

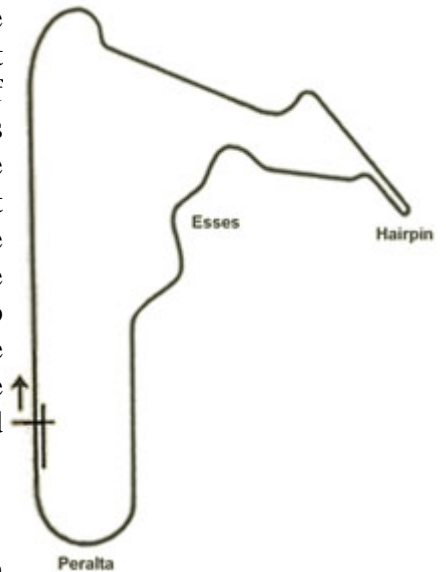


## Mexican Grand Prix

Autódromo de la Ciudad de México



**THE 3.107 MILE** Autodromo de la Ciudad de Mexico track hosts the Mexican Grand Prix. It is the highest track in terms of elevation at about 5,000 feet above sea level. This reduces the amount of horsepower available to the cars. So even though the front straight is incredibly long, you will never see 200 mph, even with a draft. The track has two distinct sections to it. The fast Peralta leads onto the front straight, which ends in a very fast decreasing radius turn. Then the hairpin and the esses are very tight and similar to a go-kart track. The fast section is where bravery and car control will reward those willing to push hard into the fast corners. The esses require finesse with the accelerator and brake pedal to get through quickly. Combined, these different sections make the track quite fun and usually produce good races.



### CAR SETUP:

Mexico is quite a difficult track for which to set up the car. You can easily get a car that is relatively quick, but to get one that is really fast you need to make it work on the fast and the slow corners. A car that turns in to the corners in the esses very quickly is key for fast laps. If it doesn't you'll be losing a lot of time in that section as you will have to wait longer than other cars to get the power back down at each exit. However if you have a car that tends toward oversteer it will be quite difficult to go flying into turn one.

To overcome this start by setting the car up to be neutral. Use the roll bars and the shocks to find this point. You need to have good grip out of slower corners, like the hairpin and all of the esses. So setting the rear shocks to be a little softer than the fronts will help here. Overall a medium shock setting is a good place to start. Because of the fast corners on the track and the need to have a car that changes direction quickly in the esses, you should set the roll bars up on the stiff side. Setting both the front and rear to the same setting should give you a car that is fairly neutral.

There are several corners, almost all of which are in the esses, where you want the car to turn in quickly and allow you to get back on the power soon. Having a car that allows you to get power oversteer solves this problem. If you can set up the car so that when it's on the limit in a turn you can cause it to oversteer slightly by adding power, you'll find that you can get the car pointed into the turn much faster, without getting off the power to do so. This shouldn't affect turn one, as you are not on the power going through that turn. The Peralta is not affected either, as you want the car to turn in as fast as possible there too. So tighten the rear anti roll bar a click or so more than the front and you should achieve this goal.

The next step is gearing. Fifth is simple. You should top out just before braking into turn one. Fourth should be set to top out just before you brake into the turn two chicane. Use the hairpin to set first gear. It should allow you to get good traction and as much acceleration as possible out of the hairpin. Second and third are a little more difficult. Most of the esses are taken in second gear. So this gear needs to let your engine stay in its power band as much as possible. If you are bogging down the engine or right near redline, it will be much harder to use the power to turn the car in to the corners. Once you find a good second gear, third can usually be set midway between second and fourth.

Brake balance is not that critical as most braking on the track is done in a straight line. The turn two chicane does use some trail braking to rotate the car into it, so that's a good place to set your brake balance. If you keep losing the car under braking there, try pushing the balance more towards the front.

### **GOALS:**

You should aim for a qualifying lap of about 1:47.50 to 1:48.50. That should put you pretty far up the grid.

