TECH: **THE DRIVER**

WHAT'S FAST? (cont.)

There's an old trick you can try, as pit crew, to assess the steering input of your driver. Take the biggest zip tie you can find, a 12 inch one, and wrap it around the top of the steering wheel, with the tail of it pointing straight up. Ignore the puzzled looks of passers-by who assume you've snapped your steering wheel (and the agonising pleas of the driver who almost NEVER wants this trick played on them!) and put the kart on the track.

The zip tie makes every little steering wheel movement PLAINLY obvious from 100 metres. Where in the hustle and bustle, bump and grind of the track the movement of the hands can be difficult to watch, 12 inches of bright blue zip tie makes it very easy to see indeed! If the zip tie wobbles back and forth as the kart takes each corner, then either the set-up is TERRIBLE or, more likely, the driver needs to smooth out their input at corner entry, and precisely apply the right amount of steer to the kart for the duration of the turn.

When the zip tie resembles a graceful metronome, swinging gently from side to side, you've got a racewinning champion on your hands.

To see this in action, look no further than the front of the field at a State Titles. Racewinners at big events are, WITHOUT exception, smooth and consistent on the steering wheel. Sometimes, they look so relaxed they look slow! Every driver should strive to be smooth, precise, and consistent.

WHAT LINE?

Because each track – and each corner – are unique, an article like this cannot hope to describe the best line for a kart to take through each corner. It is worth noting, however, that kart races are won and lost on corner exit – and corner exit speed relies heavily not just on set-up, but on the line a driver takes through the corner. It takes practice, both for driver and pit crew, to notice the fine nuances of line through a corner. Remember, if a go-kart is one one-hundredth of a second faster than the rest through each corner, and there's ten corners, that kart is a tenth quicker per lap, and a second faster over a ten lap race! The point is that, in karting, the FINEST details are the difference between winning and losing.

A common driver's mistake is apexing the corner too early. The earlier the apex, the more the kart has to turn after the apex. Without a differential, and with low horsepower, karts are fundamentally poor at accelerating out of corners. If your kart has 2% greater drag under acceleration than the next guy's because he apexed slightly later than you, he will be multiple kart lengths ahead by the entry of the next corner.

You don't have to miss the correct apex by much for the kart to look very ordinary on corner exit. I have personally seen, too many times to count, a well setup go-kart look slow on the exit of a corner when the driver hit the apex 50cm too early – and subsequently passed very easily by the guy behind who apexed the corner correctly. A driver's pit crew needs to keenly observe the lines of the fast guys through the critical corners of the track, and compare them to the lines taken by their own driver. Remember, we are looking for extremely fine differences, as these may be the difference between pole position and 25th!

WE'RE ALL TRADESMEN

They say a good tradesman never blames his tools – I think the saying should be extended to say that a good tradesman gets the MOST out of his tools. In karting, it is easy to blame the engine, the tyres or the chassis for an undesirable result, but you will never hear a top driver blaming his chassis for a poor performance, because he knows HE set the chassis up! You will never hear him blame a badly worn set of tyres, because it would be HIS over-aggressive driving or poor chassis setup that killed those tyres.

The transition from good driver to great driver often occurs when the driver acknowledges that the quality of their performance on the track is directly attributable to the driver himself. Once the kart has been prepared, setup decisions made, and the kart pushed out onto the circuit, no-one but the driver can be responsible for the result, and the best drivers get the MOST out of the machine they've set up.