



Tire Tech/Competition Tires

Additional Tire Tech Articles



Hoosier Tire Break-In Procedure

Proper break-in will not affect initial performance but will increase the competitive life of the tire.

The procedure can be broken down onto phases.

- 1st phase: The initial run
- 2nd phase: The length of the time the tire is allowed to "cure"

The initial run

The first laps for the tire are critical for setting up the durability and competitive life. The first session should consist of 10-15 minutes of running. The early part of the session should be run at an easy pace, with the speed gradually increased until the end of the session. The final lap should be run at the fastest possible speed. The intent is to achieve maximum tire temp on the last lap. At this point the car should be brought in and the tires allowed to cool at a normal rate. Optimally, the tires should be removed or have the car jacked up during this cooling.

During this process, the inflation pressure should be 3-5 psi higher than you would normally use. The best progression would have the driver taking 4-7 laps to accomplish this break-in. Each lap should be approximately 7-10 seconds a lap faster than the previous lap. The goal is to have the tire temp as high as possible on the last lap without "shocking" the tire during the warm up laps. In essence, no wheelspin, late braking, or sliding. The last lap should be at, or very close, the maximum possible.

"Cure" Time

After completing the above, the length of time the tire is allowed to set is possibly more important. The barest minimum for this process to be beneficial is 24 hours. (Not "the next day"). Any less than this is a waste of time. The best situation would allow a week before using the tire again.

Proper tire management is a difficult process. To accomplish this almost always requires a second set of wheels. The payoff is greatly increased competitive tire life.

Tire Pressure recommendations

Hoosier Tire typically require higher pressures than other brands.

Reference the following chart for suggested pressures:

Vehicle Size	Recommended Hot Pressure	Cold Pressure
1800-2200 lbs	39-42+	31-36
2200-2600 lbs	40-43+	32-37
2600-3000 lbs	42-46+	32-37
over 3000 lbs	43-48+	32-38



+ Higher pressures will improve the performance capability but will require a more sensitive feel to take advantage of the increase.

One characteristic of the tires is the tendency to "skate" initially (when inflation pressures are correct). It is important to resist lowering the pressure to attempt to eliminate this feeling. Dropping the pressure may improve the "feel" of the tire however it will also lower the performance and increase the wear on the tire.

Tire temperature recommendations

For best performance the expected temperature range will vary from track to track. Generally, optimum traction will be generated when the pit lane temps show 180-200 degrees. Check with the tire technicians at the event for the recommendations for that particular track and car combination. Take advantage of the temperature checking station that will be set up during the practice session. Use of Hoosier technicians measurements eliminates variables in instruments and procedure which can influence the data.

Chassis setup recommendations

For optimum performance the tires will require around 3 degrees of camber. There will be a trade off in Max Performance to maximize wear. Generally 1/2 degrees less than optimum will result in the best compromise for wear and speed. Less than 2.5 degrees can result in excessive wear on the shoulder junction.

The tires should offer better performance with spring/shock rates that are higher than previous brands you may have run.

Things to consider

These tires are molded to their designed tread depth. They do not require shaving to be prepared for competition use. Shave the tire further will not improve performance. It is not recommended that they be altered in this manner.

Due to extremely light construction, the Hoosier tires have a much lower polar moment than other radial tires. This translates to a very low rotational mass, which is a good thing for performance applications. The down side to this feature is that the tires don't resist "spikes" in braking force as well as a heavier tire might. As a result, there is a tendency for drivers to "flatspot" a tire the first time really getting to the limit. Vehicles equipped with ABS will benefit from its use. If you do not use ABS it is recommended that you make an effort to minimize stabbing the brakes until you have some experience with the feel of the tire under hard braking.

The light construction also provides less protection from impact damage and punctures. Off course excursions or running over debris on the track will likely result in tire damage.

These tires are not directional, however the tread is asymmetrical in design. A new tire should be mounted with the two grooves on the inboard side. Once some wear has occurred it may be desirable to flip the tire on the wheel in order to even out the wear and maximize tire life.

Following the recommended break-in procedure will require a lot of planning to make it work. The benefits to doing it right include greatly increased tire life as well as more consistent performance and durability under stress. Please make an effort to educate your team on the importance of this. It can save you a lot of money.

The Hoosier D.O.T. Radial tires are extremely good in dry conditions, however they don't make very good wet weather tires. Having dedicated rain tires available will be necessary for your team to be properly prepared. Hoosier makes a D.O.T. approved bias-ply tire called a "Dirt Stocker" that has been proven to be far superior to any competitors tire as long as it is a steady "wet" condition. Check with your Hoosier representative for size availability.

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