During the race you should aim for 1:48.00 to 1:49.50, depending on fuel loads, for your lap times if you don't encounter traffic.

### **THE RACE:**

Mexico provides for great racing. The starting grid is wide and has the entire front straight ahead of it. You can definitely make up some places at the start here, just make sure you don't go too deep into turn one or you'll be in the armco. Turn one is a common place for overtaking as the draft down the front straight is significant. However, don't be foolish and try going side by side through turn one unless you are positive both you and the other car can hold their line perfectly. A mistake I see a lot is that when people are being pushed hard into turn one they brake later, and thus go wide, or worse, into the armco, allowing you to just cruise by on the inside. Don't brake too late for turn one. The turn two chicane, the hairpin and the Peralta are the other good overtaking opportunities. The esses are a hard section to overtake in. However if you are behind a slow car there you'll lose tons of time. Hopefully the slower car will realize this and let you by because trying to get by there will probably end badly.

## TURN ONE:

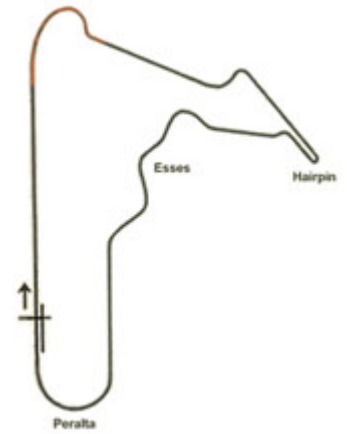
Entrance speed: approximately 187-190 mph [302-306 kph]

Speed through the corner: approximately 60-65 mph [97-105 kph]

Arrival time at the corner: 12.53 seconds

Time to negotiate the corner: 13.10 seconds

Exit time of the corner: 25.63 seconds



Turn one is the fastest corner on the track. It requires a well balanced car and a smooth use of the brake and accelerator to get through cleanly. It's also a great overtaking opportunity. If you do go for the inside line to overtake, you may want to brake a little earlier to make sure you don't run wide and into the car you are trying to pass.

You'll be in top gear at full speed as you approach the turn. It starts off fairly gently, but then tightens up as it continues. Because of this there is a tendency to brake as you go through the turn, which makes the car start to oversteer and slide out towards the armco. The solution is not to brake earlier, but not to brake during the turn. Once you start turning just let the engine slow you down the rest of the way. The group of three trees on the left side of the track, just before the turn begins, makes a great braking reference point. Right after you pass these trees, brake as hard as possible, continue in a straight line and shift down to fourth gear.

As the armco appears on the left continue straight on until the racing groove darkens. This is just a beat after reaching the armco. Gently lift off the brakes and turn into the corner. Follow the groove through the turn without touching the brakes at all. Keeping a little bit of power on as the go through the turn helps to stabilize the car as well as preventing you from slowing down too quickly.



The turn appears to straighten out for a moment before tightening up again for the second half. You'll need to slow down more for this section. So once you reach this midway point in the turn, brake lightly and downshift to second gear. Once in second, get off the brakes and back on the power. Keep just enough power to balance the car as the corner starts to tighten up. You may be able to add some more power as you near the concrete-filled tyres on your right, gaining a couple of hundreds of a second.



As you approach the concrete-filled tyres on your right, pull the car in towards them, using the fourth one as your apex point. Make sure you don't clip them as you'll probably damage the alignment of your car if you do. Keep enough power on through here to maintain a steady speed of about 65 mph. Don't push the car through, or you'll have a really slow exit from the left hand part of the turn.

After passing the fourth tyre start to bring the car around to the left for the exit of the turn, keeping the amount of power constant. If you pushed too hard through the right hand bend, you'll have to back off or brake to make the left hand exit. The track also has a slightly bump as you transition from the right bend to the left bend, and any abrupt transitions on the power or brakes may upset the car. Backing off will severely hurt your speed down the following straight, so aim to maintain the 65 or so mph into the left hand bend.

