RACE ACADEMY INTERMEDIATE

THE CHECK IN, WEIGHT AND BRAKING

All the principles we worked on in Beginners are the same, however, the harder we push the kart, the higher the chances of making a mistake.

When we first get out on to the track, there are a couple of useful checks to go through:

THE CHECK IN

1. Get a feel for the grip level. Your tyres may be cold and the grip level of the track will change.

2. Spend time getting a feel for the brake and throttle responsiveness. This will help you adjust to the kart.

3. Spot your braking points, turn in points, Apexes and exits.

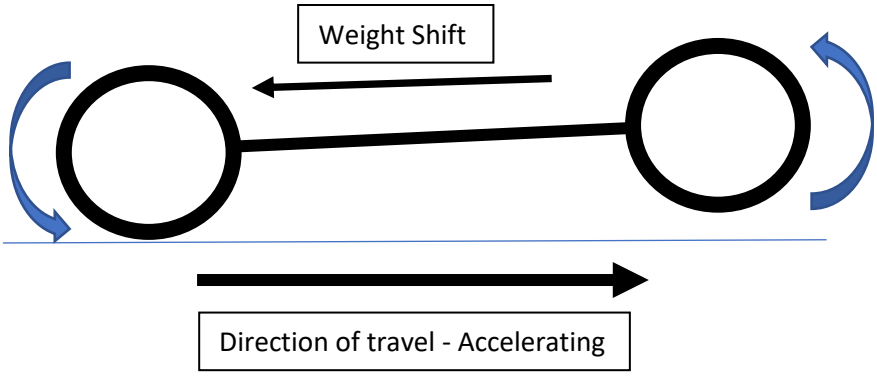
4. Make sure you know where the marshal points and warning lights are.

We go through these because things change. One of the biggest mistakes a driver can make is assuming that everything is the same as it was last time you drove. Even the driver can change, so it's a good process to go through. We'll call this the **check in**!

BRAKING

Braking is crucial to getting the corner right. Before we talk about the how's, let's look at what happens during braking and accelerating.

Even though a kart has no suspension, we will still experience weight shifting when we accelerate and decelerate. This will introduce a different aspect to take into account. This is what happens when we change speed:



When we accelerate (as above), we experience a weight shift to the rear of the kart. This is called 'squat'. This can affect the steering of the kart, potentially causing understeer. Understeer is when the kart does not respond to steering inputs as expected, so you turn the steering wheel, but don't get the expected change of direction.

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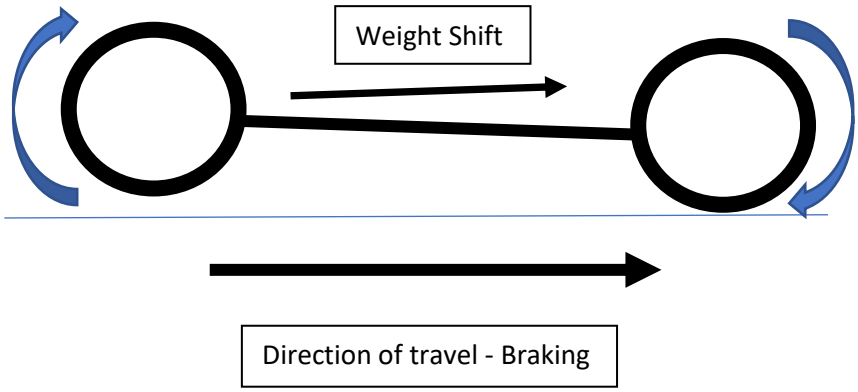

When we brake (as in this diagram), we see the kart experiencing weight shift to the front of the kart. This is called **'dive'**. This can have the effect of making the rear of the kart feel light. Combined with a change of direction, this can contribute to oversteer. Oversteering is when the rear of the kart starts to slide and can result in a spin if it is not controlled.

Now you will have experienced weight shift as a passenger in a car. When the driver would have accelerated, you would have been pushed back into your seat, whereas when they applied the brake, you would have been pushed forward into the seatbelt.

So how does this affect us when we look to brake. Well, how you brake will determine how the weight shift happens, and how it affects the kart as we turn in to the corner.

We can control this weight shift by our use of the controls. Coming off the throttle quickly and hitting the brake hard will cause this weight shift to happen very quickly and exaggerate the effects, which may make it difficult to turn the kart smoothly into the corner. If we have a rapid weight shift, followed by a change of direction, this can cause the kart to oversteer.

Brake technique needs to be appropriate for the corner that you are approaching. For some corners, you may need to be quite aggressive with the brakes. Other corners require a smoother approach. Brake technique can also be used to 'balance' the kart, but more about that later.

The faster that you go, the more accurate you need to be with your braking. If you miss your braking point, you will find yourself carrying too much speed into the corner. This could result in a spin, you may miss the apex or you may run wide.

You must recognise the braking distance and practice getting your braking spotted at the right place. Pick a landmark to start your braking. This will help you judge the distance and will start making your braking consistent. It's not about being the last to brake, it is about getting the kart to the right speed for turning it into the corner. Practice braking at different points and have a look at the effect. Are you having to hold the brake on to get the speed down, or does it feel like you're braking too early. The more you practice this exercise, the more natural and automatic it becomes.