



Tire Warmers

There has been much debate on tire warmer choice, so here is my take on it. The TyrSox tire warmers warm the tire up to a temperature that is below the average operating temperature of the tire at full race speed. These warmers have the warming coils running with the rotation of the tire as seen in these thermo pictures. Most of the other tire warmers run a zig-zag pattern going across the tire and have an uneven warming pattern as seen on websites from other tire warmer manufacturers. The TyrSox warmers offer more even heat distribution and that reduces heat cycling.

TyrSox tire warmers features:

- Higher/faster conditioning temperature, 150F, 30–40 minutes
- One thermostat per blanket to ensure consistent tire heating
- No drop thermostats maintain consistent temperatures
- Lighter and thinner blankets for easier fitting
- Tire/fender tire cozies that completely insulate the tire/wheel assembly from heat robbing wind and surrounding temperatures
- Simple, heavy duty, 16-gauge, 8 foot power cords
- With no switches, lights, connectors or transformers to break down
- One year manufacturers warranty on manufacturer defects

Pre-heating your tires will not allow you to ride at full race speed, but will allow you to go out with confidence and function at 80% for the first couple of laps**. Put the tire warmers on before you go out, approximately 45 minutes before your practice/race to build up heat and put the warmers on the tires after you come back in from the track to keep the heat in. It's not always to plug them in, just keep them on the tire to maintain heat. When it is about 15–20 minutes before you go out on the track again turn them on to build the surface heat up. This will keep your tires from going from one extreme to the other, which shortens the usable life of the tire.

Tire warmers are for one reason only, to make the tire pliable and adjust the surface tension. As we all know, everyone wants a sticky tire, which in turn will help keep the bike hooked up in the corners. The surface tension is what being "sticky" is all about.

Tire warmers allow the tire to get to the correct temperature so they will be at the ideal surface tension. Of course tires are made of rubber, which we all know will melt if heated to a certain point. This is the battle the tire manufactures go through in manufacturing tires. They want a tire compound which will act in a certain way, at the average temperature generated while in use. They vary the compound so the tire will maintain a specified surface tension while at track temperature.

What does this mean? If you warm the tire to the tire's ideal operating temperature, the tire will react as designed. Nothing more. Often you will hear about "tire-cycles". This is where the tire heats to its ideal operating temperature, then cools to below this mark. This would be one cycle. Others claim that by using



tire warmers, you will limit the tire to one cycle, and this will allow the tire to last longer. I won't dive into this subject, but don't buy warmers just because you want to extend the life of your tires. Buy them because you want to ensure that your tires are setup to perform at their ideal performance level, right from the first lap.

There are several different concepts on how tire warmers should be built, and how they should operate. Most warmers use a sleeve to warm the tire, and use an insulator to maintain the heat inside the warmer. Here is where the differences come into play. Several manufactures join the heating element and the insulator. These warmers cover only the tire, and much of the wheel is visible. The downside to this setup is heat loss. Heat will escape the warmer, so temperatures are increased to make up for the loss. This can lead to "Hot-Spots", and the overheating of the rubber compound. It can also give the appearance that the tire is warmed correctly, but "deep" warming has not occurred. Only the surface of the tire is warm, while just below the surface is still below the optimum tire temperature. Excessive heat can also chafe the tires surface, or even melt it.

The TyrSox is unique in that it uses lower heating levels, and uses a separate insulating cover. This cover incorporates the entire wheel, so the warming effect involves the whole wheel assembly. It also traps more heat inside, heating the tire below the surface, slowly. Tire warmers are about becoming more consistent, period. Trying to make the bike the same every time it hits the track. This is our recommendation on how to use your tire warmers on a typical track/race day.

Check your tire pressure when the tires are cold, Put on your tire warmers about 60 minutes before the first event, and before taking the track, Once the session is complete, take the pressure again, note the growth of pressure; note this increase and play around with the pressures until you find your ideal setup. Once you get a system down, you'll know what your cold pressure reading should be to achieve the best on-track pressure.

If you're in the pits for a short time, do you need to put the warmers back on? This is the rule we use. If you're going to be in the pits for more than 30 minutes, put on the warmers.

Each TyrSox set come with: two warmers (available indifferent sizes depending on your bike), two tire cozies, one hanger and instruction sheet - all in an attractive plastic container.

* See product page for pricing.

** This is only a suggestion and Spears Racing suggests that a rider rides at his or her own comfortable and safe pace until he or she feels it is safe to proceed at their race/practice speed.

Thank you for looking,

Gregg Spears

Spears Enterprises/Racing
15253 So Hwy 99 Manteca, CA 95336
Phone: (209) 923-4684 Fax (209) 923-4685
www.spearsenterprises.com