CHASSIS TUNING
Gear Ratio Chart
Shift Gear Ratio Chart

If you need more traction

Rear – add seat struts
Rear – Longer rear wheel hubs
Rear – Stiffer rear axle
Rear – Raise your seat
Rear – Add rear torsion bar
Rear – Tighten the nerf bars
Rear – Use stiffer seat

Front – Lower your front spindles or raise the chassis
Front – Add caster to the front spindles or raise the chassis
Front – Increase the camber on the front spindles (Angle the top of the spindle away from the tire)
Front – Raise tire pressures
Front – Raise weight on the kart

If you need less traction

Rear – Loosen or remove seat struts
Rear – Shorten rear wheel hubs Rear – Remove rear torsion bar
Rear – Loosen the nerf bars
Rear – Use a softer seat
Rear – Lower your seat
Rear – Use softer axle
Rear - Lower tire pressures
Front – Raise your spindles
Front – Reduce the caster angle (Move the top of the spindle toward the front of the Kart)
Front - Reduce the camber on the front spindles (Angle the top of the spindle toward the tire)
Front - Lower tire pressures
Front – Lower weight on the kart

Axle bearing adjustment

Problem: Lack of rear grip.
Solution: On karts using a 3 bearing rear axle design, under certain conditions where grip level is low extra grip may be gained by loosening the center bearing. Remove the 3 bolts from the alloy bearing flange and loosely fit three cable ties through these holes. If you have seat struts fitted you will need to remove the seat strut from the alloy –bearing flange

Problem: Kart is two wheeling excessively through corners
Solution: Raise axle in chassis.
Problem: The back slides/ the kart oversteers going into the turns
Solution: Make sure the back axle is located full down in the chassis (i.e. the kart with maximum rear ride height)

Spindle height adjustment
Problem: The back slides/the kart oversteers going into the turns
Solution: Raise the front ride height i.e. lower the front stub axles in the chassis by one spacer at a time.

Problem: There is too much steering or front end bite on turn-in
Solution: Lower the front ride height i.e. raises the front stub axles in the chassis by one spacer at a time

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Brake Adjustment

Problem: The engine has no top end speed
Solution: Verify the brakes are not dragging. If needed, increase the gap between the rear brake pads and the disc by removing shims between the caliper piston and the brake pad.
Problem: Excessive pad clearance between each pad and the disc
Solution: Reduce the gap between the rear brake pads and the disc by fitting a shim between the caliper piston and brake pad. You must do this on both sides to ensure pad clearance to the disc is equal. Remove the pad safety pins and fit a shim between the caliper piston and the brake pad. Refit the safety pins. You can fit additional shims as the pads wear more, however, ensure you do not fit too many shims as this could cause the pad return springs to spring bind and this will seriously affect your brake performance. Should you encounter difficulty fitting the shims then remove the four pad return bolt/springs, fit the shim and refit the return bolt/springs.

Crash bar adjustment

Problem: Understeer from the apex and out of the corner
Solution: Loosen or remove the bolt at the front mounting point of both side supporting bars (nerf bars) to the chassis.

Front end Alignment

Problem: Engine lacks mid-range punch when applying throttle from the apex of the corner
Solution: Increase the amount of Ackerman by moving the steering links to the inner mounting holes on the spindles.
Problem: The back slides/the kart oversteeres going into the turns

Solution: Reduce the Ackerman setting by one hole on the spindles
Problem: There is too much steering or bite on turn-in
Solution: Reduce the Ackerman setting by one hole on the spindles

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Adjustable camber and caster

Problem: The back slides/the kart oversteers going into the turns
Solution: If camber/caster adjusters are fitted on the kart, reduce the caster setting
Problem: There is to much steering or front end bite on turn-in
Solution: If there are camber /caster adjustors in the kart, reduce the caster.
Problem: There is understeer all the way through the turn
Solution: If there are camber/caster adjustors in the kart, increase the caster

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Front track

Problem: Understeer on turn-in to the apex of the corner
Solution: Widen the front track by a 5mm spacer at a time
Problem: Oversteer or very sensitive front steering causing the rear to slide
Solution: Narrow the front track width by a 5mm spacer at a time

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Rear track

Problem: There's no traction/the kart is oversteering coming from the apex out of a corner
Solution: Reduce the rear track width by 5mm on both sides at a time
Problem: The back slides/the kart oversteers going into the turns
Solution: Increase the rear track width by 5mm on both sides at a time, being careful not to exceed the maximum regulation width overall of 55 inches.
Problem: There is understeer all the way through the turn
Solution: Increase the rear track width by 5mm on both sides at a time, being careful not to exceed the maximum regulation width overall of 55 inches.
Problem: There is bounce in the rear
Solution: Increase the rear track width by 5mm on both sides at a time, being careful not to exceed the maximum regulation width overall of 55 inches.
Problem: The track is very bumpy giving the car a lot of bounce
Solution: Increase the rear track width by 5mm on both sides at a time, being careful not to exceed the maximum regulation width overall of 55 inches.

Problem: The kart has a tendency to lift up on two wheels through the corners
Solution: Increase the rear track width by 5mm on both sides at a time, being careful not to exceed the maximum regulation width overall of 55 inches.

Seat struts

Problem: There's no traction/the kart is oversteering coming from the apex out of a corner
Solution: Mount seat struts on either side of the seat, in certain applications 2 sets of seat struts can be fitted.

Torsion bars

Problem: There's no traction/the kart is oversteering coming from the apex out
Solution: Run torsion bar at "full stiff"

Tire Pressures

Problem: The engine has no top end speed
Solution: Raise rear tire pressures by 1psi
Problem: The back slide/the kart oversteers going into the turns
Solution: Raise the rear tire pressures by 1psi
Problem: There is too much steering or front end bite on turn-in
Solution: Lower front tire pressures by 1psi
Problem: There is understeer all the way through the turn
Solution: Raise the front tire pressure by 1psi

Problem: Understeer on turn-in to the apex of the corner
Solution: Raise the front tire pressures by 1psi
Problem: Understeer from the apex and out of the corner
Solution: Lower rear tire pressures by 1psi

Rear wheel hubs

Problem: Understeer from the apex and out of the corner
Solution: Replace the rear wheel hubs with shorter units.
Problem: There's no traction/the kart is oversteering coming from the apex out of a corner
Solution: Replace the rear wheel hubs with longer units.