

*The authoritative guide to reducing commercial tire expenditures from
Pressure Systems International,
the manufacturer of the Meritor Tire Inflation System by PSI™*

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September,
as well as
throughout the
year, is a good
time to
remember those
lost on 9/11/01
- We should
never forget.

Tire Tread Design Options

When a commercial fleet is in the market for new tires the number of options for possible replacement tires is large. Not only are there a number of tire manufacturers to choose from, but each typically offers a full menu of tire designs. The semantics may change between tire companies but there are basically four categories of tires to choose from:

- Linehaul
- Regional
- Pickup & Delivery (Urban)
- Vocational

The difference between linehaul and regional is that linehaul trucks make runs over 500 miles and can generate as much as 200,000 miles/year with a tag team. Regional hauls are usually around 250 miles each and generate anywhere between 30,000 and 80,000 miles per year.

Pickup & Delivery (P&D) operations involve more city driving with lots of stops and low mileages. 20,000 – 60,000 miles/year is typical for this type of service.

Vocational operations see both on and off road duties and include specialty markets such as refuse, logging, construction, and utility.

On occasion, some fleets may run vehicles which see a combination of these four categories. This makes it more difficult to always pick the best tire for their specific application.

Regardless of the specific type of service vocation, every fleet wants to maximize tire removal miles, maximize the number of retreads, have great traction in all weather conditions and in the case of linehaul and regional fleets, to maximize fuel economy. P&D along with vocational service tend to scrub the rubber off so quickly

which, in combination with all the turning, make fuel economy a non-issue. Trucks that run in the city and in on/off road environments also are looking for resistance to chipping/chunking of the tread and elimination of any stone holding and drilling issues which will adversely affect retreadability for them.

Tires which run on the steer and trailer wheel positions are usually rib designs that have grooves running circumferentially around the tire. Sometimes the grooves are straight and other designs can be zigzagged. Zigzagged grooves are better for city driving where you need more traction. The straight grooved tires are better for fuel economy and linehaul operations.

Tires designed with lugs are used on the drive position because they are superior for traction. Some drive tires have open shoulders where the lugs are located 360 degrees around the tire including the shoulder. This design is found on tires designed for on/off road applications where traction is the most important factor. A closed shoulder drive tire has wide shoulder ribs that are resistant to side forces. This allows for the use of deep treads found in linehaul tires. If the tread depth is too deep with lug drive tires, the lugs will tend to squirm and generate a high degree of irregular wear which leads to early tire removal.

With all the choices available to a fleet manager, it is always recommended to work closely with your tire professional to fully understand all the tradeoffs when it comes to choosing the proper tread design. And of course, keeping your tires properly inflated can only help maximize tire life, retreadability, and fuel economy and keep your costs in line. A good source of more detailed information on this subject of tire selection can be found in TMC's RP 220 - Tread design selection.

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