

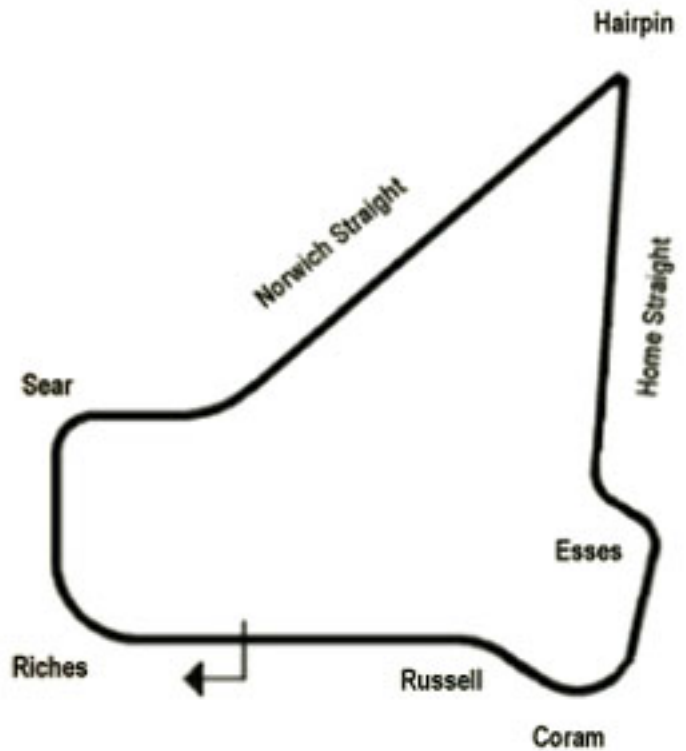


Grand Prix of Norfolk

Snetterton Heath Circuit



THE 2.668 MILE Snetterton Heath Circuit may not look that interesting at first glance. But as the saying goes, looks can be deceiving. With the long straights and wide corners this circuit generates fantastic racing. I've done races where I've been side-by-side from the exit of Sear corner all the way through to the esses. Norwich Straight presents a fantastic opportunity for drafting and can therefore even out the horsepower difference between cars. For outright speed, horsepower is a must, and as such, the Lotus and Eagle will have an advantage of about a second per lap. However, the Ferrari can still hold its own through the corners. Braking is the key to being quick here. You need to be fantastic at threshold braking, especially into the hairpin. Brake too lightly and you'll have to begin slowing too soon, brake too late and you'll go wide. The second key to being fast is to not push through the tighter corners, like the hairpin, the esses and Coram. With all the celebrities who seem to hang around this circuit, there is a slightly Monaco-esque feel in the air. The two most obvious are Steven Spielberg (I think) sitting near the start/finish line working on his next film and Mr. Bean waving at the hairpin.



CAR SETUP :

Setting up the car for this circuit isn't too difficult. Start with either gearing or braking. Fifth gear is quite easy to set using Norwich Straight as a guide. You should top out at about 180 mph at the end of the straight. Then set 2nd through 4th fairly close together, perhaps a thousand or fifteen hundred revs between each gear. You want second gear to be low enough to let you induce oversteer while under hard acceleration. This will help you in the esses and Coram. First gear is used exiting the hairpin, so you may want to make it a little taller for better traction. If you are spinning your wheels in first, you'll be slow.

The end of Norwich Straight can also be used to set the brakes. Start with a balance of about 56 or 57 and then try to move that back a little. You should be able to get on the brakes extremely hard without locking up the fronts. If they are locking a lot then move the balance more towards the rear.

There are not any really high speed corners here, so you can set the roll bars to a medium setting. If you go too stiff you'll just end up making the car extremely nervous and not getting any extra speed out of it. The wheel rates should allow you to get good traction out of the hairpin. A slight amount of understeer is better. As the car has relatively low grip at 35 or 40 mph oversteer is exactly what the car wants to do when you try to put down 400 horsepower. The slight understeer you build into a setup can cure that, making the car much less twitchy. If the medium speed corners, this understeer can be balanced by using trail-braking or power-oversteer.

The steering ratio needs to be a little lower than usual to get through the slower turns, like the esses and Sear. Don't worry about the hairpin, as GPL automatically modifies your steering lock to full when you are below 50 mph. (This allows you to get out of the pits, but also helps with slow corners.)

