finding the **right fit**

CHOOSING THE BEST TIRE FOR YOUR OPERATION WILL SAVE TIME AND MONEY.

By PAUL RICHARDS

Today's tires use advanced technology and are designed for specific applications.

After fuel, tires are an owner-operator's biggest operating expense. As the advertising slogan goes, there's a lot riding on your tires: your whole business.

While choosing the wrong tire won't bankrupt most owner-operators, equipping a truck and trailer with 18 tires not up to spec can cause downtime and missed opportunities – especially with today's tires, which employ advanced technology and are designed for specific conditions.

Likewise, spec'ing the right tires can lead to improved fuel efficiency, allow for heavier and larger loads and give you more highway miles. Here are the main areas of choice in spec'ing tires.

LOAD RATING

For safety reasons, load rating should be your first consideration. Know what maximum loads your vehicle will be carrying, and get enough tire to handle the job.

That's important, because overloading a tire has much the same effect as running a properly loaded tire that's underinflated. The result is excessive belt flex,

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which generates damaging amounts of heat and can result in catastrophic tire failure.

STANDARD OR LO-PRO

Another basic choice is whether to go with standard-profile or low-profile tires. A key advantage to lo-pro tires is that taller trailers can be pulled, while maintaining the same overall height. This is beneficial if you typically "cube out" – that is, if you fill trailer volume before reaching maximum legal weight. A lo-pro package with a taller trailer allows more freight to be carried per trip.

For many bulk-haul applications and other operations that "gross out" – that is, reach maximum gross weight before filling the trailer – lo-pros also offer an advantage in that they weigh up to 14 pounds less than standard tires. So, use of lo-pro tires could allow an extra couple of hundred pounds of product to be loaded. Lo-pros account for about half the over-the-road tire market.

On the downside, since lo-pros have a smaller overall diameter than standard-profile tires, they make more revolutions per mile. Not only can this have an adverse effect on tread life but, unless a gearing change is made at the transmission or rear axle, higher engine speeds are needed to maintain a given road speed. In that case, fuel economy can suffer.

Whether you choose standard or lo-pro, be aware of your clearances because they'll determine your maximum tire height.

STEER, DRIVE OR TRAILER

Spec'ing axle-specific versus all-position treads is yet another decision that must be made. Axle-specific treads include:

- Steer, which is usually a deep, rib design for maximum water evacuation, and which is often used in all positions.
- Drive, which can be either a deep rib or lug pattern for better traction under adverse conditions.
- Trailer, which is usually a shallower-tread, free-rolling rib pattern.

Trailer tires should be able to stand the abuse of strong lateral forces, varying loads and frequent curbing. Ideally, they should have reinforced sidewalls to protect the casing from curbing damage.

According to the Technology & Maintenance Council, rib-tread drive tires can improve fuel economy by 2 percent to 4 percent. A shallow rib tread on all positions will provide the best fuel economy benefit because shallower tread is less subject to energy-wasting "squirm," or tread deformation. Still, traction needs must also be considered.

DUAL OR SINGLE

You also have a choice between using wide single tires or a dual configuration. So-called super singles are hardly a new concept, but they have been slow to catch on. Now they are available from several manufacturers.

Replacing dual wheel assemblies with wide-based singles saves weight and can save fuel. Improved fuel economy comes from the fact that a wide single tire has a smaller footprint than a pair of duals, and there are only two sidewalls at work. So there's less material to flex, hence less rolling resistance.

And, unless the tires in a dual assembly are perfectly matched – in size, inflation pressure and degree of tread wear – their loaded radii will differ. In that case, one tire wants to travel farther per revolution than the other. The tires fight each other, consuming tread and fuel. Obviously, that can't happen with wide singles.

For all the benefits, there is one important risk: tire trouble on the road. In the past, if a wide single blew on a single-drive-axle tractor, you had problems. If one failed on a tandem, an operator could possibly limp to the nearest truck stop or garage, though it was unlikely that the facility would stock a replacement.

Today, tire manufacturers are addressing these concerns with more robust designs and better product distribution. ■

TIRE SPECS. The tires included in the spec listings represent the products from each manufacturer that are most popular with owner-operators for over-the-road and vocational uses. Consult a dealer for information on other models, including wide singles; contact information begins on Page 6.