when pulling a heavy load. Fortunately, there are ways to alleviate this issue. Manufacturer recommendations tend to vary, but here are some common tips for stopping power hop:
 - **MFWD tractors:** Ensure the rear tires are inflated properly and then increase front tire inflation. If you're still experiencing power hop after these adjustments, consider using liquid fill in the front tires and remove an equal amount of weight from the cast ballasts on the front of the tractor.

- **4WD tractors:** Increase rear tire inflation. If that doesn't work, reset the rear tires to their normal pressure and increase front tire inflation instead.
- **Maintaining proper tire ratios:** When changing out tires on 4WD tractors, all of them have to be the same size. On MFWD tractors, make sure the new tire diameters match the proper ratio between the front and rear, as stated by the tractor manufacturer. If any of the ratios are off, the tractor's transfer case will likely be ruined. Tire ratios are set by the equipment manufacturer.
- **Addressing cyclical loads:** For equipment that undergoes frequent changes in load, such as combines and sprayers, there are a couple other considerations to keep in mind. Be sure to empty the load before transporting the equipment. And, whenever possible, haul the equipment on a trailer between fields to help save the tires. On sprayers, it is a good practice to rotate tires and maintain alignment for even wear.

Manufacturer recommendations may vary, it's important to verify all of this information with your tire owner's manual. Before making any adjustments to your farm equipment or tires check the owner's manual, a farm equipment specialist, and/or a tire specialist. Keep these factors in mind when operating and maintaining your farm equipment; they will act as a good starting point on the path to longer tire life.

Disclaimer: The advice in this article is only a recommendation and should be doubly verified to ensure the safety of farm equipment operators.