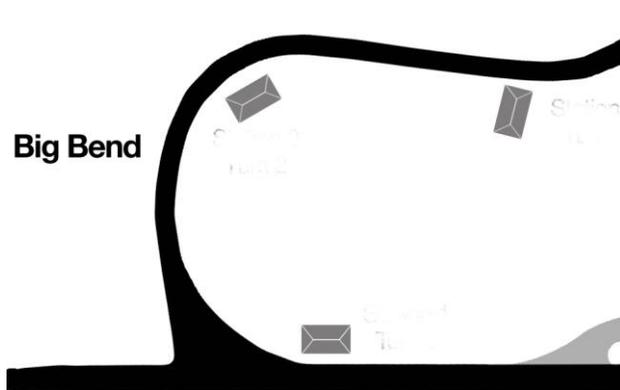


A Lap of Classic Lime Rock, Turn-by-Turn

Lime Rock Park is a track that looks “easy” when you’re staring at a track map... let’s see, a 180 right, one left, then four consecutive rights, back to a long straight... piece of cake! Indeed, for a driver to be competently quick is relatively easy. But to be pole-sitting, race-winning fast? Very, very difficult. Lime Rock has nuance and subtlety and “secrets” that challenge the world’s best drivers. And that’s a big reason why the track is almost mythic in its appeal. Following is a mere scratching of the surface of the knowledge needed to put up a good lap time at Lime Rock.



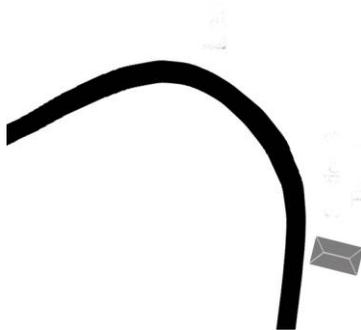
Big Bend

Big Bend is actually two corners (1 and 2) and combined, the car is changing more than 180 degrees in direction. Big Bend is a classic entry-speed corner – you want to carry as much speed into the corner as you can.

In a formula car, for instance, you will start your straight-line braking no earlier than the 3 marker, fast guys the 1.5, while the turn-in is at the 2 marker. It will feel early, that’s ok, it’s exactly what you want. You’re now trailing the brake, floating the car down to the apex. If you find yourself off the brakes well before the apex, you know that you over-slowed the entry.

Once at the apex, you can begin to release the brake and go back to some throttle, to settle the back of the car. Meanwhile, you’re holding the car down against the curbing almost to its end. Then, let the car release to track-out, but only go as far as mid-track. There’s an asphalt seam perfectly placed as a reference; allow only your left side tires to get slightly above the seam.

To direct the car to T2’s apex, you don’t need brakes (maybe a brush if you really nailed the entry) and you don’t need a whole lot of steering – a small “breathe” off the throttle will perfectly rotate the car and point the nose to the apex and you can get back to power (but not full throttle). Be sure to keep your eyes up and looking through the corner – rotating the car too early means you will run out of road at the exit and you’ll have to lift. As you track-out of the second part of Big Bend, use all the exit curbing, and even more important, don’t be in a rush to get back to the right. You’ll see why in a moment...



The Lefthander

The one true left on the Classic layout is named – can you believe it? – The Lefthander.

This is a corner that engenders a bit of controversy as to the “best” line. Why? As championship winning driver and Lime Rock Drivers Club coach Jonathan Goring puts it, “With a steeper positive camber on a low entry, but a better radius to the apex on a high entry, a much-heated debate exists over which is quicker.”

Back when virtually all cars, race and otherwise, were relatively underpowered, the Lefthander was the very definition of what is called a “compromise” corner. That means you use a line that’s not the fastest for the corner itself, but rather, a line that sets you up perfectly for the *following* corner, one that’s much more important to a good lap time. In this case, it’s the Righthander, because it leads to the second-longest straightaway, No-Name.

Since a slower car is almost certainly able to take the Righthander flat if it’s on the correct line, the traditional high-entry for the Lefthander is what you want. Brake in a straight line – aim for the bathroom in the A Paddock – go in relatively deep, and use the release of the brake to get rotation, then at the right moment use throttle to transfer load to the rear tires. Yes, you will give up speed and distance versus a shallow entry, but you will gain it all back – and more – along No-Name Straight because you were able to get back to full throttle very early and *stay on it* through the Righthander. So if you’re in a Formula Ford or FV or some such car that has less than a couple hundred horsepower, this is your line.

