HOW TO SCALE YOUR KART

Items you will need:

1. Computer scales accurate to 1/10 of a percent.

2. Adjustable scale stand.

3. A good bubble level or digital level with straight edge, five to six feet in length.

4. Scales should be set on a solid base such as a concrete floor.

5. Make some scale sheets to record your information. Documentation on changes and to what degree you change and it's affects is very useful at the track.

6. Before you attempt to scale the kart, check all the front end kingpin bearings, wheel bearings and tie rod ends. Worn bearings and heim joints can make proper squaring and scale work useless. A sloppy front end and rear axle will give you problems no amount of changes will fix. Hold a wheel with one hand and move the steering wheel back and forth real quick, any bearing or heim joint problems can be found by doing this.

7. Karts should be properly squared and a steering lock in place to hold it there. Toe and castor should be set at this time before placing the kart on the scales unless you have a lazer tool. Remember to adjust your tire pressures to your desired preferences. Wrong tire pressures will give you inadequate readings while on the scales as well as an empty fuel tank. Make sure your kart is in race ready condition for the best results. If you have a new Lazer tool, you will want to do your squaring and toe settings and camber adjustments with the drivers weight in the kart.

8. Do not cut any corners, the driver should be fully dressed wearing his helmet, racing shoes etc. A driver just holding his helmet in his lap and not on his head can change percentages by 1% or more. So this is important.

9. Now we are ready to set up the scales. Make sure you charge the computer so you do not have a failure at the wrong time. Place the scale pads on the stand at the four corners, most pads are marked LR,RR,RF,LF you should mark your scale stand with the corners as well, remember consistency is what we want to achieve, if you find a perfect set up, you want to be set the exact way to record it. Position the computer and cables out of the way, be carefull with the cables, you can drop a weight on them and cut them very easily. Make sure you can place your kart on the scales without tripping over the cables and double check you have the right cable connected to the right pad.

10.Premeasure your wheel base and try to get the pads in place so you do not have to move them once they are level. To level your scales, choose a common corner and level the other three corners to it. Once you do this double check diagonally each pad to insure they are level. Take your time doing this, it is very important for crossweight percentages.

11. Set your kart on the scales, check for tools or anything that might have been left in the kart and remove. Have the driver set in the kart and hold the brake and throttle, at this time you should set your desired camber with the drivers weight in the kart. Camber is also dependent on the stagger in the tires. The driver should get comfortable with his hands on the wheel and be as still as he can while percentages are being read.

12. At this time the total weight should be noted, you want your total weight as close to the class minimum as possible.

If you are not over the minimum ballast weight will need to be added. At this time, I usually check the front to rear weight percentages. If you need additional weight, you can place it on the kart to help achieve the desired front to rear percentages. If your kart doesn't need additional weight, the seat and engine can be moved forward, back, left or right to achieve your desired percents. It is a little more difficult and time consuming to get your percentages without needing extra weight but very important to be patient and spend the time needed to get this right.

13. Making changes to the seat and motor position a little at a time is time consuming but will payoff for you. Moving the kart back and forth from the scales to the stand, getting in and out is a pain I know, but after a few times you learn how much to move what for a 1/2% or so. Make sure you use your kart manufacturers recommended seat height, castor/camber, track width and percentages before you scale.

14. Remember to document your setup, experiment with air pressures and crossweight changes so you can make changes at the track and have a good feeling about your adjustments. Once you master scale work, it becomes second nature on where to move weight or set seat positions for dialing in those percentages.