

RACECRAFT – OVERTAKING

Now you're in Advanced. Up to now, we have focussed mainly on how to drive quickly. You've achieved that. Now we are going to learn how to race. Driving quickly and racing are two different disciplines, so now we are going to start again.

The main area we will be focussing on is overtaking. So how do we overtake a driver? Simple. Aim for the inside line and have a dive? Wrong. This is going to get you into trouble. So let's look at a few basics.

Broadly speaking, there are three different types of overtake, or passing manoeuvre.

1. The Gimme

This is where the driver in front of you makes a mistake and allows you to cruise right past them. This could be due to brain fade, or maybe pressure from you chasing them. Probably the easiest move to pull off.

2. The Dive bomb

Probable the most spectacular move, but one that is pretty risky. This is where you try to outbrake your opponent by diving on their inside on the approach to a corner. You need to make sure you own the apex, or be sure that your opponent will give you racing room. If not, then you risk a collision. Not ideal as this risks injury or at the very least a penalty. It takes experience to judge when to use this one.

3. The Hunt

This is the one that you will have to master. When you are racing drivers of a similar capability and speed, you need to be able build a move. This may take a few laps, it may involve some tactical driving, and it **will** require a fair bit of patience.

4.

The first two types of move are fairly basic, and with a bit of practice, you will master them. We are going to look at how to hunt and opponent build a move. So where do we start?

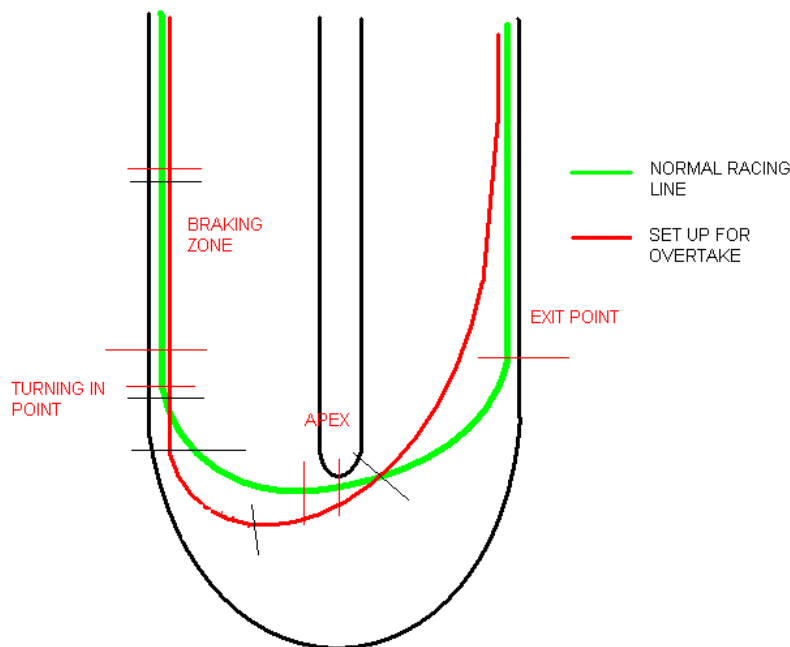
Firstly, we're going to have to catch a the driver and get into position to attempt a move, so if you're not on your opponent's back bumper, get your head down and do some driving! Now we're there, lets try and figure a few things out.

- If you've caught a driver, they will have a weakness in their driving. Try an figure out where they are losing time to you. Is it in a particular section of track or a certain corner? Is their braking slightly off, are they running deep on the way into or wide on the way out of a certain corner? Drivers tend to be habitual. If they make a mistake somewhere on one lap, there is a good chance that they will repeat that error. If you can find out where you are quicker, you have spotted a weakness that you may be able to exploit.
- So we've had a good look at out opponent, and we have found a weakness. Now we need to try and take advantage of it. How do we do it? It may be that the point at which they are making the error great for trying a move, but equally, it may not be. In

any case, we need to try and create a speed difference between ourselves and the opponent. This gives us the ability to do something different and get alongside them.

