



COMMERCIAL FLEET TIRE DIGEST

*The authoritative guide to reducing commercial tire expenditures from
Pressure Systems International,
the global leader in Automatic Tire Inflation Systems*

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Understanding Tires and Tire Pressure

Road alligators can be from either a new tire or a retread. All tires require air otherwise they will eventually fail.



Commercial truck tires are complicated so choosing the best tire for your specific service vocation is not straight forward. There are many varied tire makes/models available for each wheel position: steer, drive, trailer, and dolly.

Tire tread depths vary depending on wheel position and specific design criteria for the tire. If the tire is designed to maximize fuel economy, tread depths will be in the lower range, because the deeper the tread depth, the more heat will be generated as the tire is rolling down the highway. Excess heat leads to higher rolling resistance and lower fuel economy.

For fleets that run under a high amount of on-off road conditions, and therefore wanting to maximize traction, a deep lug tread design is required. Fuel economy is not great on these tires but it solves the issue of required traction.

Weight savings is usually important for fleets that gross out their loads; so choosing wide-base tires may be the solution. One widebase tire replaces two duals. Widebase tires that are specified on drive and trailer wheel positions, in combination with aluminum wheels, can save up to 1,000 pounds.

There are many examples of different load ranges associated with the same size tire. A good illustration is the common 295/75R22.5 size tire. This size tire may be available in three different load ranges (LR): F, G, and H (per the Tire & Rim Association Load/Inflation Table). See table below for ratings and psi recommendations for each LR for the example tire size:

295/75R22.5	Load Ranges		
Dual Application	LR F	LR G	LR H
Max Load (lbs.)	5070	5675	6005
psi	95 psi	110 psi	120 psi

Regardless of the tire load range, the tire dimensions are exactly the same. What is different between the three load range tires is the type and gauge of the steel cord used in the tread belt package and in the casing. A heavier and more expensive wire is used in the LR H versus, for comparison, the LR G tire. If a fleet knows the worst case load the tire will see in their specific service vocation, then it only makes sense to specify the proper LR tire. There is a big cost savings if you can run a LR G tire versus a LR H design.

Since air is what carries the load, it is critical to run the proper tire inflation pressure. All of the tire companies publish load/inflation tables for every tire size. When the tire pressure is correct for the load, tire traction and treadwear are optimized, because the contact patch, or more commonly called "tire footprint", is optimal. Tire underinflation is always a much worse scenario than running a little overinflated. When a tire is run underinflated only bad things will result: The tire footprint becomes longer when running underinflated; more rubber is on the road which leads to excessive heat buildup; sidewalls are also flexing more severely generating additional heat. Heat is a tire's worst enemy and will lead to irregular tire wear, fast wear, and even a blow-out. Tires that are run with reduced air for an extended period of time will eventually fail leaving rubber debris along the nation's roads.

Always work with your tire professional in choosing the proper tire design, load range and inflation pressure for your specific service vocation.

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