

# TIRE REVIEW

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## SEASONAL VEHICLE MAINTENANCE

Tire & Service Opportunities Emerge  
In the Shadow of COVID-19

### IN THIS ISSUE

- TIRES FOR BACKHOES
- WHEEL BALANCER  
INVESTMENT CHECKLIST
- TPMS DIAGNOSTIC TIPS

# A WORLD OF VERSATILITY

## WITH A MYRIAD OF USES, BACKHOES WARRANT STUDY WHEN IT COMES TO TIRE CHOICE

MADELEINE WINER | MANAGING EDITOR

**F**rom mines, quarries and construction sites to landscaping, utility work and agriculture—you see them everywhere. The versatile backhoe. These machines are commonplace for everything from housing to asphalt and concrete plants to road projects and down to the family farm. With a machine so versatile, nailing down the right tire for the job merits careful consideration and research from tire dealers working on these machines.

“Whether it’s using the loader bucket to manage piles of materials, scoop, transport materials or load trucks, or using the boom and bucket for excavation, loading or breaking up pavement, there’s not much a skilled backhoe operator can’t do,” says Ryan Lopes, national product manager—materials handling and solid tires for Alliance Tire Americas. “Because of the backhoe’s versatility, contractors usually drive the equipment from one site to another, moving among multiple jobs. That mobility and the wide diversity of projects they typically face are the key reasons backhoe tires need to be up to nearly any challenge—and a lot of roading.”

While backhoes tend to take a beating, your customers can minimize costly downtime and reap the benefits of their backhoe investment with the right tire choice and regular maintenance.

### Bias vs. Radial

Similar to choosing tires for any OTR application, knowing where the equipment will be used is a must, says Dave Paulk, field technical services manager for BKT Tires. For backhoes, a variety of R-4 sizes, tread designs and ply ratings/load indexes are available. Tire dealers also have a choice between bias vs. radial designs, adds Paulk.

Perhaps the most exciting development in backhoe tires is the growing movement to radials, Lopes says. According to Alliance Tire Americas, the cost-per-hour of a backhoe radial can be one-third the cost of operating and replacing bias-ply tires.

“Because of their broad, even footprint, radials more efficiently transfer horsepower to the ground, improving the performance and fuel efficiency of the backhoe,” Lopes explains. “The more flexible sidewalls of radial tires also deliver a more comfortable, easy-to-steer ride. Because of their fuel efficiency and better roading capabilities, radials deliver even better return on investment on backhoes that tend to do longer runs or that put on a lot of road miles.”

However, radials are more expensive, says Paulk, despite the fact that they work better in some applications. He adds that radials also have better traction and flotation, and, in most cases, better cut resistance in the tread area. On the other hand, bias tires typically have stiffer and stronger sidewalls that stand up straighter, as long as they are properly inflated.

“A large part of this market is still bias, partly because of price,” Paulk says. “Bias are generally better where sidewall cuts and punctures are a concern.”

### Getting Attached

When choosing the right tire for your customer’s application, the backhoe’s running speeds, distance it



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## Q&A



**Dave Paulk**  
Manager  
Field Technical  
Services

### Question:

Implement Tires are designed for planter, cultivators, and harrows and are also used on anhydrous trailers, farm wagons, and other uses. What are the types of Implement tires?

### Answer:

**Bias Ply (Implement I-1) Tires:** These come in Tube and Tubeless designs and most are rated at 25 mph max speeds

**Bias ply (Farm Highway FI) Tires:** Tubeless implement tires that have heavier ply ratings and higher speed ratings in some sizes.

**Radial Ply Tires (IF rated implement):** These tires are more flexible and provide a smoother ride and are speed rated up to 40 mph for highway use. Use lower air pressures than bias.

**IF/VF Radial Tire:** These tires are made to run with 20-40% lower air pressure to minimize soil compaction for heavier equipment. Most are speed rated for at least 30 mph.

[www.BKT-tires.com](http://www.BKT-tires.com)

## TIRE FOCUS: BACKHOES

travels and weight it will bear all affect tire wear and performance, Titan International says. Another aspect of the backhoe that affects the load its tires will carry is its attachments.

