

# North Hills Sportscar Club

## Autocross Novice Handbook

*A guide to help you make it through your first season*

Compiled by Jim Mistick

No one but you is responsible for your actions, despite what you read in this handbook. Be safe, use common sense, and take responsibility for yourself. All Sports are inherently dangerous, activities involving motor vehicles are more so. We are aware of the risks, and we participate anyway because it's fun. Ultimately you are the only one responsible and accountable for your choices.

### Remember:

*All you need to do is ask. Anyone, anything.*

*If they can't help you, they'll point you to someone who can.*

*The magic words are, "I'm new at this, can you help me?"*

Please visit our website at [www.nhscc.com](http://www.nhscc.com) for more information, event results, year to date club points, digital action photos and membership meeting details.

Contact any board member for more information.

### What is Autocross (also called Solo 2)?

Autocross is an all forward motion driving skill contest. Each driver is individually timed to the thousandth of a second, over a short, miniature road course clearly defined using traffic cones. Cars compete one at a time, hence the name "Solo", in a class with similar cars. An event can be held on any flat paved surface, usually a parking lot, or airport apron or runway.

Autocross emphasizes driver skill and vehicle handling rather than just speed. The corners are tight, and there are lots of them, so the driving is exciting and challenging. Autocross speeds do not exceed those normally encountered in highway driving. (This is the main difference between Autocross/Solo 2 and Solo I; where much higher speeds are attained)

The skills you learn and practice here; smooth transitions, enhanced braking, and skid correction, will have an immediate impact on improving the safety and skill of your street driving. Autocross is an excellent way to teach car control to young drivers in a safe environment.

Autocross is also a very social sport, filled with some of the friendliest people you'll ever meet. The camaraderie of the drivers is a special part of autocrossing that is profoundly satisfying.

Cars are divided into categories and classes. *Classes* separate cars by performance, so that Dodge Neons compete against Honda Civics, and Porsche Boxsters compete against Nissan 350Zs. *Categories* separate cars according to their level of preparation. Unmodified cars compete in classes in the Stock category. Cars with modifications to the suspension, intake or exhaust system, or different wheels and tires compete in Street Prepared. Cars with engine modifications and racecars compete in the Prepared category. Cars with different engines, and open-wheel cars compete in classes in the Modified category. The complete descriptions of classes and preparation allowances are spelled out in the SCCA Solo 2 rulebook.

The costs of Autocross competition are reasonable because you can compete in anything from a real racecar to the car you drive on the street every day.

A maximum of two drivers can share a car. North Hills Sportscar Club events are insured through an independent insurance company.

A day of autocrossing can be far safer for both car and driver than most people's daily commute to work. Also, more people compete in Autocross competition than any other motorsport except drag racing. You can view the official SCCA rules online, here: [www.scca.com/Solo/Index.asp?reference=rules](http://www.scca.com/Solo/Index.asp?reference=rules)

[Index.asp?reference=rules](http://www.scca.com/Solo/Index.asp?reference=rules)

### On Being a Novice

You'll remember your first event for a long time. The adrenaline that makes you shake at the start-line before your first run, and the even bigger surge of adrenaline you feel when you

finish. That excitement is part of the sport, and it's why we all do this.

Don't let being a novice overwhelm you! Every driver, including the National Champions, had a first day and a novice season. Autocrossing is a skill that requires instruction and practice to see improvements. If it was easy, it wouldn't be so competitive, or so fun. The great thing about this sport, though, is that even when you're going "slow", it's still fun driving.

The course may seem "busy" at first, because it's tighter than what you see on the street, and you're trying to attack it faster than you could in traffic. You'll have fun learning the sport and learning to keep the car in control as you get faster and better with more seat-time.

With that said, here are some tips to give you the right novice attitude, so you don't become discouraged:

- Your goal for the day is to have fun! That's why everyone is here.
- Your goal for the first run is to avoid getting lost on course.
- Your goal for the rest of the day is to improve your time on each run.
- Your goal for the second event is the same as the first.
- Your goal for the rest of the season is to beat somebody (anybody!) and continue to make each run faster than the last.