But if you’re in a car that’s quick enough that it *needs* to brake for the Righthander, even if it’s on the perfect line, what is there to gain by going into the Lefthander high, slowing the car more – because you have to turn more – and thereby giving up entry speed and adding distance? Instead, try using the shallow entry to the Lefthander... (more)

Exiting Two, stay on the throttle and get the car to the right, then turn-in flat and early – and then get immediately to a 6 or a 7 brake pedal. The car will be headed to the middle of the road and is, geometrically, at a pretty awkward angle with respect to leaving the corner on the left-hand side. But the upside is you can go very deep and early and carry much more speed into the corner. The hard part is now you have to really work the car to get it back to the left for the proper turn-in to the Righthander. This is where your car-control skills will show their true colors!

If you're going to try the shallow entry, just make sure you put a wheel on the rumble strips. Depending on your car control skills, for the entry to the Righthander you should either be parallel with the left side before turn-in, or still be turning a little left, thus loading up the right-side suspension, so you can use the unloading as you turn right for the Righthander to create instant direction change, a la Scandinavian Flick. Be ready to countersteer!

Okay, high entry or low? What makes sense is to start with the "traditional" high-entry, late-apex technique, then experiment with earlier and lower entries. Take a bunch of splits – from the end of the track-out curbing in Two to your brake-point for the Uphill – and see which is faster, taking into account you also need to be consistent.

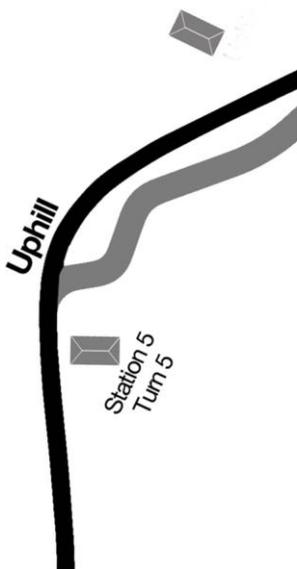


Yea, we know, Lime Rock has a bunch o' righthand corners, so why does Turn 4 get to be called "the Righthander"? Because it's right after the "Lefthander," that's why! (lol...) Anyway, having left the Lefthander, you should be near the left side of the track, your eyes looking to the apex of the Righthander. As you approach, in some cars you won't brake or even lift. In others, you will brake a bit; in yet others, a long breathe (not too long; if so, you're better to stay on the throttle a bit longer, then use the brakes to slow your entry) or short breathe off the gas. In any case, your goal is to get back to power as soon as you can (or stay flat), using the Righthander's mid-corner positive camber ("banking") to your advantage. Note: The road begins to fall away, from the apex onward, so direction changes are much more difficult after the apex. Remember, getting through the

Righthander well is key, because you are headed up No-Name straight, the second-longest full throttle portion of Lime Rock, and that makes it very important to a good lap time. By the way, get right to the apex, but don't bang it or get on top of it. If you do, you'll probably have to back out of the throttle to stay on the road at track-out, which will kill you down No-Name.

No-Name Straight

Referred to in the early years of Lime Rock Park as "Zig" and "Zag," No-Name Straight may be anything but straight, but no driver lifts here so it acts like a straight. Remember, even the slightest of steering lock scrubs speed off the car, so negotiate No-Name keeping your hands as straight as possible and minimizing the steering changes. Done correctly, you need very little steering input to end up on the left-hand side of the track, preparing to brake-and-enter the Uphill.

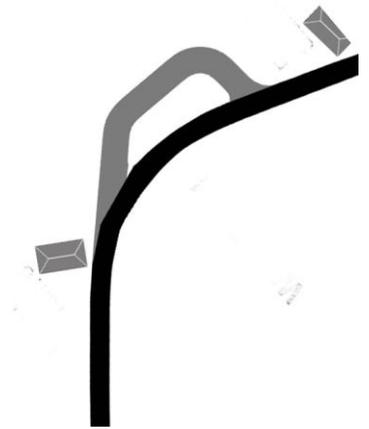


There are two keys to getting through The Uphill fast: turn-in earlier than you think (which gives you better entry speed), and look *all* the way up and through the corner. This corner is intimidating because there is not a lot of run-off, it rises more than three stories, it's very fast, and you can't see the corner exit... So here's what you need to know: After the apex, the road goes sharply uphill. This compresses the car and thus the tires into the pavement, which gives the tires more grip, which both reduces the slip angle of the tires at that moment *and* allows you to add a bit of steering, which then turns the car that little bit more, which puts you on a perfect line for the track-out. Magic!