“Attachments change the operating characteristics of the backhoe because it changes the performance parameters,” says Titan International.

Typically, backhoes are equipped with a bucket on the front for moving dirt and gravel and a hoe on the back for a myriad of jobs—such as digging holes and trenches for electrical and water lines, BKT’s Paulk explains. Typically, the larger the bucket, the more weight is carried by the front tires. The larger the hoe, the more weight on the rear tires.

“The load the bucket carries also has a massive effect on the weight of the machine, says Alliance Tire Americas’ Lopes. As the load on the front is raised and lowered, the dynamics of the force applied to the tires are altered, he says. These effects should be taken into account when advising a customer on the proper spec, inflation pressure and speed for a tire on that machine.

“Even just using a bucket to lift and swing metal plates, concrete barriers or pipes can threaten tires,” Lopes adds. “Pneumatic drills or other pavement-breaking attachments can create tire hazards right in front of the machine. The sharp edges of broken concrete can puncture tires or chunk away at their tread bars or lugs.”

When a bucket on the front is changed out—for example, with forks or a brush wheel—tire characteristics must change as well, Titan says.

“Air pressures must change because weight distribution changes. Replace the bucket on the rear with a grapple or drill, [and] tire parameters change once again,” Titan says. “It’s important to refer to the manufacturer’s tire inflation pressure charts for guidance.”

### Care & Maintenance

One of the most important aspects of a tire dealers’ job is helping their customers maintain their investment.

“A good preventative maintenance



## Backhoe Tire & Maintenance Checklist

- Inspect tires occasionally for cuts, foreign objects stuck in the tire (nails, screws, metal, etc.) or anything that can cause tire loss. Mud, rocks, sticks and other debris should also be cleaned out of the wheels.
- Make sure lug nuts are tight on the wheels to ensure that the wheel is not damaged and to minimize tire vibration.
- Rotate tires to even out wear, especially after countless rounds of repeating the same motion in the same direction.
- Check suspension parts such as bearings, pins and bolts that may have become loose or need greasing. Loose suspension parts can cause irregular and premature tire wear.
- Replace cracked or broken hydraulic hoses. While this doesn’t cause immediate damage to tires, hydraulic fluid can cause rubber to become soft and start breaking down over time, causing premature replacement.
- Grease crucial parts at the end of the day or before using. While it is a good practice to do this, not all parts cause tire wear. However, loose front suspension parts and bearings can cause front tire wear and tires to be replaced prematurely.
- Tire dealers should use the correct load ratings for the equipment to minimize tire overloading and damage.

## TIRE FOCUS: BACKHOES

program can save money, tires and unnecessary costs in other areas of the backhoe,” says Paulk.

Paulk gives two maintenance tips: maintain correct air pressure in the tires and keep the machine clean.

“Check air pressures often, especially in cold weather,” he says. “Air carries the weight. If the tires are run overloaded/underinflated, the sidewalls will be damaged and will lead to tire failure. If the tires are overinflated, this will lead to premature wear and risk impact breaks.”

Mike Fullen, global aftermarket trainer for Carlisle TyrFil, says since front tires on backhoes are susceptible to flats, consider flatproofing these tires to eliminate unnecessary and unwanted down time.

“If a tire goes flat on the job site, it could take hours, and normally does, for the tire to be repaired or replaced,” he says. “This excessive downtime is extremely expensive. By flatproofing the machine’s tires, you are assured of zero expense from downtime due to flats, and the flatproofed tire’s PSI never changes, thereby



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eliminating the need for pressure.”

Lopes advises tire dealers to not get drawn into using a standard agricultural tire on a backhoe loader—even though the size might be the same and the tread may look similar to the OE tire.

“Tire dealers and their customers have more choices than ever in tread pattern and construction,” he says. “Take advantage of that choice.” **TR**

## Carlisle TyrFil

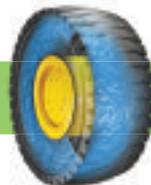
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