LAP TIMES :

Your lap times during the race should be very consistent regardless of your fuel load. Of course as the race progresses and you use up fuel, you will go slightly faster, but not by a huge amount. In the end your fastest laps should be equal or just a couple of tenths off your qualifying lap times. When going for that qualifying lap, you need to make sure you get a clean lap, as well as getting several warm-up laps before hand to make sure the tyres are up to temperature and that you are in a groove to get that perfect fast lap.

GOALS :

You should aim for a qualifying lap of about 1:22.00 to 1:23.00. That should put you pretty far up the grid.

During the race you should aim for 1:22.70 to 1:23.70, depending on fuel loads, for your lap times if you don't encounter traffic.

The replay is 1:22.18 for the Ferrari.

THE RACE :

Racing at Snetterton is fantastic. There are multiple overtaking opportunities; the most obvious being into the hairpin. You can draft everywhere, and definitely should do so in order to set up for a pass. The only place where it's dangerous to try and pass is out of the esses and into Coram. You can go side-by-side for about half a lap, quite safely. If you do pass someone into the hairpin, don't go wide on the exit, as this opens the door for the other car to retake its position. Watch out for the bump just after the start/finish line during an overtaking manoeuvre as well. This can upset your car unless you are going perfectly straight.

RICHES :

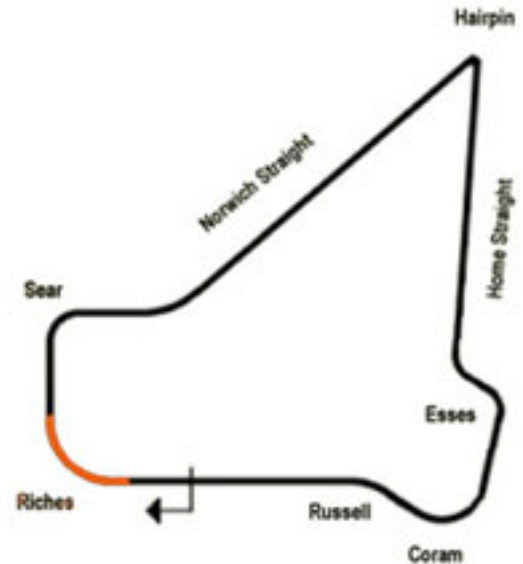
Entrance speed: approximately 173 mph [279 kph]

Speed through the corner: approximately 80* mph
[129* kph]

Arrival time at the corner: 1.48 seconds

Time to negotiate the corner: 7.79 seconds

Exit time of the corner: 9.27 seconds



This double apex right hander has a fairly easy entrance, but a very difficult exit. It is quite difficult to get the most from this turn as the exit isn't quite wide enough to take the second apex as fast as you'd like. However, if you can push that little bit harder and get the car to oversteer you can go exit a little bit faster and gain valuable time. The entrance to this turn presents a great overtaking opportunity if you are right on someone's gearbox coming out of Russell. Just be wary of the dip in the track just before the braking point. It can be very upsetting.



You'll approach this corner under full acceleration in top gear. Position the car on the left side of the track. Drive right past the 200 marker and over the dip in the track. Then just past the dip, a little more than half distance between the 200 and 100 markers, start to brake as hard as possible. Stay on the left side of the track as you steadily downshift to second gear. There is no real turn-in reference point here. You could use the grandstands on the left if you like. Once you get into second gear, take a quick beat and then ease off the brakes and begin to turn in. You don't want to trail-brake much as you'll lose too much speed. Instead use just enough trail-braking to get the car turning quickly into the corner. Then get off the brakes and gently balance the car on the throttle.



You want to take a late apex right next to the curb. Try to avoid running over the curb as that will upset the car. If you are having difficulty getting the car to come into the curb, then try tapping the brakes softly to help rotate the car and ease off the power a bit. Once you leave this apex wait a beat and then get back on the power hard as you go to the final apex. If you don't it is actually harder to get round it.



