

## Getting the Most from Your Logging Tires

*By Dave Green, OTR product manager at Titan Tire Corporation*

Tires can greatly impact performance in the forest, but not every setup is ideal for every forest setting. Factors such as ply ratings, tubes, belt construction, and size can all greatly impact performance and durability. By making an informed purchase decision, loggers can ensure their equipment remains running, productive, and profitable.

### **Ply Ratings**

A ply rating is defined by the Tire and Rim Association (TRA) as “The term used to identify a given type of tire with its maximum recommended load.” This is often misunderstood, however.

People tend to think of a ply rating as the amount of actual layers of fabric in the tire, when it’s really just a standard for measuring load capacity. It’s very important when comparing tires to look at the load capacities of each. That is the true measure of tire strength.

As forestry equipment has grown heavier and higher-powered, tire manufacturers have adjusted by introducing larger sizes and higher-ply tires. For loggers running high-powered, heavy skidders — such as a John Deere 848 or a Caterpillar 545 — it’s essential to select tires that are rated to at least 20 plies or higher and at least 30.5L-32 in size or larger. If a logger chooses a tire that is undersized or has an inadequate ply rating, the tire will likely wear out quickly or lead to premature failure.

### **Steel-belt Package**

Steel-belt constructions have become the standard for forestry tires, because of their ability to protect from punctures. Forestry tires require a very high void-to-lug ratio in order to gain traction. In these voids, there is less rubber between the ground and the tire plies, which makes those areas susceptible to puncture damage from branches and stumps. Selecting a tire with an adequate steel-belt package is critical.

The forestry tire industry has recently seen a shift from two-belt to four-belt constructions, as well as the development of innovative steel belts that offer more flex. A steel belt needs to be strong enough to resist punctures, yet not so stiff that it can break. It’s really a balancing act that everyone in the industry is working to continuously improve.

### **Tread Compounds**

Another problem challenging tire longevity is damage to the treads — a problem that tire manufacturers are addressing through the development of special rubber compounds. Since chunking and tearing is more of a problem in forestry settings than in any other setting, it’s essential to select a tire with a tread compound that is specifically designed to meet the unique challenges faced in the forest.

### **Tube Versus Tubeless**

Tube-type tires have long been the industry standard, but in recent years, there has been an increased interest in tubeless. While both types run at the same inflation pressures and load capacities, their major differences lie in cost and reparability.



Tubeless tires are typically a little more expensive than a tube-type tire, but the tube itself can lead to additional replacement costs down the road. A tubeless tire is also easier to repair. Different OEMs tend to have different philosophies when it comes to tubes.

Some OEMs outfit their new equipment with tubeless tires and add tubes into them; others run tubes only if a customer specifically requests it. Other OEMs run tubeless tires and only put tubes in them if using a dual setup. It all depends on what their customer base is asking for.

Regardless of philosophy, it is recommended that tubes be utilized in dual applications. Duals tend to kick up a lot of debris between the tires, and that debris can push on the inside of the tire. If the tire loses pressure, it could potentially push the tire off the wheel and cause a flat, so tubes are important on dual setups.

### **Flotation in the Forest**

Heavy machinery tends to sink in saturated soils. Furthermore, it can cause compaction to the soil, which inhibits growth of new trees. To combat these problems, loggers have two options — run duals or select a wide flotation tire.

In order to increase flotation, you have to decrease the ground-bearing pressure. You do that by spreading the pressure out over a wider area. There are flotation tires on the market that — in many cases — are roughly 10 inches wider than standard forestry tires.

If you're running in a relatively dry environment, duals or flotation tires are likely not necessary. If you're working in the swamp, however, they're essential.

### **Maintaining Your Tires**

The most important thing loggers can do to ensure tire longevity is to keep their tires at the proper inflation pressures. An underinflated tire can cause the sidewall to bulge and lead to stress cracks around the sidewall and lugs. An overinflated tire will swell in the middle and won't flex when running over stumps. That increases the likelihood of impact damage. So it's essential to regularly monitor and adjust inflation pressures.

It's also important to regularly inspect tires for damage. Often, if a cut to the plies or a small puncture is caught early enough, it can be repaired. If you wait too long, you may do irreversible damage to the tire and will have to replace it.

### **Bottom Line**

While each logger has different needs, they're all pretty much looking for the same two things from their tires — durability and performance. What might be a good solution for one logger might not be for another. When in doubt, it's important to seek the advice of your local tire dealer. Sometimes the tire that came installed on the OEM equipment is not always the best option for durability and performance in your neck of the woods.