At this point, you are learning a lot on each run, and you may be 10 seconds behind the class leader. That's not unusual! You're still doing OK.

Generally speaking, the veteran drivers like to help the novices. The magic words "I am a novice" will get you extra instruction from other competitors, who can critique your run. Just be careful not to interrupt a driver on a course walk, or while he or she is concentrating on going over the course in his or her head. Don't forget, there are lots of people available to answer your questions and help you get started.

## **What to Bring to an Event**

This list covers everything from sunscreen to snacks to tires pressure gauges. You will probably come up with your own list of things you need at an Autocross event, but this will get you started.

### **You must have:**

Your street legal (registered, inspected and insured) car, your entry fee and a valid driver's license. You can share a car with somebody else at the event.

### **You may want to bring:**

A safety helmet rated Snell 95 or higher.

Extra air in your tires. Stop at a gas station and fill your tires to approximately 45psi-Front/35psi-Rear for a front-wheel-drive car, or 40psi all around for a rear-wheel-drive car. An air tank or compressor is handy for adjusting tire pressures at the event.

Suitable shoes for driving. The best are light-soled, with a narrow sole, which does not stick out past the side of the shoe

Magnetic numbers for your car or tape to make your own

Sunscreen and Sunglasses

Clothes appropriate for the weather forecast, plus a change for when the forecast is wrong.

A towel

Rain gear / umbrella

A hat

A folding chair

Thermos of water or other *non alcoholic* beverage

Cooler for lunch or snacks

Windex and paper towels

A pad and pencil to write down all the advice you'll get

A copy of the current SCCA Solo 2 Rule Book

A good tire pressure gauge

Chalk or white shoe polish to mark the tires

## **What Happens at an Autocross**

People begin arriving before registration opens so they can unpack their car, change tires and

get ready for the day before registration begins. It is best to arrive at or before the beginning of registration so you will have time to register, tech your car, walk the course, and have ample time to find help if you need it. Find a place to park and prepare your car. This includes unloading any remaining loose items. This will be your pit area (it's not a bad idea to park next to a car similar to yours). Before leaving your pit area, be certain that you won't run over any items- whether your own or newly unpacked by your neighbor(s).

#### **Registration 8:30 to 9:30AM**

To register you must have a valid driver's license and entry fee. Fill out the tech slip at the registration area. They will help choose the class for your car if you don't know what it is. You will also be assigned a car number for the day. You may be able to pick your own number, it depends on how many other people have asked for the same number. At registration, you will be asked to sign the insurance waiver. You **MUST** do this to compete, and any guests you bring must sign the waiver also. Ask where Tech is being held if you are unsure. Once you know your class and car number, mark your car using white shoe polish on the window (it comes off with Windex), tape paper numbers inside the window, or use magnetic numbers if you have them. **THERE MAY BE A LIMIT ON THE NUMBER OF DRIVERS THAT WILL BE PERMITTED TO COMPETE DUE TO A LIMITED AMOUNT OF SPACE AVAILABLE.** Registration will be closed if this number is reached, regardless of the time. Arrive early to ensure you will be able to compete.

#### **Tech Inspection 8:30 to 9:45AM**

Your car must pass tech inspection before you can compete. Identify yourself as a novice when you go to tech. The tech inspectors will mark your car if you pass, or recommend changes to make the car pass, such as additional tie-downs for the battery or removal of loose items or hubcaps if you've forgotten. Remember, Tech Inspectors have the final say! Lastly, if you are unsure about which class to enter, these people can help you. Sometimes that means changing classes after you've already registered.

#### **Course Walking**

After tech, you will have time to walk the course. There will be an announcement over the PA system when the course is open for walking. Before you go, read the section on coursewalking tips. There is usually somebody to take you on a guided walk right before the drivers' meeting. Try to have the course memorized before you go on this guided walk.