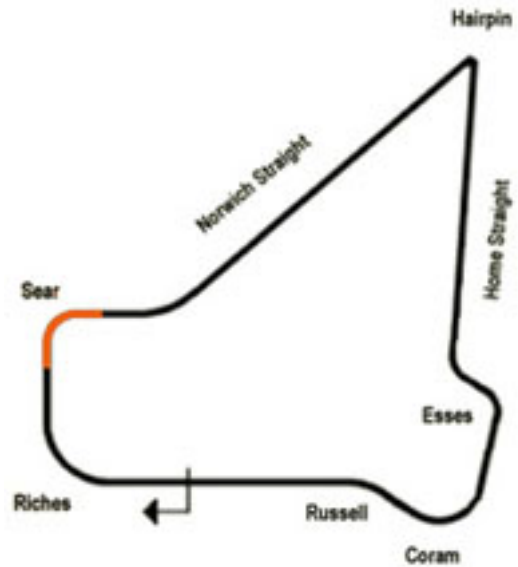
Aim for an early to mid apex for the second part of the turn, staying on the power as you begin to turn in. The extra speed you have from accelerating hard between the apexes will put you slightly past the limit as you start to turn and should cause the car to oversteer and point into the apex as you go round. If you had eased off between these two apexes, then the car will want to understeer at this point.

As you don't want to let the car oversteer out of control you should upshift to third midway through the turn. This will help to control the oversteer a little. Then once in third, approximately halfway through the turn, you should add as much power as possible without losing the rear end. You'll end up exiting the corner in a four wheel drift. The corner is still not finished, though. You want to take the car right to the left edge of the track with as much acceleration as possible. The edge of the track is reached just before the 200 marker. If you get there cleanly, then get back to full power and continue. However, if you put a wheel off, ease off the power carefully and get back on the track, because hitting that 200 marker is going to hurt.

* This speed is reached just after the first apex. The speed through the apexes is slightly faster - about 90-95 mph.

SEAR :

Entrance speed: approximately 137 mph [221 kph]
Speed through the corner: approximately 70 mph [113 kph]
Arrival time at the corner: 12.12 seconds
Time to negotiate the corner: 5.91 seconds
Exit time of the corner: 18.03 seconds



Sear corner is slightly slower than Riches and requires a very smooth application of the power at the exit. You'll be up to third gear and accelerating hard as you come into this turn. The car should be right at the left edge of the track after the previous turn. Continue past the 200 marker and then right after reaching the 100 marker brake as hard as possible. Stay near the left side of the track and shift down to second gear when you can. You don't want to turn in too early here as you will run wide on the exit.



After you have reached second gear, wait a moment, and then ease off the brakes and start to turn in. There really isn't a good reference point here, so experience and your instincts will have to do. In a similar fashion to the entrance to Riches, you want to use minimal trail-braking; just enough to get the turn started. Then get off the brakes and add a little power to get you through the turn. Aim for a mid to late apex. Once at the apex try to add a little more power if possible. If you can't do this without drifting away from the apex, then don't bother. Again, stay off the curbs. You'll have to wait until you are starting to leave the apex before you can really begin to add any significant amount of power. Do this very smoothly and slowly. Let the car drift out towards the left side of the track as you exit. You'll go right out to the cement, reaching full power only when you get there. Don't rush to get back over to the right side of the track. Let the car balance out first, and then start to move across.



TURN THREE :

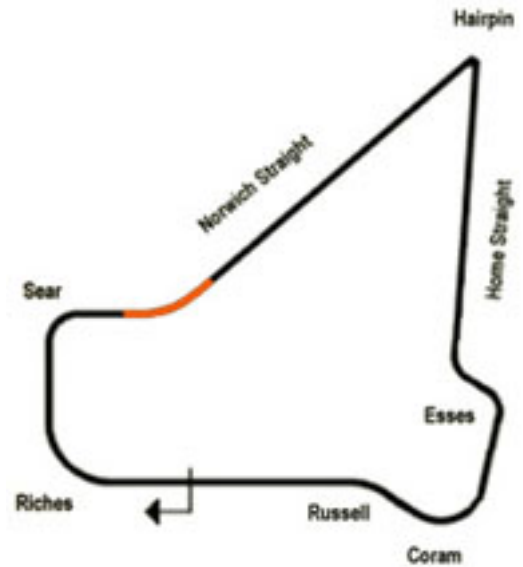
Entrance speed: approximately 115 mph [185 kph]

Speed through the corner: approximately 135* mph [218* kph]

Arrival time at the corner: 20.62 seconds

Time to negotiate the corner: 4.41 seconds

Exit time of the corner: 25.03 seconds



Turn three is a left hander which can be taken flat. However, a good exit from Sear and a good line through this turn will set you up for the pass into the hairpin. So be as smooth as possible and use all the track. Carefully bring the car over to the right as you approach this turn. You should reach the edge of the track about halfway between the 100 marker and the apex. This is very tricky to get right as there is nothing to judge your position against. It is also the most important part of the turn. If you get there too soon you'll run over the grass at the apex; get there too



