***RIDE HEIGHT***
Ride height is simply the gap between the ground and the track surface. You can alter not only the overall ride height but also the front-to-rear attitude by changing the car's ride height.

**How to adjust**: Adjusting ride height involves moving the shock collars up or down the shock body, either by turning the collars on a threaded body or by using plastic clips to space the spring lower or higher.

**On-track effect**: Raising the overall height of the car will help it go through jumps and bumps, as well as increase forward and aft weight transfer, which will increase straight-line traction. Lowering the ride height will increase lateral grip and make the car more stable during cornering. Raising the front end of the car in regards to the rear will help it jump better and navigate ruts, and make the rear end of the car swing around in corners. Lowering the front in relation to the rear will make the car turn-in more aggressively, but rough track performance will suffer.

**WHEEL BASE**
The wheelbase of many cars is adjustable by moving the rear hubs along the outer hinge pin.

**How to adjust**: Use the spacers between the hub and rear arm to slide the hub along hinge pin and secure it in place.

**On-track effect:** Moving the rear hubs forward to shorten the wheelbase will add traction in both a straight line and during cornering, since more of the car's weight will be placed over the rear tires. Lengthening the wheelbase will take away grip but add stability

***CAMBER***
Camber is the angle of the tire with regards to the ground, and is adjusted by shortening or lengthening the upper A-arm or turnbuckle when the tire is straight up and down, that is zero camber. A tire that leans in toward the center of the car is said to have negative camber, while a tire that leans outward at the top has positive camber

**How to adjust:** Use a turnbuckle wrench to crank the turnbuckle in the appropriate direction to either shorten or lengthen the camber link. Use a camber gauge to measure the angle of the tire.

**On-track effect**: More negative camber on the front tires will make the car smoother and easier to drive, especially entering corners. More negative camber will also go through rough terrain better by lessening the chances that the front tires will catch on any bumps or ruts. Less negative camber, or even positive camber, will take away overall steering but make the car turn in more aggressively.
In the rear, more negative camber will decrease traction during cornering. This will add steering, making the car more likely to whip around. As with the front tires, more negative camber will help the car go through bumps and ruts more smoothly. Less negative camber, or going to positive camber, will hurt rough track performance but increase responsiveness. The car will gain grip and change directions more quickly.

***CAMBER LINK POSITIONS***
Moving the locations in which the camber links are attached to the shock towers or bulkheads, as well as at the hub, will also change how the car works by altering how much camber the tire gains as the suspension compresses, which is called camber rise.

**How to adjust:** Use the appropriate tools to remove the camber link from its current location and replace in another. Use a camber gauge to adjust the angle of the tire back to its original camber measurement to ensure that you're only making one change at a time.

**On-track effect:** By moving the front camber link to a shorter location on the front steering block, the tire will have more camber gain and smoother turn-in while having more steering through the middle and exit of the corner. On the shock tower, raising the link to a higher location will make the car stay more flat, smoothing out the car's steering response and making it easier to drive. A lower location will add body roll and more aggressive steering.
In the rear, moving the link to a shorter location on either the hub or shock tower will again add camber rise, as well as more traction and rough-track performance. The longer link offers less camber rise and body roll. Moving the link up higher on the rear shock tower will eliminate body roll and is a good adjustment to make on a smooth track with lots of grip. Lowering the link will add camber rise and make the car more forgiving when the track is rough.

***TOE-IN/TOE-OUT***
Toe-in and toe-out is the angle of the tires compared to the centerline of the car. Tires that are pigeon-toed, or pointing inward, have toe-in. Tires that point outward are said to have toe-out.

**How to adjust:** Adjusting front toe angles again requires using the turn- buckle wrench to lengthen or shorten the steering tie-rods equally on both sides; shortening the link will add toe- out, while lengthening the link will
increase toe-in. For some cars (usually on-road), rear toe is adjusted in the same fashion, while most require changing pivot blocks, suspension bushings, or rear hubs to change the angle of the tire.

**On-track effect**: Front toe-in will increase initial steering response, while front toe-out will make the car smoother and easier to drive, as well as increasing low-speed steering. More rear toe-in will add both straight-line and lateral traction. Less rear toe-in means less grip, but it will go through rough sections better. Rear toe-out is never used.

***CASTER***
Caster is the relation of the kingpin, or the point around which the steering knuckle rotates, in relation to the
ground. Positive caster means that the kingpin is leaning rearward: this is easy to see on all off-road cars.

**How to adjust:** Some 1/8-scale buggie and trucks use clips on the upper, inner hinge pin to slide the upper A-arm forward or rearward. Otherwise, most cars require changing the front steering knuckle or caster block to change the caster angle.

**On-track effect:** More caster will decrease turn-in while increasing exit steering. More caster will also go through ruts better. Less caster adds steering into the corner and decreases steering through the rest of the corner.

***ANTI-SQUAT***
Anti-squat is the angle of the rear inner hinge pins in relation to the ground. When the

front of the pin is higher than the rear, the car has anti-squat. If the rear of the pin is higher than the front, it has pro-squat. pro-squat is not used.

**How to adjust:** Adjusting anti-squat requires disassembly you'll either need to change the pivot blocks, or add or remove spacers underneath the pivot blocks In order to change the angle of the pen.

**On-track effect**: Increasing anti-squat will add on- power steering, straight-line traction. and make the car jump higher. Decreasing anti-squat will decrease on-power steering, increase lateral traction. and make the car stay lower over jumps.

***SHOCK POSITIONS***
Altering the locations in which the shocks are fastened to the shock towers and suspension arms will change the leverage the tires have on the shocks as would as the rate at which the shock progressively gets stiffer as it compresses.

**How to adjust.** Like changing camber link locations, you'll have to remove the shock from either the tower or the arm and reattach it in a different spot.

**On-track effect:** Moving the shock inward on the tower will make the shock more progressive, adding body roll and overall grip as the shock will be softer initially. Going out on the tower will make the shock feel more linear, as well as tree up the car, reduce body roll, and make it jump better. on the arm, moving inward will make the car feel softer and less stable, but will handle a rough track more smoothly. Moving further out on the arm will make the car feel more stable as well as rotate more during cornering.

***SHOCK OIL*** *AND* ***PISTONS***
Silicone oil is used inside the shock body to provide dampening. The oil is forced through the holes In the shock piston to slow the action of the shock when hitting surface changes.

**How to adjust:** To change oil or pistons, you'll have to disassemble the shock and re-bleed according to instructions.

**On track effect:** Thicker shock oil will handle larger bumps and jumps and be more consistent in hotter weather. Likewise, thinner oil will soak up smaller bumps better and work best in cold weather. shock pistons with larger holes are best saved for tracks with fewer pimps, while smaller pistons are good for tracks littered with ramps and gaps since they will slow the shock down.

***SHOCK SPRINGS***
It's pretty easy to tell what the shock spring does; they provide cushion when the car hits a jump or bump. and extend the shock after compression.

**How to adjust**: The disassembly required to change springs is a piece of cake; remove the bottom af the shock from the shaft. sliue the spring off of the ahosk and replace.

**On-track effect**: Slitter springs will make the shock rebound more quickly, helping the car jump better and absorb big bumps that are take at speed. Shorter springs slow down the shock's location making the car easier to drive abeit more lazy.