#### **Drivers' Meeting 10AM**

The drivers' meeting is *mandatory for all drivers*. The NHSCC board members and the event chairs will hold the meeting shortly before the first car is scheduled to start. You must attend. This is where you will find out information you'll need to know about the course conditions, number of runs, particular safety concerns, how penalties are assessed, and how work assignments will be handled.

#### **Your Runs**

You will have about four or five timed runs, weather permitting. Depending on the event, you may get as many as six timed runs. We run in numerical order at NHSCC, not in class order like other clubs. You will have to pay attention to the run group and bring your car to the line when your number is due up. Sometimes you may end up slightly out of order, that's okay as long as you are close. Make sure your car is ready to go well before it's time to get in line.

You should have your tire pressures set and you should be prepared to drive. If you need to borrow a helmet, ask around during registration or before the drivers meeting, **NOT** when you are on the grid. The North Hills Sportscar club generally does not have loaner helmets. You might be able to find another competitor who is willing to share theirs.

Once you are in line, you will wait for the cars in front of you to launch, and you will move up until you are on the start line. A starter will signal when it is OK for you to start. You should go as soon as you are ready, the timer will not start until you pass through the lights. Don't take too long if we are running two cars on course at once,

because your start is timed to make sure you do not get too near the car already on course.

If you do get "lost" on course, take the time to orient yourself and continue. Don't head back to the start line, because you may be pointed toward another car. Just take the time to get back on course, and continue the run as a practice! Always finish each run by driving through the finish area to reset the timer for the next driver. Be aware of the course workers and follow their directions when on course.

Times are posted after each heat. Your fastest run of the day is used to determine your finishing position.

After your run is finished, **slowly** proceed back to your pit area. Along the way pause and look

and listen for your time over the PA system and on the display board. It may be something like "54.117 plus 2" or "an off course". In these examples, the first number is the time in seconds, the next tells how many pylons were hit, and the "off course" means that you missed at least one gate. Times will be posted on a table by the timing trailer after each heat. . It helps to have someone watch your run- they can often provide valuable constructive criticism. Above all, have fun- don't let the competitive nature of the event spoil the day. Some "novices" are quite good- start with personal goals, then, only after gaining some experience, concern yourself with the competition.

### **Your Work Assignments**

It's best to report for your work assignment as quickly as possible when it is time for you to work. Otherwise, some people end up working longer than others, which is no fun. The place to get work assignments will be at the timing trailer. Tell the Chief of Workers that you are a new person and they will pair you up with someone who has worked the course before. Tell the worker you are paired with that you are new and they will help teach you course working skills. For a little bonus instruction, ask your co-worker to talk about the techniques of the drivers on course. Read the section on Working to get more detail on penalties. During the Novice course walk, penalties and how to signal them to the spotters will be covered. **YOUR SAFETY IS MORE IMPORTANT THAN CHASING CONES! IF THERE IS ANY DOUBT ABOUT MAKING IT TO A CONE AND BACK BEFORE A CAR PASSES BY, LEAVE THE CONE DOWN!** We would rather give a driver a re-run than have to call an ambulance for you because you were hit.

### **Fun Runs**

If time permits, fun runs are held at the completion of the event. They are timed runs on the course that are not scored with your official runs. This is your opportunity to ride with other drivers and have them ride with you. Fun runs cost one dollar and they allow you another chance or two to improve your time.

### **Course Clean-up**

Once all the timed runs and fun runs (if any) are complete, a lot of people help clean up the course. This involves bringing in the fire extinguishers and flags, cones and timing equipment, and storing them in the trailer. The pit and spectator areas also need to be checked for trash. When everyone helps, this can be completed in fifteen to twenty minutes.

