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## NOTES ON TEMPERATURE AVERAGING

- Averages have more meaning when Camber, Tire Pressure, Stagger, Toe in and basic set up are correct. #1 rule in racing is to have all four wheels pointed straight ahead in order to consistently win races.
  - You can see slightly higher front averages (5 to 10 degrees or so) due to absorption of heat from the engine and brakes.
  - Hot inboard edges of rear tires can indicate too much rear tire stagger which can slightly skew temperature averages.
  - New tires give the best results when taking temperature averages. Maximum heat is generated with all areas on the tire in new condition. More detail will be shown as no edges are ground off or over used. Camber curves are shown with more clarity. A racer should take advantage of their investment in a set of new tires and take special note of these average temperature readings.
  - If the driver were to slow down so as to not slide the front tires when a car had a tendency to push then the hotter rear average would indicate a push instead of the generally assumed loose condition. Since most drivers drive as hard as they can they usually slide the front tires when the car has a tendency to push causing the front tires to overheat. When this condition is present the driver usually comes in for adjustments during a practice session rather than abusing the tires lap after lap.
  - If one end of the car is sliding or spinning extra heat will be generated by that end until the adhesion in those tires is used up. At this point of overheating the tires will probably never have the same grip that they had before they were over used and tire temperatures will drop due to the poor condition of the tires and less friction being produced. Care should be taken to know the driving style of your driver and condition of tires in order for the temperature averages to be a useful tool.
  - Generally, temperature averages that are more equal LR/RF against RR/LF will show a car that will be better on a long run; however some short track racers may find some extra speed in a short race with 10 or so degrees difference with the LR/RF showing the extra heat. The tires in this situation are actually being overworked a small amount gaining you
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the extra speed. Sometimes in a short event the tires will put up with the extra abuse resulting in faster lap times in the short distance. In a longer event the car would be fast for a bit but fade the back as the event wore on. The proper amount of differential will be learned from experience.

- Excessive difference between Left and Right side temperatures can show a car that will be fast for a short period and then fade as the right side tires get over used due to the left side tires not doing their share of the work.
  - Excessive Front Averages generally indicate a pushing condition.
  - Excessive Rear Averages generally indicate a loose condition.
  - Tire temperatures should be taken as quickly as possible for the best readings and the probe needs to be inserted to the same depth each and every time. Reading should be taken as close to the cord as is reasonable.
  - Used properly, temperature averages can be a fine tuning tool for a car that is already in the ball park and can be an indicator of future performance. Temperature Averaging can show a car that is starting to push or be loose before the driver senses the problem. Many times with new tires the car feels great to the driver because of the extra friction in the new rubber. The new tire can cover up a handling problem where the temperature averages would show the detrimental heat build up at a given end or cross. The closer you get to the optimum set up the more value you will get from the Temperature Averages. Temperature Averages used in conjunction with driver feedback, a good stopwatch, experience and crew chief voodoo is the best crystal ball you can find today.
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