As you go through the left hand bend, aim to apex near the third tyre from the end. Then start to let the car drift out to the right for the exit. Gradually increase the power as you pass the final tyre. You should reach full power before you reach the right edge of the track. The grass is very slippery, so if you get a wheel onto it, you may need to back off the power a little. The car may want to oversteer under acceleration as you exit, so be prepared for a slight amount of steering correction as you exit the turn.



## TURN TWO:

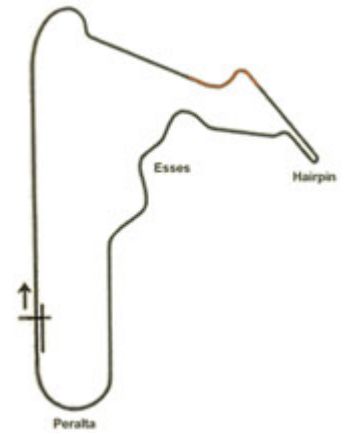
Entrance speed: approximately 147-150 mph [237-242 kph]

Speed through the corner: approximately 45 mph [73 kph]

Arrival time at the corner: 32.45 seconds

Time to negotiate the corner: 9.05 seconds

Exit time of the corner: 41.50 seconds



The turn two chicane is a great turn. You need a good feel for the car to be quick through here. Also if you got a good exit from the previous turn you may be able to pass someone into this turn. You'll be pretty close to redline in fourth gear as you go into this corner. Line the car up on the right side, straddling the white line.

There is no useful braking reference point here, but if you set fourth gear up well you should be able to brake just before hitting redline and be fine. The racing groove can also provide some idea of when to brake. After it darkens, continue on for a beat or two, then brake hard and downshift to second gear.

I find it better to turn in slightly early at this turn. It allows you to carry a little more speed into the corner. As you turn in, ease off the brakes by about half. The car will rotate into the corner fairly easily. If you spin, then try turning later, or don't ease off the brakes as quickly. You won't need much steering input, as the trail brake rotation should do most of the work for you. Aim to hit the apex at the grass just past the midpoint of the corner. This will set you up well for the right hand exit.



As you pass the apex you should be able to get back on the power for a moment before braking and shifting down to first for the right hander. Right before you start to brake, straighten the car out and head for the right side of the track. Continue to brake gently until you reach the apex of the right hander. Shift back to second, as this will give you better traction on the exit. You hit the apex at the

grass just before the midpoint of the corner here. As you leave the apex, don't get back on the power too soon, or you'll risk understeering off the track, or just spinning out as you are still turning. Let the car go right out to the left side of the track as you exit. A bad exit will allow another car the opportunity to pass you into the hairpin. So get your exit line down before you start accelerating out of this corner.

## THE HAIRPIN:

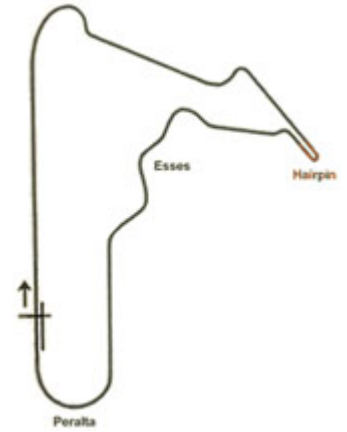
Entrance speed: approximately 135 mph [218 kph]

Speed through the corner: approximately 25 mph [40 kph]

Arrival time at the corner: 47.35 seconds

Time to negotiate the corner: 5.95 seconds

Exit time of the corner: 53.30 seconds



The hairpin is a unique corner in that it is a 180 degree turn which allows you to see the other cars coming down the straight at you as you exit. This can be useful if you want to see how close the cars behind you are, or if you want to see if you are coming up on lapped traffic. It is also the slowest corner on the track and requires good traction to enter and exit it.