## **Working Rules and Safety**

### **Do's**

- Report to work promptly.
- Make sure your station has adequate supplies; extra pylons, fire extinguisher, radio and red flag.
- Know your area of responsibility and station number.
- Make sure cones are in their proper place when you get to your station, and check them periodically during your shift.
- Understand the pylon rules (Discussed later in this handbook). Also, pointer cones **do not count** if hit, and a car is off-course (DNF for Did Not Finish) if they pass on the wrong side of a cone.
- Pay attention to cars on course for accurate cone counts and your safety. It is best to watch the *back* of the car and the cones themselves to see the wobbling cone which may have left the box.
- Replace cones as soon as possible, another car will be coming through in as soon as 30 seconds, **BUT DO NOT GO AFTER A CONE IF YOU THINK ANOTHER CAR WILL BE ARRIVING SHORTLY.**
- Be prepared for exposure to sun/rain, wind, heat/cold while on station
- Keep red flag in your hand, unfurled (but not flapping) ready for immediate deployment.
- Stay alert for unexpected pedestrians and vehicles.

### **Don'ts**

- Do not use cameras or cell phones while on station.
- Do not sit down and do not wander away from your post.
- Do not turn your back on cars on course. Safety First!
- Do not red flag a car unless instructed to do so by the radio person **or** if it is an emergency. However, *if in doubt, err on the side of safety!*
- Do not litter.

- Do not pick up hot parts dropped on course because of risk of burns.

### Penalties

A penalty is given if:

- If the cone is knocked over and is out of the box.
- If the cone is knocked over and is in the box.
- If the cone remains standing but is out of the box.

A penalty is NOT given if:

- The cone remains standing and is touching the box.
- The cone remains standing and is partially in the box.
- And of course, if the cone remains standing within the box.

### Car set-up Tips

Keeping things inexpensive, we'll only talk about things you can do for free, or under \$50.

After a while, you may want to put more go-fast goodies on your car, but make sure to read the SCCA rulebook, and stay legal for your class.

But also keep in mind, at this point you can go faster sooner by working on the driver instead of the car. Ask an experienced driver to drive your car on a fun run so you can see the potential gains you can make as a driver.

#### ***What you can do today***

**Tires:** You've already read that you should put an extra 10 to 15 psi in your tires. The reason for this is to keep your tires from rolling under during hard cornering. But how much is too much? Put chalk on the edges of your tire, in three places around the diameter, and you can see how far over the tire was going during your runs. Bleed out a little if the chalk is still showing on the tread, or add a little more if the chalk has been worn off down the sidewall. The line of worn chalk to remaining chalk should be right at the corner of the tread and sidewall. Keep notes on how many psi you ran, and where the chalk line was, for your next event.

Remember that as you get better and corner harder, you'll need more air to compensate, so keep using the chalk at every event.

**Driver Restraint:** In order to have good control in driving, you, the driver, have got to stay put. So make sure your seat belt is tight and firm. Some people like to tug hard (fast) on the shoulder strap to engage the lock on the reel.

**Driver Location:** Most experienced drivers will agree that the best place for your seat - to give you the best control - is seat forward far enough to have your leg slightly bent when the clutch is all the way to the floor, and seat-back reclined or upright to a position that allows you to rest your wrists on the steering wheel when your shoulders are firmly against the seat. This position allows you to run the full range of steering inputs and foot motion without stretching or moving in your seat, and can have a huge impact on your driving skill.

#### ***What you can do before the next event***

Alignments cost \$60 to \$80, and if you're looking for a cheap way to improve your Autocross set-up, this is a good one.

Some words of caution, first. Manufacturers set their alignments to what they consider to be the most predictable and stable settings. Improving your car's turn-in for autocross may make your car twitchy on the street. So use your own discretion. To get some suggestions, though, ask a driver who has a car similar to yours in weight, wheelbase or front or rear wheel drive. Also ask around for suggestions on where to take your car for the alignment. Some shops are more than happy to help with autocross alignments while others are not.

### Course Walking Tips

Knowing the course layout is worth five seconds to a novice. Knowing how to walk the course is the most important step in being competitive and staying "ahead" of the course. Usually, you'll want to walk the course *at least* three times.