- Creating a speed difference means that you will need to change your line slightly. This will have two effects:
 - It will give you space to work.
 - It will allow you to accelerate earlier than your opponent and exit the corner faster.

This is how you do it:



In this diagram, we can see that the leading driver is taking the green line. This is the standard racing line for the corner. As the attacking driver, if we follow the same line, we will get the same result. This will not create the speed difference that we are after. So we are going to take the red line. We are going to brake fractionally later, but importantly, we are going to turn in further into the corner than our opponent. This means that we will be aiming for a later apex, allowing us to concentrate our steering input to the first part of the corner, release the steering and accelerate significantly earlier than our opponent. By accelerating earlier, we can exit the corner at a higher speed than our opponent, which will give us the opportunity to try and get alongside them and get to the next apex first. In the first part of the corner, we will be slightly slower, so will create a slight gap between ourselves and the leading driver, however, as our steering is more open at the apex point, we can get on to the throttle quicker, meaning that we will come back on to the rear of the leading kart very quickly. The

downside to this is that by altering our line on the way into the corner, we are vulnerable to attack from a following driver, so keep an eye on your six.

This change of line can be used in a number of corners, and is particularly useful in more technical sections, where you can use your position to force an opponent into a more defensive, and therefore slower, line. But more of that in a bit.

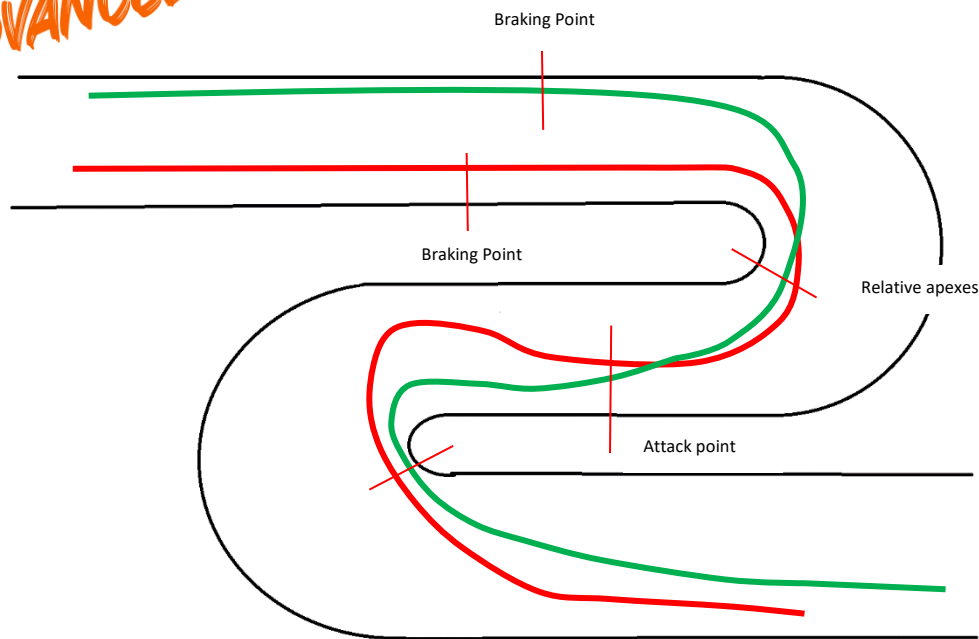
Once we have created the difference in speed, we now have to get the move done. We're now in a position to move up next to the driver we are trying to pass. We're going to try and pass into the next braking zone, or the next bend in order to get in front. Again, there are a couple of points to note.

- Effectively, we need to 'own' the next apex. Once we control the apex of a corner, we can dictate what the drivers behind or next to us do. The most common side to overtake a driver is on the inside of a corner, so if you are passing on a right hand bend, you will be on your opponent's right hand side.
- This means that you will be off line. We know from our earlier lessons that if we are off line, we will be slower through the corner. If we approach the corner as if we are on the racing line, and brake at the same point, we will sail past the apex and allow the driver that we have just passed to retake us on the exit. Very embarrassing!
- **We do not need to be in front of our opponent, we just have to be next to them in order to prevent them from getting to the apex.** So we can brake in line with the driver, make sure you get to the apex, then concentrate on getting a clean exit. And the move is done!!

