



Autocross 101

Welcome to the Porsche Club of America Los Angeles!

We are committed to the pursuit of excellence in motorsport, and there is no better way to get started than with Autocross. This guide, along with proper instruction and practice, will help you develop and hone the skills required to safely navigate an autocross course as fast as your skills and your car will allow.

Safety is always our #1 priority, and we encourage you to learn the basics provided below before your first event. Your instructor will help answer any questions you may have throughout the day.

SECTION 1 – SETTING UP

After you have checked in for the event, proceed to the pit area and unload all loose items from your car, including your driver's side floor mat. Your car will be pulling some serious g's on course, and you don't want anything to land in your footwell and interfere with operation of the pedals.

The Basics: Wear closed-toe shoes (no flip-flops), keep your windows down while on course, and only approved instructors are allowed in the passenger seat. No guests.

Seating Position: As a general rule, you want to sit closer and taller for performance driving than you otherwise would for casual driving. You should be able to reach the floor BEHIND the pedals and still have a slight bend in your knees, and your elbows should have a 90-degree bend with both hands on the wheel at 9 and 3.

Steering Position: As just mentioned, hands at the 9 and 3 position, not 10 and 2, where many modern cars have a slight bulge in the steering wheel. 9 and 3 is the most efficient position for executing the most steering input without having to take your hands off of the wheel. **Note:** never take your hands off of the wheel and let it "straighten itself out". You are in charge, not the car.

Tire Pressure: Be sure to bring a tire pressure gauge and an air compressor. Managing your tire pressure throughout the day is the easiest (and cheapest!) way to help your car go as fast as possible. Consult your instructor or other drivers with a similar car for how they manage their tire pressures. It's different for every car.

Traction Control: If your car is equipped with traction control, leave it on for the first couple of events. After you get more comfortable with the car and autocross in general, you will likely want to disable it, or if available, use “Sport” mode (modern Porsches have PSM Sport, which is a halfway point between on and off). Having less traction control will allow the car to rotate or drift in more extreme driving scenarios, which can benefit your lap times. But you need to know what you’re doing first.

SECTION 2 – THE COURSE

One of the unique challenges of autocross is that the course is always different. You will never drive the same course twice. This means you have to learn a new course at every event, and the faster you learn it, the faster you will go.

Track Walk: After the course has been cleared by the Safety Chair, all drivers will be invited to walk the course. This is your first opportunity to see all the elements and start forming a mental picture of how you will drive it. Pay attention to key elements like slaloms or boxes, and also note where you will likely need to brake. Consider bringing a clipboard with you and try your best to draw a track map as you walk, noting potential problem areas.

Cones: The course is defined by cones, and knowing how to “read” the cones is a skill that takes time to perfect. Here are some standard elements at autocross:

Slaloms: a series of evenly-spaced cones in a straight line, designed for the driver to weave in and out of each cone.



Pointer Cones: a pointer cone is lying sideways on the ground, “pointing” to a cone that is standing up. The direction it is pointing is the direction you drive around the standing cone.



Gates: gates consist of two sets of double cones right next to each other. The car drives between the two sets of cones (blue arrow):



Hitting Cones: inevitably, you will hit some cones at autocross. This will NOT hurt your car, and any smudges will come off easily with detailer spray. If you do hit a cone during timed runs, you will be assessed a two-second penalty per cone. If you knock a cone down, or knock it out of its “box” (all cones are chalked prior to the event), you incur a penalty. If the cone stays standing and is still inside or touching the “box”, there is no penalty.



SECTION 3 – CAR CONTROL

Car control is the superpower of autocross. Those who have it typically win. The only way to learn proper car control is to get as much seat time as possible. You can certainly read about it, and that will help, but ultimately you’ve just got to do it.

Vision: By far the most important skill to develop is your vision. Your car will go where you are looking. So don’t look AT the cone, look AROUND the cone. And always look up and as far down course as possible. You want to be preparing for the next element and the one after that. If you’re staring at the cone you’re passing, you’ll be too late to set up for the next element.

The Line: In racing, “the line” is the fastest way around the course. To find the right line, you have to adjust your position on the course relative to its boundaries so that your turn-in points, brake points, acceleration points and track-out points are optimized to carry the most speed. Your instructor will help you with this.