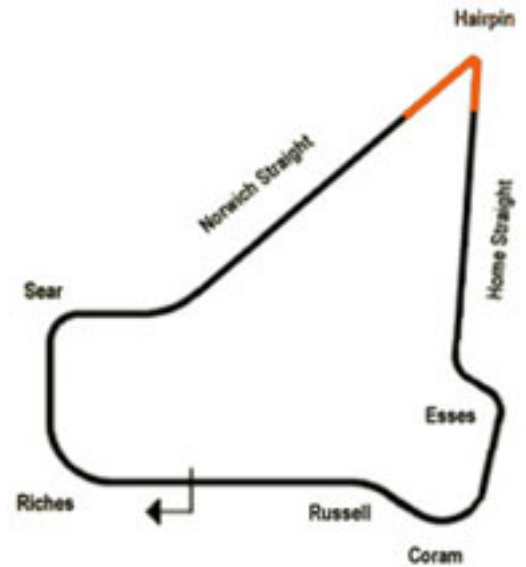
late and you'll have to back off to make the turn. Once at the edge of the track start to bring the car back towards the left for the apex. Shift up to third and look at the grass on the left. Bring the car right to the edge of the grass and try for a mid-corner apex. If you run over the grass make sure you compensate for this by lifting if you need to. The exit is a little bit tricky because of that brick box on the right. This must be the most dangerous thing on the circuit, and those two guys must be dead by now. You want to let the car go right to the edge of the track, reaching it just before this brick box. However, because of this box your instincts tell you to pull the car to the left. This won't allow you to accelerate as fast as possible. So aim for the box. Then just before you reach it look further down the track. This should help to bring you right out to the edge of the track without actually hitting the box. You'll probably have to shift up to fourth gear before reaching the edge of the track as well. Then continue down Norwich Straight, either drafting the car ahead, or trying to break the draft from the guy behind, or if you're alone get over to the left side and then relax for a moment.



*As you go through this turn your speed increases.

HAIRPIN :

Entrance speed: approximately 182 mph [294 kph]
Speed through the corner: approximately 37 mph [60 kph]
Arrival time at the corner: 34.70 seconds
Time to negotiate the corner: 8.87 seconds
Exit time of the corner: 43.57 seconds



The hairpin is an extremely difficult corner to get perfectly right. I don't think I've ever achieved this. A lot of time can be made up here if you get a good line through the turn. The hardest things to remember are that you really need to slow down and you don't want to push. If you keep these two thoughts in your mind as you approach the turn you'll do better.



You'll be in top gear going flat-out as you approach this turn. Position the car on the left side of the track. Make sure you get there before the first brake marker because you will need all the braking you can get, and doing it in a straight line will make it easier. Drive past the 300 marker, and then just before the 200 marker brake as hard as possible. This turn will really test your threshold braking skills. If you start to lock up the wheels ease off a little to get them

rolling again. If you come into the turn with a wheel locked you will go wide. So it's better to ease off the brakes a little, get the wheel rolling again, and then add a bit more pressure. Of course if you can get your braking perfect then you won't quite lock the fronts up.

Start shifting down slowly. There's no rush to get into first gear. If you shift too fast you could cause the rear wheels to lock momentarily and this will get the car sideways. As you lose speed you can increase the amount of brake pressure. As the brake pedal gives no feedback, I wait until I am past the 100 marker and then add a little more pressure to the brakes. As you are going slower the tyres will be able to grip better and handle the extra braking force.

Continue to shift down to first gear. This is where the braking can get tricky. The extra brake pressure will make the rear get lighter and it may try to slide out. If it does you may have to ease off a little, but only fractionally. Stay on the brakes hard and use the steering to correct if need be. Luckily, most slides will turn your car into the corner, which is the less slow of the two ways to slide.





As you came into the braking zone at about 180 mph once you are down to 50 or 60 you feel like you're crawling, but you have to get down to about 40 to make the turn. So stay on the brakes until you turn into the apex. You want a mid-apex. If you hit it early you'll be killed on the following straight as you'll have to wait forever before you can start accelerating properly. A late apex is okay, but you'll

have to slow down a little more than a mid-apex. So try for the mid-apex and you'll get the best results.