**Step 1) Walk the course.** Your first walk will be to get the general layout, and is often a social walk. Now get away from friends and walk the course alone, concentrating on memorizing the layout. Think of it in sections, with key cones marking the turns, such as:

- start straight
- slalom (enter on right)
- decreasing sweeper to the left
- "little snake" then "big snake"
- right-hand curve (look for three pointers)

- “thread the needle section”
- tight right, then tight left
- finish

Stop every now and then and run through the course in your head, from the beginning to where you are. Get down - the course looks different from a seated position. This will give you a better picture of what the course will look like at speed.

Pace off the distance between cones in a slalom. Some course designers vary the distance, and it's good to know before you arrive whether you will have to vary your speed in a slalom. Take a note-pad if you like, and make notes such as pavement changes, camber change, bumps, sand, etc.

Make a mental note to yourself (or write it down) how far ahead you will be looking. When I walk the course, I say to myself, “OK, when I am *here* I will be looking *there*” This will help you to remember to look ahead while you are driving.

How do you know if you have memorized the course? Sit down by your car and try to draw it on a blank piece of paper. Include the key cones you want to recognize while you drive. If you can't draw the course, you will want to walk it again. **Once you leave the start line in your car, you should not be spending any time figuring out where the course is.**

**Step 2) Plan the course.** (Do this *while* walking the course again) Now decide exactly how you want to drive the course. Driving the course perfectly involves two things; coming up with the correct plan, and executing the plan correctly. If you don't have a plan, you can't possibly know where you didn't execute it correctly. It's hard to know if you did this step correctly-but it is something you can work on.

The plan involves the line you will take through the cones - the quickest way through. Note, I didn't say shortest. Think about the characteristics of your car; does it corner better than it accelerates, or the other way around? That will tell you whether to slow down so you can get through the corner in control and get on the throttle as soon as possible, or try to carry speed through to keep up the revs.

Don't forget to plan where you will be looking. There is no need to memorize *every* cone on the course, only the ones you plan to be near, the “important” ones. Look from one important cone to the next in your plan.

**Step 3) In Grid.** Before you run, while you are in grid, go over the course again several times in your head, executing the plan you made before.

**Step 4) After the run.** Sit in your car and go over your run. Figure out where you didn't execute the plan. If the plan was to be near a particular cone, and you were five feet from it, then you didn't execute the plan correctly, and a red light should have gone off in your head. Maybe you need to adjust the plan because you were going too fast in the slow parts. Decide at this point whether your next run needs to be a better execution of the plan, or a modification of the plan.

Basically, don't use the car as an excuse, you will see a big difference in your times when you drive a course that never surprised you.

**Step 5) Talk to People** You will spend some time standing around and waiting. Actually, there will be lots of time that you are neither working nor driving. At this point you are officially a spectator, but most of your fellow entrants will also be spectators too. Talk to them. Ask questions. They will give helpful answers to even seemingly stupid questions. Even questions as broad as “How did he do that?” or “Why is he fast when he looks so slow?” may elicit answers that will help to increase your understanding of both the sport and the techniques that define the best drivers. Be wary of information overload. You may be told ten things that contribute to a fast run; if you understand one or two, concentrate on those. You'll hear the others again, many times. You don't have to (in fact, you can't) learn it all at once.

## Driving Tips

Seat time, seat time, seat time. That's the best way to go faster. They say, “Before you fix the car, fix the driver”. That's because there's so many techniques to improve your driving, it takes seat time to learn them all, but once you do, someone without those skills would have to spend a lot of money on their car to beat you, and probably still couldn't.

Here are a few techniques to get you started. Don't try to apply them all in your first run, you'll be too busy. But read through the whole list, and then work at gaining these skills one at a time.

**Look Ahead.** I can't emphasize this enough. I repeat it out loud while I am driving. It's so

easy to forget, but makes such a big impact on my driving. It all relates to hand-eye (and eye-foot) coordination. *Look* where you want your hands to drive you, and look far enough ahead to take advantage of the feedback. If you're looking at that outside cone that you're afraid you'll hit, well, you'll hit it. If you're looking ten feet in front of the bumper, the turns will keep surprising you. Imagine looking at your feet while you are running on foot! You won't be very coordinated, and you won't have a good sense of distance or speed. Same goes for driving hard corners as you do in autocross. Look ahead. You will be *astounded* at your performance the first time you remember to do this all the way through a course.