You should be able to get into fourth gear before braking for this turn. Line the car up on the left side of the track, straddling the white line as you approach the corner. There is a sign on the left hand bank which makes a great brake marker. Once you reach this point, brake hard and start shifting down to second gear. This turn is slightly deceptive because it is banked. You can enter it much faster than you'd think because the banking allows you to continue to brake much farther into it than would be the case if it was flat. If you think you started braking too late, don't brake harder and lock your wheels, as you'll just hit the armco. It's better to come in slightly too hot, or sideways, as the banking will catch you.



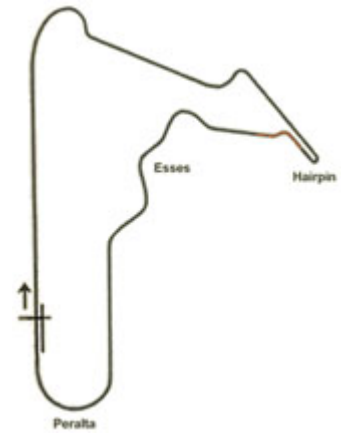
Talking about sliding sideways, if you shift into first too soon that's what could happen. So wait until you are fairly close to turning in before getting down to first gear. Your turn in point is after the armco appears on the left and just before you reach the end of the grass and the tyres on the right. Continue to brake, but at a lesser extent, as you turn in. You should be done with your braking as you reach the middle of the turn.



Continue around the corner for a beat before beginning to get back on the power. Start to unwind the wheel, allowing the car to move out to the armco on the left as you exit. Get back to full power as quickly as you can, and then shift up to second as you go down the straight.

## TURN FOUR:

Entrance speed: approximately 80 mph [129 kph]  
Speed through the corner: approximately 65 mph [105 kph]  
Arrival time at the corner: 56.45 seconds  
Time to negotiate the corner: 3.67 seconds  
Exit time of the corner: 1 minute 00.12 seconds



This left-right chicane is tricky because of three things. First, there is no brake reference point. Second, there is a significant dip in the track designed to upset your car midway through the turn. Finally, there is a large curb on the right hand exit that will try to rearrange your suspension if you touch it.

With these three things in mind, move the car over to the right side of the track for the entrance. You'll be in second gear as you approach it. You need to get a feel about when you should brake. Approximately four car lengths from the turn in point seems to be quite good. Brake moderately for a moment, then ease off the brakes and begin to turn in. Once you pass the left hand apex you want to have a straight run out of the corner, so don't turn in too late or you'll have to back off and turn left quite a bit to avoid that large piece of curbing.



Easing off the brakes will help you to turn into the corner better. Aim for an apex at the grass a little past the midpoint of the corner. Once you pass the apex, quickly get back to full power. A straight line exit is important as the track dips down here, making the rear end light. If you are still having to turn left, you'll probably start to slide the rear wheels to the right. If you correct to catch them you risk hitting that curb with the front wheels. If you don't correct you risk spinning. So a straight line is important for a fast exit.



You should be able to get into third gear as you pass the curb on your right. Continue in a straight line towards the left side of the track as you exit the right hand bend.

## TURN FIVE (ESSES):

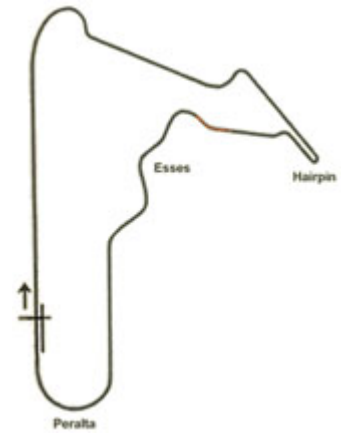
Entrance speed: approximately 120 mph [193 kph]

Speed through the corner: approximately 100 mph [161 kph]

Arrival time at the corner: 1 minute 3.43 seconds

Time to negotiate the corner: 2.31 seconds

Exit time of the corner: 1 minute 5.74 seconds



Turn five starts the esses. You want to carry as much speed through all of these turns as possible. So using the brakes a lot is not a good idea. Be smooth and you'll be faster. The key to this first right hand bend is the exit. You want to be as far to the right as possible in order to ensure a good entrance to the next left hander.

