Superdaves tech tip 3-10

The mystery of tire pressure.

There isn't a weekend that goes by without millions of people at race tracks across the country walking through the pits asking the guy or gal, who is going fast that night "what are you running for air pressure"? I loved this question back in the day when we ran nitrogen because I could answer ZERO and wait for the funny look on their faces.

The biggest misnomer is if you want better traction you lower your air pressure. There is some truth to that if you had 22psi and went to 16psi but if you are already at 16 and go to 10 you just went backwards but your mind has told you it's better so therefore it is.

Don't you remember the times when you have mounted your tire the night before the race and you put 30-40 psi in it to bead it up only to forget about it and head out for practice? I've done this enough times to know at some tracks it was working pretty well until I remembered. Then the pressure went right back down 16. On occasion it was better but in my mind it was always better.

So here is the basic rule of thumb. We have two tire types available to us right now. Dunlop & Maxxis. Both require much different pressure ranges.
Dunlop: I like to have 14-16psi in the front and 16-20 in the rear.
Maxxis: I like to have 20-24psi in the front and 24-30 in the rear.
The reason you need to run more pressure in the Maxxis is because of the rubber compound. It's a lot softer then the Dunlop and the lugs flex a lot more. When your racing and the tire is making contact with the ground the lug flexes and creates heat. The more it flexes the more heat it builds. Keep in mind this will change from a new tire to a _ worn tire. The more air you have, the less the tire will heat up. If the tire gets too hot the oils in the rubber come out and it gets greasy! Some of you may have experienced this. Half way through a race you all of a sudden loose traction.

Check your pressure as soon as you get off the track and don't let it raise more the 4psi. If it does you need to add pressure, not drop it down 4psi to get back to where you were. It's best to let all the hot air out and refill it if you have the ability or if you have time between races just let it cool then adjust your pressure.

If you are racing a dry-slick short-track at night you can use the lower pressures because your tire will stay cooler and your speeds are slower. If you are at a _ mile in 90 degree temps your tire will want to heat up so you need to be at the higher end of the scale.

So why not just use nitrogen and run 5psi. Because we all know nitrogen doesn't increase in pressure right? Isn't that what we've all be told? I used to use it for two reasons. It does make a very, very slight difference and on the Miles where tire heat is a big issue it gave me piece of mind but the main reason is because we could get it in high pressure bottles that were easy to haul around and could bead up a tire in a heart beat.

Air is made up of approximately 78% nitrogen, 20% oxygen, 1% argon, some carbon dioxide and H2O. Considering 99% of air is made up of pure gasses and the law of gasses tells us that all gasses are created equal, they will all react the same to temperature. The only difference is the humidity and that will differ depending on where you live. I live in Colorado now and our humidity levels are quite low so I never worry about it but for you in the Midwest running the Springfield Mile use nitrogen. For any other track, I would not worry about it except for the convenience of the high pressure bottle to take to the races.