P.S.I.™ THE INFLATION SYSTEM

COMMERCIAL FLEET TIRE DIGEST

An authoritative guide from Pressure Systems International to help reduce costs, increase safety and improve operational efficiencies associated with tires.

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Protect Your Tire Casings

More than 85% of all commercial trucking fleets retread their tire casings. Retreads cost between 33% and 60% of a new tire depending on tread depth, design, and compound. It is financially advantageous to a fleet to maximize the number of retreads per casing. Commercial truck tires are designed to survive multiple retreads. It is critical for fleets to have a serious tire program that effectively protects this very valuable tire casing asset. Maintaining proper tire inflation pressure is the most important consideration when trying to maximize the number of retreads. When a tire is running hot due to underinflation, the rubber compounds will deteriorate leading to separations. These compounds will eventually degrade and will not survive the retread process.

Every fleet should fully understand the retread process and choose a reliable retreader. Your retreader should be able to provide you with valuable casing analysis data which will lead to a better overall casing management program.

A visit to your local retreader will aid in understanding their operation and equipment and to ensure it meets your specific needs. Here are the general retreading process steps:

- Casing Inspection
- Buffing
- Casing Repair (including skiving)
- Apply tread
- Curing
- Final Inspection

Casing inspection requires putting the tire on a spreader and thoroughly inspecting both the inside and outside in a well-lighted environment. Since a technician can only identify so many casing issues, most retreaders today also use non-destructive, high tech inspection machines. Ultrasonic inspection machines will identify variations inside the tire casing. High frequency sound waves pass through the casing uniformly when there are no issues. If there is a separation or some other variation in the casing, the sound waves are disrupted and the suspect area is marked with a crayon. Many retreaders also use shearography machines that use laser imaging to show trapped air within the casing. Separations are identified when trapped air is present. There are also high voltage electronic inspection devices to help identify punctures and X-Ray machines to recognize broken wires.

The buffing process removes the old tread. However, the subsequent repairing step is the key to casing success. Fleets typically have different criteria when it comes to casing repair such as a maximum number of nail hole repairs allowed. Skiving, which is the process of removing the loose rubber, ply and injury on the surface after the buffing operation, requires a reinspection of the buffed casing and cleaning out any injuries.

There are two options when applying the tread; A machine can apply and extrude uncured rubber, or it can apply a precure tread rubber that already has the tread design.

Curing is the final step before final inspection. If uncured rubber was applied to the casing, a mold cure is necessary. When a precure tread compound was applied, the retread is put into a curing chamber. Final inspection involves a person visually inspecting the final product.

The TMC has published a detailed guide to understanding the retread process: RP 224

The best way to determine if your tires are lasting multiple retreads is to do a scrap tire analysis on a regular basis. When you inspect your scrap tire file and discover, for example, that there is too much tread rubber remaining on your second retreads, then you may have a tire durability issue. Maybe for your specific service vocation it may be beneficial to only retread one time as you are clearly not getting your money's worth if there is 9 or 10/32 of rubber remaining on those second retreads.

Always work with your tire professional to help optimize your retread tire program.

Two excellent sources for additional information on retreading is TRIB (Tire Retread Information Bureau, retread.org) and RTA (Retread Tire Association retreadtire.org)

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