Set the car up on the left side of the track for the entrance to the turn. You'll be in third gear under full acceleration. There is a braking reference point, but it is difficult to pick up, especially if you are right behind another car. Before the armco starts, on your left, the racing grooves darkens slightly. At this point brake gently for a moment and start to turn into the corner. You want to get as much of your turning done as possible before reaching the apex, and the slight amount of braking will help turn the car in faster. Stay in third gear after you turn in, using the accelerator to maintain as much speed as possible, as you continue towards the apex. You should get your right front wheel within inches of the last cement-filled tyre. Once you pass this point, try to straighten the car out as close to the right side of the track as you can. Make sure you don't get too much power down as you exit or you'll have a lot of difficulty staying to the right side of the track.



## TURN SIX (ESSES):

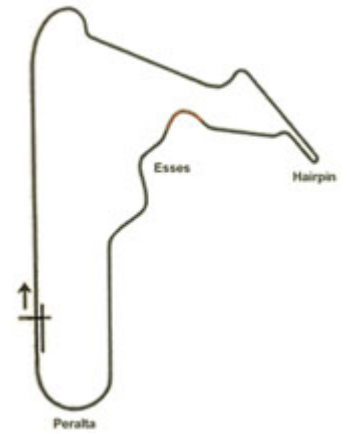
Entrance speed: approximately 100 mph [161 kph]

Speed through the corner: approximately 70 mph [113 kph]

Arrival time at the corner: 1 minute 6.05 seconds

Time to negotiate the corner: 5.65 seconds

Exit time of the corner: 1 minute 11.70 seconds



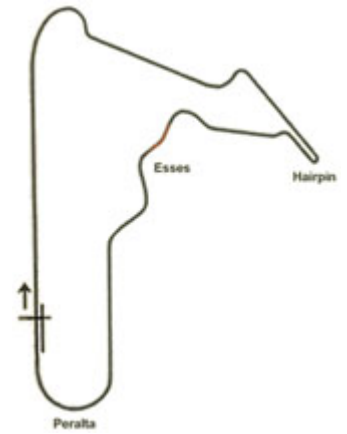
This left hander follows immediately from the previous right hander. You'll be in third gear, hopefully near the right side of the track coming into this one. There is an access road on your right if you make a mistake and spin the car coming out of the previous turn. But, hopefully you won't be doing that.

As soon as you have the car going straight following the right hander, brake moderately for a moment and downshift to second gear. It's very important to be going in a straight line before braking or you'll probably spin. Once in second, turn in and keep the car as close to the tyres as possible. If the car is balanced well and you have a great line you should be able to push quite hard through this turn, using the power of the engine to keep the car turning. Make sure that you don't start moving out towards the right until you are finished with the turn, or you'll have to slow down a lot to avoid the armco. As you start to straighten out the car you should be able to get back to full power momentarily before the following right hander.



## TURN SEVEN (ESSES):

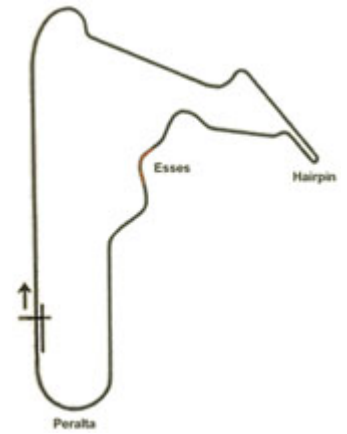
Entrance speed: approximately 80 mph [129 kph]  
Speed through the corner: approximately 73 mph [118 kph]  
Arrival time at the corner: 1 minute 12.45 seconds  
Time to negotiate the corner: 2.02 seconds  
Exit time of the corner: 1 minute 14.47 seconds



This right hander follows on from the left hander you just exited. It is also a second gear corner, and does not require any braking. You should be crossing to the armco on the right as you exit the previous turn. Just before reaching the end of the armco, start to turn in. An extra blip of the throttle here will help to slide the rear wheels out to the left and allow you to turn in without braking. Stay right at the edge of the track as you apex this turn, even clipping the grass a little. It is important to exit on the right side of the track or you'll have a really hard time getting through the follow left hander. If all goes perfectly you may be able to get back to full power for a moment after exiting this turn.

