

Driver's Ed. Education
A Series of Specifics for Success
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Article #6 - Apexing

"Late Apex ya say!?"

One of the key concepts in performance driving is the Corner Apex, that inner-most point of a driver's cornering arc that we are all striving to nail so accurately. If you can remember back to physics and geometry in school, you can see that what corner dissection really boils down to is a cross between the physics of a mass in motion, and billiards. We're attempting to play the forces and angles in a fashion such that we effectively reduce the time that our front wheels are turned, and lengthen the ensuing acceleration zone (straightaway), while maintaining maximum momentum through the turn.

You may remember that your early instructors were asking you to take corners in a way that felt very unnatural to you. They were always squawking at you to, "stay out, go deep... don't turn in so soon!" It seemed as though they were having you go absurdly deep and wide entering the corners before turning. It just felt so dang awkward, didn't it? But you got used to it, and eventually could go deep smoothly and consistently, right? I'll let you in on a little secret; even though you didn't realize it, your instructors were simply protecting their backsides... and yours! Their wisdom will soon become evident.

As a novice driver, once you begin to master the driving line, you notice that everything begins to change yet again. You seem to be missing braking and turn-in points, charging the turns, sliding wide of your apexes, running out of room at the track-out point, and generally driving like you've forgotten everything you ever learned. Why? What happened?

Speed happened! Those wise old instructors know that speed is a function of proper mechanics and learning the line, not simply of bravado. When a student begins to master the correct driving line, the speed just happens all by itself, and it generally takes the student by surprise because now all those references you struggled so long and hard to establish are out the window! Geez... this is still hard work, isn't it?!

First of all, if you have learned the line correctly, and have not totally forgotten it as your speed has increased, all is not lost... yet. That "awkward line" you learned was meant to give you a foundation. If it was solid, even if the upper layers begin to crumble a tad (which they inevitably will!), it will still be there to build on. The deep entry and late turn in point were

designed to keep you both safe while you learned the dynamics of performance driving. And, as you can see, it is plenty dynamic!

At this point you need to become aware as a driver of your instinct to turn in too soon, and resist it. You also need to become aware of the laws of physics fighting you for control of the car. What you need to do is take control. You see, speed is, in our case, a hallucinogen; it alters and distorts ones perceptions, and throws off ones timing. When drivers begin to pick up the speed, that old early-turn-in bugaboo creeps back into things and causes the student to get impatient and nervy. Suddenly it becomes a fight to make that apex again; that hallowed ground that you'd begun to visit with regularity. Worse yet, now you're not only missing your apexes, but are finding extreme distress lurking at the track out point as well. Here's the deal.

You need to increase your concentration and fight the temptation to turn in too soon. By turning in too soon, you almost certainly will apex too soon. If you run wide of, or arrive early at, your apex by as little as three feet, that can translate into a track out point that is 10-20 feet earlier than if you'd hit a tight, late apex.



It didn't matter much when you were first learning, but now you can't afford to give up that much track-out when you're going faster! Also, you need to turn the car in decisively in all but the gentle sweeping turns to set the car's suspension and balance early, and to get it to rotate toward the apex, and you need to then listen to and feel what the car is asking of you. If the tires are screaming or centrifugal force is really pulling the tail around, unwind the wheel a touch and let the car run a little freer. As we've discussed in previous installments of this series, you have to develop a feel for what the physical situation is, and what the car needs to perform optimally.

Because your speed has risen substantially, you've suddenly lost that comfort zone that seemed to come so gradually. So let's get it back! By using the late turn in approach your instructors drilled into you, you will again be able to establish that sweet, safe late apex that everyone always strives for. It was drilled into your subconscious because it is safe and comforting,

and it will never let you down. By using that late turn in, you can more easily attain that safe late apex you need to survive as you continue to put all the ever changing dynamics of performance driving together into a cohesive package.

You may have heard it said that, "Friends don't let Friends Early Apex." Neither do Instructors their Students! It's a rule you can live by.

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by John L. Hajny

I have striven to make this an extremely well written and accurate series on a subject that is not to be taken lightly and can obviously be dangerous. To maintain the accuracy and proper presentation of that message, I would ask that absolutely no use whatsoever of any text herein be made without my express written consent.

I ask you to please abide by this request.

Thank you.