**Slow Down to Go Fast.** A common problem when you're starting out is trying to take the tight sections too fast, and not staying in control. I still remember finishing a run and thinking, "Well, I didn't go very fast, but it sure was smooth," only to find out I'd gone faster by a full second! Just be patient in the slow spots. They're slow spots, after all.

**Brake hard in corners.** Go ahead, squeeze the brakes *hard*. There's no morning coffee on your dashboard, or eggs in the front seat. Once you decide to slow down for the corner, don't waste any time. If you find yourself at a crawl and you're not at the corner yet, why, you've just found out that you can brake later. Locking up your tires will not make you stop faster, so squeeze the brakes and let them do the work, not your tires.

**Adhesion.** Don't ask too much of your tires. For any tire/pavement pair, there's only a certain amount of traction. We'll call that 100% traction. You can use up that traction with your throttle, your brakes or your steering wheel. So if you're going into a corner, using 100% of your traction to make the turn, what happens when you ask for more traction by applying the brakes? Either you won't brake or you won't turn. Or both. Same goes for accelerating out of a corner. Ease in the throttle as you ease out of the turn. *So use full throttle and full braking only in a straight line.* This goes back to slowing down to go faster, and brings us to...

**Smooth Inputs.** You may have noticed that I used the phrases "squeeze the brakes" and "ease in the throttle". This is where you have to change your mind-set about inputs to controlling your car. You need to convince yourself that you can make your car respond better by squeezing the brakes hard instead of standing on the brakes, by rolling in the throttle rapidly instead of stomping on the gas, by turning the wheel quickly instead of cranking it around. Subtle, but it will show up in how often your car is in control instead of scrubbing off speed pushing around a corner. And it will take a lot of practice to become second nature.

**Shift near redline.** On the street, we don't usually shift near redline (high rpm's). But in autocross, you want to be making the most of the power available to you. You'll learn to hear the motor as you drive and stay in a low gear longer. Most courses will be in second gear for stock cars. If you're shifting to third, you're shifting too soon, and giving up power.

**Launch at 4000 rpm.** Each car varies, but try to start at higher rpm's than you're used to. Don't "dump" the clutch, or you'll find your wheels spinning. Let it out rapidly and find the right rpm's to maintain traction. Higher horsepower cars will want to use lower rpm's than less powerful cars.

**Don't worry** about the blinkers, wipers or horn. You're bound to hit them as you drive. Don't let it throw you. We've all done it!

**More, Later...** There are many more techniques for getting better times, but start with the ones listed above. After you've learned them, you'll be ready to buy a book on autocrossing (see Recommended Reading), or attend a driver's school and learn the advanced techniques of heel/toe, shuffle steer, late apex, and more.

Go to as many events as you can. Always remember to have fun, even when you are being stomped by some national hot shoe. You'll never stop learning - the best drivers will tell you this still applies after ten or twenty years! Remember, *seat-time, seat-time, seat-time*. Nothing will make you go faster sooner. And nothing is less expensive in improving your times.

## **Autocross Etiquette**

Autocross is a social sport, and most drivers are happy to give you advice and critique your runs. Ask someone with a similar car if you may follow them through a course walk. Maybe they'll even think aloud for you (don't do too much talking yourself, or you will be making them walk again). Ask if you can ride with them on a fun-run, and offer to pay the \$1 for the run. If you're not sure when to line up, go ahead and ask. Ask someone to look at the chalk on your tires to see whether you need more air. Ask someone to watch your run if they have time, and tell you what needs changing. They'll be glad to.

There are a few bad times to ask for advice, though. Here's a quick list:

- When they are quietly walking the course. (They're trying to memorize it.)
- When they are staring into space or have their eyes closed, they're probably going over their run or plan.
- When they are in grid near the start. They are only thinking about the course.