## TURN EIGHT (ESSES):

Entrance speed: approximately 80 mph [129 kph]  
Speed through the corner: approximately 75 mph [121 kph]  
Arrival time at the corner: 1 minute 14.90 seconds  
Time to negotiate the corner: 3.24 seconds  
Exit time of the corner: 1 minute 18.14 seconds



About midway through the esses now, and you get to this left hander. The esses now start to open up a little bit, with more space between them. This means you need a good exit to make the most of the turn. Like the previous turns, this one is also a second gear turn, and requires no braking.



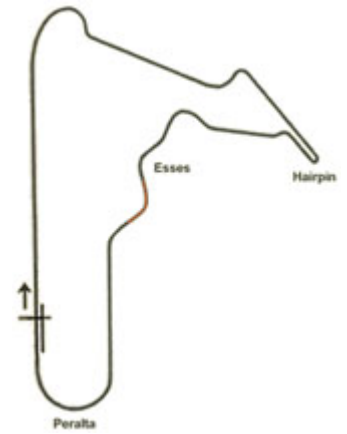
You'll be on the right side of the track after exiting the previous turn. The transition from turning right to turning left is quite abrupt and if you're not in total control of the car you will probably spin and hit the outside armco. So make sure you have the car under control before turning into this left hander. You may need to take the previous corner at a slower speed if you are all over the place at

its exit.

Just after the armco appears on your right, turn into the corner with the help of the engine. You should apex right next to the last cement-filled tyre on the left. Try and stay on the accelerator as much as possible as you go through the turn. Once past the apex, begin to apply more power. Be careful not to get too much power down too soon or you'll go very wide on the exit. There is an access road on the right that you can use to recover if you do go wide. However, if you can stay near the middle of the track as you exit you'll be able to accelerate much more before the next right hand bend.

## TURN NINE (ESSES):

Entrance speed: approximately 90-95 mph [145-153 kph]  
Speed through the corner: approximately 85 mph [137 kph]  
Arrival time at the corner: 1 minute 19.49 seconds  
Time to negotiate the corner: 3.69 seconds  
Exit time of the corner: 1 minute 23.18 seconds



This right hander is the beginning of the end of the esses. You need to be concerned about getting a good exit in order to carry speed down to the final turn of the track, the Peralta. Braking is not required here, as long as you don't go too deep into the corner before easing off the power.

You'll be in second gear (surprise there) as you approach this turn. Bring the car over towards the left side of the track. Just after you reach the white line, ease off the power and turn into the corner. Letting off the power relatively quickly will help to turn the car. Just make sure you don't ease off too fast, because you'll end up slowing too much, or spinning. You should be pretty close to redline in second when you do ease off, so take this opportunity to upshift to third gear. This allows better traction going through the corner, as well as getting rid of the shift before the final critical left hand ess. Try to keep the car close to the right side of the track as you approach the apex. Don't get too close too soon or you'll have to go wide at the exit to avoid the tyres. Gradually bring the car closer to the tyres, ending up about a foot or so from the last one, as you carefully increase your acceleration. Straighten the car out right against the right side of the track as you exit the turn and get back to full power.