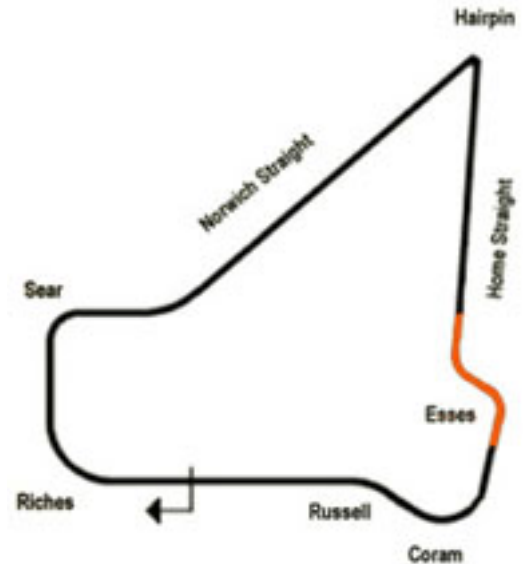
There is no real reference for turning in. You need to have experience and a feel for it. The first few times, just keep braking as long as possible, staying to the left until you feel like you've almost stopped. Then turn in and hit the apex. If you hit it too soon, then turn in later next time. If you completely miss it, then you turned too late or didn't slow down enough. As you turn in add a little power and then ease off just as you reach the apex. Then once you go by it slowly start to add some power. Begin to straighten the car out, aiming for the left side of the track as you squeeze on the power. Be very careful as you are in first gear and can easily spin the rear wheels. Once you reach the left side of the track you should be up to full power. If you slide, ease off for a moment and then get back on the power. Stay to the left until you have changed into second gear, and then start moving towards the right.



On cold tyres you'll have to start braking quite a bit sooner to make this turn. Also under racing conditions there are many different lines through the turn. They may not be ideal for a fast lap time, but there may be other considerations, like trying to outbrake someone or trying to out accelerate someone. Determine what suits your needs here and adjust accordingly.

ESSES :

Entrance speed: approximately 165 mph [266 kph]
Speed through the corner: approximately 70* mph
[113* kph]
Arrival time at the corner: 53.60 seconds
Time to negotiate the corner: 9.48 seconds
Exit time of the corner: 1 minute 3.08 seconds



This left-right hander is quite fun and completely different from the previous 'brake until you die' corner. You want to throw the car into the left hand bend, just brush by the bridge, and then maintain a constant speed into the right hander. Watch out for the bump at the exit as well.



You'll be up to fourth or fifth gear under full acceleration as you approach this turn. Position the car on the right side of the track. Drive by the 300 and the 200 markers. Then about 2/3 to 3/4 of the way between the 200 and the 100 markers brake hard and downshift quickly to second gear. As you get into second gear turn in and ease off the brakes. You'll be going a little too fast and aiming towards the grass verge on the left if everything goes right. Because of this excess speed the car will slide out away from the verge, and with a gentle application of power you'll be able to keep the rear behind you. Smoothness is very important here. However to get all this to work you need to really throw the car into the turn to begin with. So as you get into second ease off the brakes to get a little trail braking going, and then steer quite hard into the corner. This will turn the car and get it understeering towards the grass verge on the left. The difficult thing here is that once the car slows down enough it will want to snap into oversteer, and this will happen just as you approach the bridge. The slight amount of power you are keeping on will help to compensate for this. You'll end up taking a late apex right over the cement. Let the car drift out just enough to avoid hitting the bridge.

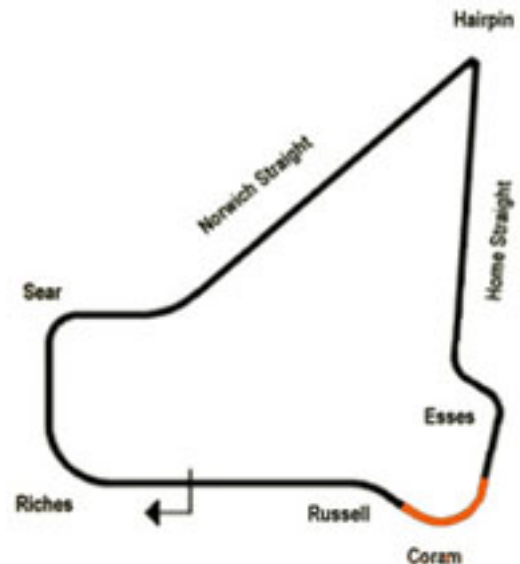


Now keep a steady amount of power on as you go under the bridge. Try to keep on the left side of the track as that will make the following right hander easier. You may be able to blip the power as you straighten out. This will only gain you a hundredth of a second so is probably only worth doing on a qualifying lap. As you come into the right hander you'll have to back off a bit to turn in properly. Aim for a mid apex, and hug the curb as you go round. Once you see the track straighten out in front of you carefully start to add some power. There is a bump in the track here, so wait until you cross it before you get back to full power. Then quickly nail the power to get down the following short straight as fast as possible.

