

- 1. Tire Pressures:** Each time the car is setup make sure to put the tires at the pressure you will race them to make sure that any other measurements taken are relative to how the car will be raced.
- 2. Approximate Ride Heights:** Put the car on a level flat surface and then set each corner to the height you want it in race trim. Even though this step will be repeated later it is important to do it now at this point also to ensure the next steps are accurate. Choose whether or not to complete these steps with or without driver and then always do it the same way for uniformity. Because this is kids racing and they are not always available, doing it without driver is the most common. This means that comparing ride heights with other handlers may not always be an apples to apples comparison but it will make sure your process is consistent.
- 3. Square the car:** Most often this is done by taking off the wheels and hubs and placing the car into a set of alignment bars. While some setups result in the rear axle being slightly out of square, for a baseline start with it parallel to the lower roll cage bar in front of or behind the engine. Be careful to measure precisely using squares to your level surface for references to make sure your measurements on each side are consistent. Even 1/16th of an inch in variance will make a big difference. Adjust your rear radius rods accordingly to put the axle square.
- 4. Square birdcages:** Most brand cars are designed so that the rear bird cages or "bearing carriers" are positioned so that the two radius rod mounting points are directly above / below each other. If a line was drawn from the top point to the bottom and continued to your level surface it would be perpendicular to the level surface. Not being square can result in some funny rear axle steering movement as it travels up and down. This is also adjusted by lengthening and shortening the radius rods, again be careful to either make equal adjustments on top and bottom or to re square the rear axle when you are finished.
- 5. Set Axle Lead:** Next the front axle lead is measured by tape measuring from the outside edge of the front axle with wheels in straight position (if they were on the car) back to the rear axle with the table parallel to the outside frame rail of the car. There is a big difference in brands of cars with this setting. Anything from the right side shorter by a quarter inch to the right side longer by a whole inch. This is adjustment by lengthening or shortening the front radius rods. Making sure to adjust the top and bottom rods evenly on the side adjustments are made.
- 6. Set Caster Camber:** Caster can be set with either a caster / camber guage or an angle finder. Use an angle finder to measure the angle from the top of the spindle bolt to the bottom parallel to the length of the car front to back. Right front caster is usually set somewhere between 2 and 5 degrees. Caster is adjusted most often by shortening or lengthening a single radius rod on that corner of the car. Tiny adjustments make a big difference. Most front axles have a caster split built into them so setting the caster is done on a single

corner and the LF will be what it will be.

7. Set Front Alignment: The Toe-In / Toe-Out is set next so that the front wheels are parallel with each other while the car is in the alignment bars or has the wheels on it on a level surface.

8. Final Ride Heights: With all the wheels and tires back on the car and back on your level surface check the tire pressures one more time then re-measure to make sure each corner of the car is set to the desired height.

9. Wheel Spacing: Make sure the wheels are moved in or out to the desired position for each corner. This usually means the left sides are tucked in as far as legally possible (not inside the side nerf bars) and right rear in the middle of its adjustment range.

10. Scale the car: Using anything from accurate bathroom scales to electronic scales put each wheel on its appropriate scale pad and record the weights. Make adjustments to the coil spring collars or torsion bar adjusters to each the Cross Weight or Left Rear Split you are looking for. Make sure to make 4 equal adjustments all the way around the car. This will ensure that the ride heights remain where they should be.

For example if the cross weight is 50% (LR + RF) / Total and you are looking for 54% then put 1 turn in the LR and RF (clockwise) and take a turn out of RR and LF (counter-clockwise).

11. Practice: Put the car and driver on the track. Do hundreds and hundreds of practice laps. Get some drivers in your same class together for practice races (no wagering please).

Have a great attitude toward your kids. Very few people in the world get the opportunity to race for real, at this age, or any other age. Consider participation in this sport as a gift and a privilege.

Encourage them even when they make mistakes. Some mistakes will cost you money when you have to replace damaged parts. So what, keep smiling ;-)

Teach them good sportsmanship. You lose a lot more times than you win.

Be a role model. Act as if somebody is always watching you (somebody always is!).

Volunteer for the lousy job at the track because you know it's the right thing to do for the kids.

Be a hero to your kid, because they will tell their friends about you.