## TURN TEN (ESSES):

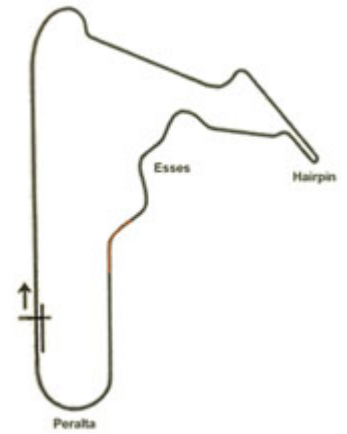
Entrance speed: approximately 105 mph [169 kph]

Speed through the corner: approximately 95 mph [153 kph]

Arrival time at the corner: 1 minute 24.32 seconds

Time to negotiate the corner: 3.81 seconds

Exit time of the corner: 1 minute 28.13 seconds



This final left hand turn of the esses is all about exit speed. It is very easy to brake late for this turn, but you will suffer with a low exit speed, and won't be able to overcome that until you are back on the front straight. So brake early here.

The large bush on the right is an excellent brake and turn in marker. This corner is taken in third, with just a little braking a moment before reaching the bush. Turn the car into the corner, aiming for the middle of the tyres on the left. You'll be barely on the power as you come towards the apex, just enough to balance the car.



Once you pass the apex, start to put your foot down slowly. Continue to increase your acceleration as you drift out to the right, reaching full acceleration about half way across the track. Go right out to the grass on the right side of the track. Keep the car dead straight once you reach the edge. Even if you do touch the grass a little you should be able to keep at full acceleration as long as you don't turn at all. There is another access road on your right as you exit. (Actually I think it connects with the access road just past the pits on the front straight, thereby forming a shorter version of the track and bypassing the Peralta.) Once you reach this you can start to bring the car over to the left.



## PERALTA:

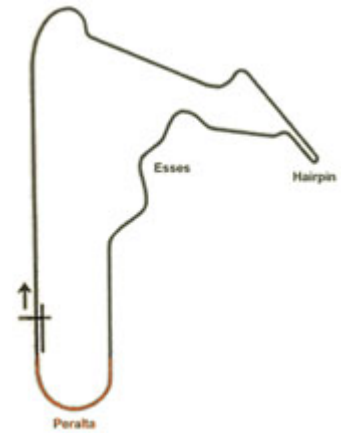
Entrance speed: approximately 157 mph [253 kph]

Speed through the corner: approximately 102 mph [164 kph]

Arrival time at the corner: 1 minute 34.24 seconds

Time to negotiate the corner: 11.12 seconds

Exit time of the corner: 1 minute 45.36 seconds



The final turn is a long banked right hander. The banking allows you to take it much faster than would normally be the case. If you got a good exit from the esses, a good opportunity to overtake exists coming into the turn. You should be able to get up to fifth gear by the time you reach the braking point. Line the car up on the left side of the track in preparation for braking just before the sign on the left.



Just before you reach the sign, brake hard and downshift to fourth gear. Then ease off the brakes and turn into the corner. Get back on the accelerator as you turn in, and try to keep some power on in order to prevent yourself from slowing down too quickly. Above the white line on the left the banking flattens out, so make sure you stay below this line, braking a little more if you need to.

As you go through the turn, try to get as much power down as possible. Be careful that you don't push out wide, or start the rear wheels sliding out to the left. A good balance between these two points is difficult to achieve, but is the fastest way through the turn. A constant modulation of the accelerator will most likely be necessary to achieve this balance.



Just before the front straight comes into view you have to get back to full power. This point is a little difficult to judge until you have some experience with the turn. But after a practice session you should have a good idea of when you can get back on the power safely. If you do it right, you won't get any oversteer or understeer. A slight drift may result, which is fine. Let the car go right out to the armco on the left as you exit the turn under full power. You should reach the wall just after the pit entrance on the right, and be able to continue down the front straight under full acceleration. You won't get into fifth until after the start/finish line.



A good exit here will see you right on the gearbox of another car. However with such a long front straight this may not be a good thing if the car you are trying to pass is only slightly slower than you. You'll have to pull out to pass them almost immediately and by mid straight you will have lost any advantage the draft gave you. Worse still, they could get behind you and draft you right into turn one, and repass you. So exiting the Peralta a couple of car lengths behind the car ahead is best. This will allow you to catch them by mid straight, and not give up the advantage gained from the draft or allow them to repass you into turn one.