Sometimes events will conspire to keep a good driver from competing. It may be a broken car, it may be an injury that prevents them from being able to change tires. *This is your chance!* Offer that driver a ride (co-drive) in your car - make it free if you can afford to. So they use up \$20 worth of your tires. Not a bad price for a private instructor all day! It is an enormous benefit to have advice from these experts all day, and be able to walk the course with them.

Try to help out. There is more work to be done than the mandatory course-work. This is an all volunteer organization, so help is always appreciated. Luckily, this also puts you in a position to talk to other drivers, because the veterans are helping out, too. If you share the work, they'll have more time to talk to you. Likewise, showing up early will help out the registration and tech crew, and give you more time to walk the course. Read the next section on how to help, if you're looking for ideas to lend a hand.

A lot of people stay to help clean up the course and pit areas. Keeping the lot is important to everyone, so leave your pit area cleaner than you found it. A bunch of people usually go out for pizza after the event and everyone is welcome to join in. It's a great way to make friends and learn new things while having a great time.

## How to Help Out at an Event

(You don't have to spend money to help. The club pays for all supplies)

*While you're still a novice:*

! Arrive extra early and be a gopher during course set-up.

! Help sweep the course in sandy corners or carry cones for those setting up the course.

! Line the course, or mark the chalk boxes around the cones.

! Help at registration: carry the waiver board through the line, or go through the line with tech slips and a pen. Ask the people in the trailer if they need any help. Identify novices and give them a copy of this novice handbook.

! Corral people to help clean up after the event, or take a walk through the pit area to pick up things left behind.

*When you get more comfortable with the way things run:*

! Learn how to tech cars.

! Learn how to design and set up a course of your own.

! Learn timing and scoring.

! Learn how to set up the timer and PA systems.

! Get your safety steward's license.

! Get involved! It's fun to be a part of the action.

## The Rule Book and Classes

The official SCCA Rule Book is a good investment. It will tell you about legal modifications, rules on re-runs, and many other topics. You may look through the club's copy to see what's there.

Almost all un-modified cars start out in the stock category. There are a few exceptions, but most people can't afford them. From Stock classes, each car moves to a designated Street Prepared or Prepared class when it has modifications made to it, and from there, with more modifications, on to a Modified class.

Sometimes cars in different stock classes will end up in the same street prepared class once they have go-fast goodies added. The reason is that modifications may equalize the cars.

## PAX Index

The PAX index, calculated each year by the "Professional Autocross" people (whoever *they* are) is a commonly used handicapping system for comparing times of cars which are not in the same class. The index is composed of data from across the country, and tries to take the driver out of the equation and compare only the cars.

These indices are based on cars prepared to the limit of the rules and driven by top drivers.

The index is multiplied against your run time to provide the time you would have had if you had been in an A-Modified car. It is interesting to compare the index of one class to another to see how much time you should gain if you prepared your car to, for instance, Street Prepared



rules. Look in the rulebook to find out where your car would be if you made modifications. You can also see that alphabetically, higher cars are not necessarily faster.

## **Recommended Reading**

- *Secrets of Solo Racing*, by Henry A. Watts
- *Prepare to Win*, by Carroll Smith
- *Tune to Win*, by Carroll Smith
- *Engineer to Win*, by Carroll Smith
- *Nuts Bolts and Fasteners*, by Carroll Smith
- *How to Make Your Car Handle*, by Fred Puhn

## **Back to Reality**

You've had a blast driving in the autocross event. The adrenaline was high, you're ready for another event. You can't wait to start improving your skills. Before you leave, lower your tire pressures to recommended levels for street driving. Don't forget to check when and where the next autocross will be held! Then spend some time reading through this handbook again before the next event.

Driving in an autocross is a real thrill. But don't forget when you leave the event that you're driving in traffic again. The police don't like people using construction cones for slaloms! Take your newly found car control skills with you for emergencies, but please obey all road laws. Save your spirited driving for autocross, where it's legal!

This handbook was last revised on May 10th 2005. Changes will be made in the future, please ask for an updated version.

Please visit our website at [www.nhsc.com](http://www.nhsc.com) for event updates.