This speed is reached at the apex of the right hander. The left hander is slightly faster at about 90 mph.

CORAM:

Entrance speed: approximately 115 mph [185 kph]
Speed through the corner: approximately 95 mph [153 kph]
Arrival time at the corner: 1 minute 5.52 seconds
Time to negotiate the corner: 6.60 seconds
Exit time of the corner: 1 minute 12.12 seconds



You can carry quite a lot of speed into this right hander. No braking is needed, or even helpful. The exit has to be smooth and quick as it begins your run onto the front straight.



You'll be in second gear as you approach this turn. Line yourself up at the left side of the track for the entrance. You want to throw the car into the corner in a similar fashion to how you entered the esses. However, you won't be on the brakes, but rather on the power when you do so. Just before reaching the hay bails on the left, turn the car into the corner fairly quickly, while still on full power. This will turn the car slightly and put you into a good understeering slide. Stay on the power for a moment after you turn in and then ease off slightly. You need to back off just enough to reduce the understeer and keep the car from sliding too far to the left. As you go through the middle of the corner try to maintain a constant amount of power. You'll gradually lose speed as you get deeper into the turn. About half way through the turn it starts to tighten up so you will have to back off a little here. Don't fight this reduction in speed as you now need to start thinking about the exit. As you approach the service road on the right begin to bring the car in to the right side of the track. Then as you go by the road gradually bring the car back to full power. You'll reach the edge of the track just after the service road. At this point you should be up to full power. The track falls away a little at the exit of this turn, which can cause the car to oversteer a little. But just straighten the wheel out and move back towards the middle of the track and you'll be fine.



RUSSELL :

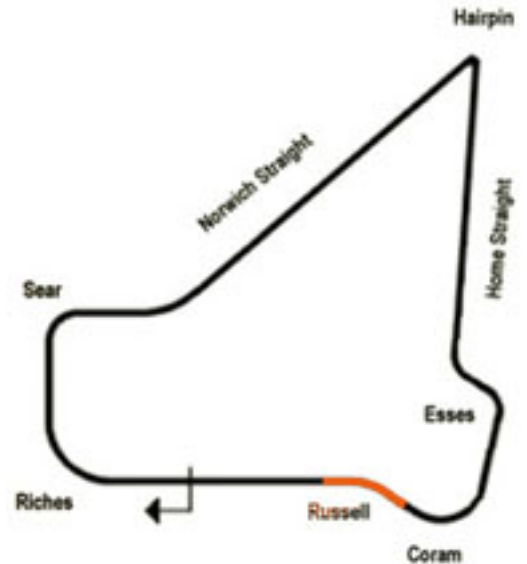
Entrance speed: approximately 125 mph [202 kph]

Speed through the corner: approximately 130* mph
[210* kph]

Arrival time at the corner: 1 minute 13.54 seconds

Time to negotiate the corner: 2.80 seconds

Exit time of the corner: 1 minute 16.34 seconds



This final left hander is quite simple and is taken flat. It leads out onto the front straight, which can present an overtaking opportunity. If you got a good exit out of Coram, a good clean line through here may allow you to draft an opponent down for a pass into Riches.



You'll be in second gear under full acceleration as you leave Coram. Carefully bring the car towards the left side of the track, aiming for a late apex. You should not be onto the cement until after you pass the

small access road on the left. Continue to bring the car right over to the left until you are against the grass embankment. Stay under full throttle, shifting up when you need to. As you exit the turn don't let the car go too far to the right. You don't need to get right next to the edge of the track here. It doesn't gain you anything to be closer than a few feet from the edge as the slight very increase in speed is offset by the extra distance. Also that grass embankment is very magnetic and can pull your car onto it if you're not careful. That's not the way you want to end a lap. So stay clear of the edge and then slowly bring the car back towards the left side of the track as you approach the finish line.



*Your speed increases through this turn.