So, it's pretty simple isn't it? Actually, no. What happens if your opponent is very evenly matched with you? It may be very difficult to spot a mistake, but does that mean you can't overtake? Again, no. This is when we start to try and force a mistake. By pressuring or distracting the driver in front you can create an opportunity to make a move. There are a few tips for doing this.

- You can use your positioning to force your opponent off the racing line, effectively forcing them to slow down to defend their position. This can be done by moving to the outside of your opponent as you approach a corner. This is particularly effective if they are going defensive. It prevents them from moving back on to the racing line, limiting their options for the next corner. This will force them to either defend the apex, and greatly reduce their exit speed, meaning that you can try a switch back and pass them on the exit. Or they may even outbrake themselves and run so deep into the corner that you can execute a pass there and then.

- Applying pressure by letting the driver ahead know that you're there can be a very effective way of forcing a mistake. A lot of the time, you will see drivers 'having a look' by pulling out from behind their opponent. This may not be a genuine attempt to pass, but it could be a ruse to let make their opponent think that they are about to pounce. This can distract the lead driver or force them to go defensive, and there we go again. Another opportunity.
- Give yourself the room to work. A lot of drivers focus on getting as close to the back of their opponent's kart as possible. This is great if you are in a slipstreaming battle, but we don't tend to get those on an indoor track. By sitting an inch behind them, the only thing you can do is react to what they do. If they make a mistake, you are guaranteed to make it as well. A good idea is to create a mental 'bubble' around you. Focus on your own driving and don't focus too much on the kart in front. To do this, look through the driver in front, and concentrate on your lines and control inputs. It will take some practice, but that's what we're here for.
- Dealing with contact is an important point. Kart racing is incredibly closely fought and intense. There is often contact between drivers on track, a lot of which will result in the driver receiving a penalty. Sometimes a touch between karts is inevitable, and most race directors will use common sense in dealing with instances of contact, but as a driver, it is important to know where the line is. In competitions such as BIKC and BSKC, the 50% rule is used. This means that if contact occurs between two competitors, the race director will look at how far alongside the opponent an attacking driver was when the contact occurred during a move. If the attacker was more than 50% alongside then the move is usually adjudged to be fine. As the driver, you will have to use your judgment to make sure that you are 50% up when you make the move. If not, then get in the brakes and pull out of the move. Now inevitably, you will make a mistake at some point. If you feel uneasy about a move and think you are going to receive a penalty, most race directors are happy to see you give the place back and carry on racing. Fair is fair!
- Racing room is another area worth noting. You will be racing on kart tracks that are bordered by fairly hefty tyre barriers. If you are racing in close quarters, it is important to allow space for the karts around you. This is called giving racing room. When you are racing in a pack, which will happen frequently, you will not be driving at your normal speed. Packs of karts will normally travel slower as driver are trying moves, mistakes are happening and will be amplified down the line, and drivers are defending. You need to take account of this and make sure that you are allowing for changes of pace, changes of line and other variables. You need to be super aware and be prepared to slow up or change line, normally with very little notice!!



Here we see an example of an attacking driver (Green line) taking advantage of a driver defending their line (red). The defensive positioning of the red line means that they will be slower through the right hander. The attacker Uses a wider line into the corner, allowing them to carry more speed through the corner, and use a slightly later apex that the opponent. We now have our speed difference. As the defender moves onto the racing line for the left hander, the attacker uses this speed difference to make the attack and take ownership of the apex, and making the move.

These are the fundamentals of overtaking. However, as usual, there are a lot more variable to think about. Every track is different, as is every driver, every kart and every race. What makes a good racing driver is the ability to outthink your opponent and develop your racing skills and judgment. In some situations, you may try something bold, like going around the outside of an opponent. It shouldn't work, but sometimes it does! Creating opportunities is an important skill.