TECH: **FRONT END SETUP**

SETTING UP YOUR FRONT END (CONT)

static settings, which can change dramatically when the kart is put on the ground, and the driver gets in the seat. Of course, when on the track, the kart is under load, so it's really the loaded settings we want to change, not the static settings. For this reason, it is best to do some experimentation with your kart at home, to find out exactly how the loaded settings change, when you adjust them statically.

Some karts will toe-in anywhere up to 3mm or so when loaded. Most will experience negative camber change of anywhere between 1mm and 6mm. This will vary with chassis, driver mass, seat position, and even torsion bar set-ups! This is why experimentation is required to be sure how YOUR kart will behave when YOU get in it.

With the kart on the stand, start by setting it up on "zero-zero-zero" –zero camber, zero toe, nuetral caster. If you're using laser aligners, put them right in on the stub-axle, and place the wheels on outside them. If you're just using a tape, measure from top to top, rear to rear, bottom to bottom and front to front of the tyres– all the values should be the same.

Now, place the kart on the ground, fueled up, with any lead you need to make the weight in your class, and sit in it. WHOA! Watch those lasers move! (This step is slightly less exciting when using a tape measure!). Make a record of where the loaded settings ended up when you set the static settings to zero-zero.

Next, lift the kart back onto the stand. Assuming your kart toed-in by 1mm, and gained 3mm negative camber, now try setting it up statically with 1mm toe-out, and 3mm positive camber. Make sure you've tightened everything up and place the kart back on the ground. It probably won't be exact, but your loaded settings should now be about zero-zero.

Play around with static settings until your loaded settings show zero-zero. For most karts (and I can say with conviction with Phoenix karts), this should be your starting point.

Now try dialing in 2mm more static positive camber over your previous setup, and see how that effects the loaded setting. Try lots of things, and keep a record of how each static adjustment effects the final – and most important – loaded result. This means that when you do hit the race track, you can adjust your front-end comfortably in the pits, with a sound knowledge of what you have ACTUALLY done to the kart when it rolls out the gate.

Thanks for reading the first technical article from Phoenix Race Karts. There will be many to come, and all will be written with beginners in mind, and in a way that should allow you to apply the principles to any brand of kart. We encourage feedback, though we can't respond to every reply as we've got a lot of karts to build! The most commonly asked questions will be placed with answers back here on the site so that others with the same question can read the response.

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