So... approaching the Uphill, brake relatively lightly in a straight line (a lighter, longer brake works better than a short hard stab of the pedal), don't downshift, then turn-in early and squeeze back to power and get down to the apex. Aim to be roughly in the middle of the racetrack entering the compression zone when you add more steering. The trick to not having any problems cresting the top of the hill – even "slow" cars get light here – is to already be "tracked-out," with your hands straight by then. If you are still under cornering load as you get to the crest, be ready to instantly add a bit of opposite lock as the car gets light.

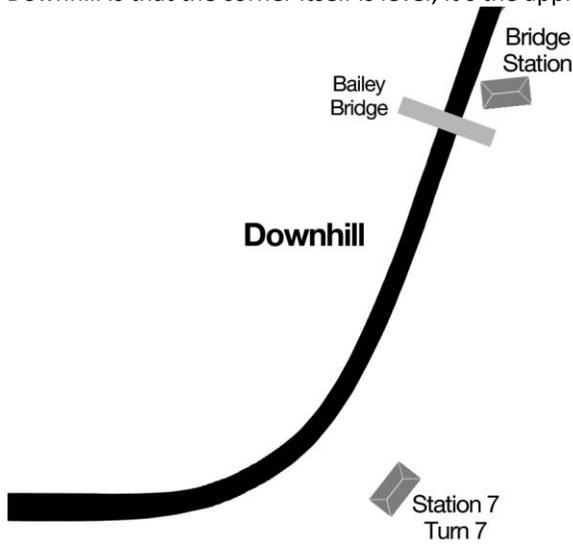
West Bend

Like the Uphill, this is another high-speed corner that again requires braking in a straight line and then turning-in, then back to power. West Bend requires a bigger speed adjustment than the Uphill did – a moderate brake application will most likely be necessary. There are a couple of quirks about West Bend you need to know. First, the apex seems hard to reach. That’s because the curbing does not follow a constant arc – it actually bends in more sharply before the apex. Secondly, the camber of the racetrack turns slightly negative approaching track-out of the corner. A lot of the apex curb is big and steep, but there is a flatter divot in the middle, so car placement is critical. Be careful not to overdrive the exit here, either, but do use all of the exit curbing if you need to.



The Downhill

Between the Uphill and Downhill, which of Lime Rock’s signature corner complexes is more famous? They both have lots of “stories” to tell, but if you had to choose one over the other (it’s like choosing your favorite child – how the heck do you do that?), the Downhill might be your pick because it’s the track’s fastest corner, and it begins at the iconic Bailey Bridge. What’s cool about the Downhill is that the corner itself is level; it’s the approach that drops six stories.



Like the Uphill and West Bend, the Downhill is a high-speed corner. That means your speed adjustment – a breathe of the throttle or a light brake pedal – needs to be in a straight line, and you want to be going back to power at turn-in.

The Downhill is unique in that there is a compression zone at the turn-in point, which is the bottom of the hill. This allows for quicker handspeed, taking advantage of the momentary extra grip available. Turn with the throttle on. Don’t make the mistake of turning early with slow hands before the compression. This will only get you in trouble at the track-out; you’ll have to lift to stay on the road, which here often results in big TTO, which can send you spinning to the inside. The bottom line is that you want to get this corner correct. Exit speed is king leaving the Downhill, because you’re now on the almost half-mile long front straight, beginning your next lap...

So that’s a “driver’s” lap of Classic Lime Rock. What you just read is what you would essentially be taught, for example, in a Skip Barber Three Day

School (notice we didn’t say “learned,” as it takes additional seat time to fully integrate all the information taught in a credentialed racing school). We hope that these preceding turn-by-turn descriptions give you at least a taste of what drivers are thinking as they lap the track.

Maybe you sometime soon?

By Rick Roso & Simon Kirkby