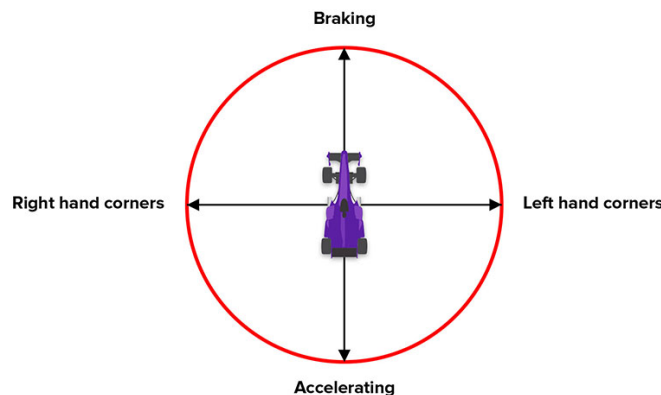
Smooth Inputs: Don't jerk the steering wheel or slam on the pedals. This will upset the chassis and cause you to scrub time. Focus on "squeezing" the pedals and smoothly adding or removing steering input. Smooth is fast.

Exit Speed: Your exit speed out of a turn is probably the single most important factor in going faster and reducing your lap times. The basic premise of taking a turn is to enter slow and exit fast. (see Late Apexing below)

Contact Patch: The surface area of the tire in contact with the road. Roughly the size of your hand. This is all you have to work with to keep the car from spinning out.



The Traction Circle: The traction circle is a concept that helps you visualize what your tires are capable of. The more you do of one, the less you can do of another. If 100% of your traction is being used to accelerate, you can't turn or brake. If 100% of your traction is being used to turn, you can't accelerate or brake. Understanding this will help you manage your contact patch effectively.



Understeer: A car understeers (or "pushes") when you turn the steering wheel and the car doesn't turn in as much as it should. This results from a lack of traction on the front tires. Understeer can be caused by entering a turn too fast and/or turning in too late or too suddenly.

Oversteer: A car oversteers (or is "loose") when you turn the steering wheel and the car turns MORE than it should and the rear end slides out. This results from a lack of traction on the rear tires. Oversteer can be caused by adding too much throttle or brake while turning.

Spinning Out: If the car starts to spin, both feet in. (one foot on the brake, one foot on the clutch or dead pedal) Admit defeat and do not try to save it, and wait for a corner worker to wave you back on the course.

SECTION 4 – CORNERING / APEXING

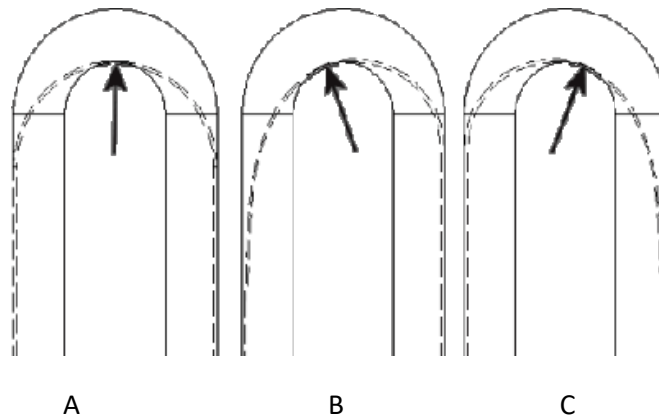
Since autocross courses are set up with cones, the way you approach the cones and set up to make any given turn differs greatly from driving on proper race courses with clearly defined pavement, shoulders and curbs. As a general rule of thumb, cones should be treated as EXIT cones, which means you want to be apexing late and on the gas as you complete your turn and exit past the cone.

Standard Apex: The usual line through a corner that most people take, learned primarily from street driving. It is the shortest way through a corner but not necessarily the fastest.

Early Apex: Turn-in early which results in a wide exit. Never early apex, especially at autocross.

Late Apex: Turn-in late which allows you to get on the gas sooner on exit and carry the most possible speed to the next element. In autocross, this is the preferred approach to turns.

Turn A: Standard Apex
Turn B: Early Apex
Turn C: Late Apex



SECTION 5 – GOING FASTER

As your skills improve, you will naturally start turning in faster lap times. Be patient. This takes time. And many drivers go through a series of plateaus where they can't seem to get to the next level. That's where working with an advanced instructor comes in, as well as the endless temptation to modify your car with new tires, brakes, suspension, exhaust, aero, engine mods, etc. Once that happens, you'll know you're an autocrosser. And you'll never turn back. Welcome to the club.

Tires: Get the best possible tires you can afford. Michelin Cup 2's are the gold standard, but they are expensive. Also consider Potenza RE-71R's, Yokohama Advan A052's and Goodyear Eagle F1 Supercar 3's. Ask around. Everyone's got their favorite.

Brakes: By brakes we mean "brake pads". There are many to choose from, but in general, the pads that come from the factory are "soft" and not suitable for aggressive competition driving. Consider stepping up to a street/track competition brake pad.

Alignment: Another relatively cheap upgrade. Get as much negative camber as your suspension will allow, and perhaps some slight toe-in. You won't believe how much of a difference an alignment makes.

Everything else: It's a slippery slope. The only limitation is your wallet. The suggestions above are the most cost-effective ways to shave precious seconds off of your lap times. But if you want to go big, the sky's the limit.

