

# Are Cooler Tires Easier to Push?

Presented by  
Noorez Devraj



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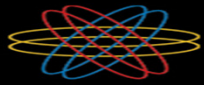


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Retread Workshop





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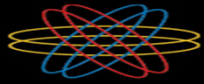
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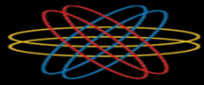
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## What is rolling resistance?



Rolling resistance is a way to measure the energy you have to exert to roll a tire down the road. Just remember: The lower the better.





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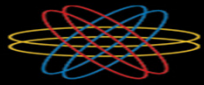
Do you run your equipment on flat tires?

75% of the tires are low by 5%



**If your tires are down by 5 PSI each  
and you are running 22 tires (100 PSI/Pressure)  
= 22 x 5 = 110 PSI  
1 Flat Tire**





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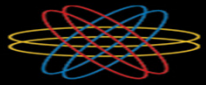
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**What are some of the basics of running a cooler tire?**



- 1) Maintaining Correct Air Pressure
- 2) Maintaining Correct Air Pressure
- 3) Maintaining Correct Air Pressure





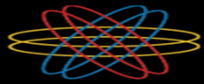
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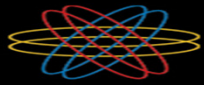


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## The purpose of the casing

- to contain air under pressure and consequently the load
- to transmit the vehicle's torque stresses to the tread, which is in contact with the ground
- to allow the tire to guarantee its principal task, i.e., to support the load





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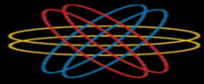
## Why is correct inflation pressure so important?



Nothing will make your tires last longer, wear more evenly, be more consistently retreadable and provide superior fuel efficiency than maintaining correct inflation pressure.







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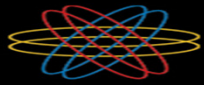
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## What happens inside a casing when it is under inflated?



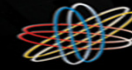
The air molecules bouncing around off the inside of the tire. If you force something into a confined space that is usually allowed to be free it will exert pressure (Force) on the walls of it's container. An increase in tire temperature or friction will cause the air pressure to increase while colder temperatures will cause it to decrease.





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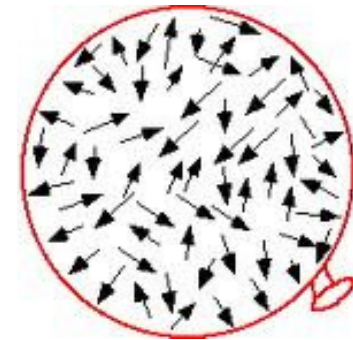
The air molecules bouncing inside the tire hit the tire wall like this boxer punching the bag

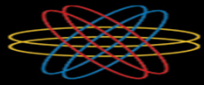
## Underinflation

...increases tire wear, creates excessive heat and causes the sidewalls to overflex. This diminishes the tires' integrity, making them vulnerable to premature failure.



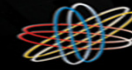
The air molecules bouncing around off the inside of the tire.





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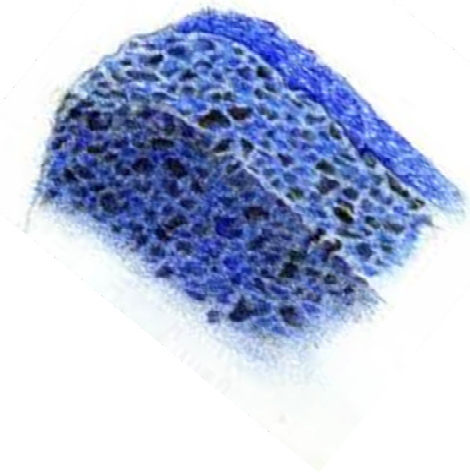
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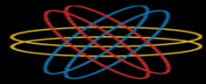
## What is Porosity?

Solid materials have pores in them, sometimes these pores are almost microscopic in size, and sometimes they're very visible. Porosity is a measure of how much air or liquid can be absorbed by these materials.



if you think of the structure of rubber, it's probably better to think of a very dense sponge





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If your wheels are damaged or corroded, or if your tire beads have been damaged through incorrect mounting procedures, or if you don't have a uniform layer of proper mounting lubricant on the bead seats, you can lose air around the beads.

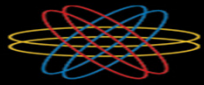


An old, cracked valve grommet can also allow inflation loss.

Covering the inside surface of the tire is a thin rubber layer called the "innerliner." It may have two or three layers itself, and it's designed to bond firmly to the tire casing, yet resist tiny molecules of air passing through it.



Even then you can still lose 1-3 psi per month. The air actually migrates through the tire, especially the sidewalls where the rubber is thinnest. How does air get through solid sidewalls? They aren't so solid.



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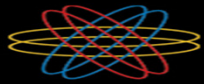


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## What Oxidation Does to Your Tires and Rims

Oxygen and moisture are destructive to your tires. Oxidation can cause bubbling or flaking of the metal finish, which at that point can degrade the base material of the wheel itself.





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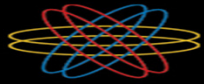
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Since water vapor also permeates the tire rubber, it can separate the layers and even rust the steel belts, making for an extremely unsafe driving condition.





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## Rules on Condensation

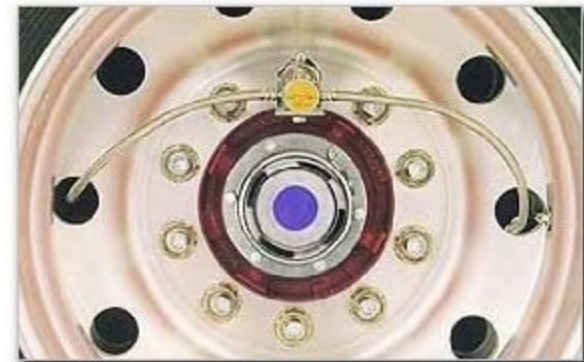


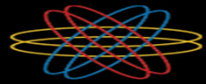
We have conducted a substantial amount of research on compressed air systems. There are very few things that can cause more trouble than the condensation that accumulates in the system...

Author : Dan Wise



Water in a compressed air system is a nuisance that causes downtime and maintenance.





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### SMiLE - Smart - Maintenance - Improves - Life - Expectancy

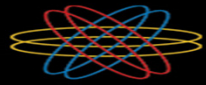
In trucking, every penny counts. And in today's environment, that's more true than ever. Tires have always been a very big part of fleet operating expenses.



Tires and tire care play a significant role in fuel efficiency, another huge issue today. And, a well cared-for casing is the foundation on which a dependable retread is built.

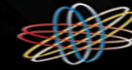






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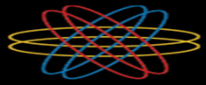
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## CSA2010

### Carrier Safety Administration

CSA2010 is going to be the biggest push to help maintain good drivers, 2 flat tires on one rig, could result in about half of the points taken from a CDL driver. "It's no longer something fleets want to roll the dice with"... are absolutely correct, especially since the FMCSA has said they are going to be extremely zealous on the compliance/enforcement side.





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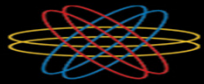
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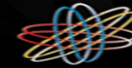
## What are my choices?





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