

Driver's Ed. Education
A Series of Specifics for Success
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Article #5 - Throttle Balance...
... the Key to Smoothness & Survival.

I told you that Performance Driving was going to be a fluid exercise, so you might as well get used to it! Speaking of fluidity, that is what we are attempting to achieve in our driving style. Unfortunately, as we increase our knowledge and speed, fluidity can begin to suffer somewhat. When one begins to approach the limits of the car's suspension and the tire's adhesion, one must be careful and very specific with control inputs. Sudden moves are not likely to achieve the desired result; which is making the corner. How do we control the delicate dance that we have engaged in?

One key to high speed cornering success is Throttle Balance. Forget about acceleration for now. Just as much as the steering wheel, the Throttle is an important tool in assuring that the car stays planted and will maintain the proper line through a turn. If you have one without the other, you only have half the mix!

Let's say you have mastered "the Line" (at least the theory of it), and have recently become proficient at completing all of your "Business" before the "Business Cone." Most students will be applying the throttle as they pass the apex as instructed because it is safe and relatively easy. When the student learns "the Line," it is then time to start accelerating sooner for increased suspension balance, exit speed, and terminal straightaway velocity.

At this point, many of my students notice throttle application becomes problematic because it often seems to alter their intended cornering arc and has a tendency to cause them to miss their apex in many instances. They may also experience moments of high anxiety where the tail wants to jump out in a turn as they cruise along with minimal throttle readiness. For these reasons, and more, we will now rename that turn-in cone once again.

Now that the student has graduated with a degree in "Business Cone Administration," we will henceforth refer to it as the "Acceleration Cone." Cornering velocity has now increased to the point that steering alone does not achieve the desired result. If the tail jumps out, simply steering out takes you away from your apex and closer to an off-track excursion. It also does nothing to increase what you really need; Rear Wheel Traction. Also, if the front end pushes wide, steering tighter will likely exacerbate the situation, or may cause the front to bite and the rear to jump out. What to do?

Proper and timely application of the throttle can help mitigate these maladies and smooth out your cornering attitude. With any car, and particularly in the case of the

rear or mid-engined cars, it transfers all-important weight - and therefore traction - where it is needed most - to the rear wheels. Also, the earlier you get on the throttle, the more time you will have to correct any alterations that this may enter into your intended cornering arc well before you reach the all-important apex.

Now, if you have gotten All of your Business Done, and have a good feel for the Line, it is time to put these items together with the final ingredient: Throttle Balance. As you turn in, you simultaneously apply the throttle! You will, of course, have to experiment with how much and how soon depending on the corner, but by using the "Acceleration Cone" method, you will have eliminated any variations in line that mid-turn throttle application is likely to cause, and are now ready to correct for any surprises that the track surface or your car's idiosyncrasies may have to offer.

With enough seat time, you will learn to reflexively counter those nasty moments when the tail steps out with just the right amount of counter steer... without lifting! If you maintain Throttle Balance, you also maintain the rearward weight shift that you need for traction. Concurrently, if the front starts pushing wide at any moment, and you have your foot on the throttle already, a slight and momentary lift - perhaps in combination with a slight steer out of the turn - will shift weight forward, increase front traction, and tighten the car's line a tad.

In addition, this method of cornering not only allows you to build the momentum that will help you swing around the apex cleanly, but also adds that momentum to whatever velocity you are able to create with simple stand-on-the-gas acceleration in the straight.

If you've learned "the Line" and can "Take Care of Business," it's Throttle and Steer, Throttle and Steer. They are as important to each other as engines and oil. Foul the ratio up, and your gonna spin something. Put them together right, and the car simply sets once, and sails!

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