

The New Performance Driver's Guide to High Performance Driver's Education Events Boston Chapter, BMWCCA

Welcome New High Performance Driver!

At your first High Performance Driver's Education event you'll learn skills that you can use in your everyday driving. You're probably excited and somewhat anxious. As you study this guide, remember that everyone at the track was new once and probably felt just as you do now. *This is not a racing school.* Your instructor will help you learn at a comfortable and enjoyable pace.



While the Boston Chapter takes these driving events very seriously, particularly with regard to safety and education, we are also a friendly, outgoing bunch of folks who genuinely want you to have a fantastic time.

It's completely natural to have a number of concerns. Boston Chapter events have a reputation for safety and professionalism. Your first track experience will likely be relatively easy on the wear-and-tear to your car. Your everyday car probably will suffer only a bit of brake pad and tire wear, plus a few rubber marks, which may later be removed. If the addiction takes hold, you may eventually purchase a car with track driving in mind.

Worried about embarrassing yourself? Don't be. This is a learning experience, not a competition. Most of us look back with fondness and not reticence at our first day. There will be other new drivers at the track, too. This guide and your personal mentor will make your inaugural day easy and unintimidating.

You'll be driving quickly, but few drivers find the speeds on the straights too intimidating. The track is simply not long enough to test your car's top speed. You'll find the challenge – and fun – lies in the turns.

If you are supremely confident in your driving skills, consider tempering that. Most highly experienced Boston Chapter drivers consider themselves so-so drivers, because they know how much more there is to learn. Similarly, having a good car does not make you a good driver. Eschew overconfidence and bravado.

You do have some work to do in preparation for your big day. Your car will need some attention and care. You'll need to buy or borrow some things. And you'll need to study – a lot. Let the journey begin!

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Requirements – What you’ll need

To attend this event, you need to:

- ★ Pre-register, be accepted, and pay for this event.
- ★ Be 18 or older and hold a valid full driver’s license (not a learner’s permit or junior operator’s license).
- ★ Be free of any limitation which prevents your from safely operating your car at speed. If you have a condition or limitation that we can accommodate by advance planning, contact us as soon as possible.
- ★ Have access to a car in solid working condition, maintained and inspected by a competent mechanic. Your inspection should cost about \$100, plus any repairs. Your car need not be a BMW – about half the cars will be other marques. Most any modern hardtop car will do, from a Toyota Tercel to an M5. High center-of-gravity vehicles are excluded, such as trucks, pick-ups, vans, mini-vans, and most SUVs. SAVs such as X3’s and X5’s are acceptable. Forestall any performance modifications (suspension upgrades, stickier tires, more horsepower, etc.) until you have more track experience.
 - You can share one car with another driver. Ideally the other driver will have some experience as logistically only one person can be placed in the novice run group. Designate your co-driver on your pre-registration entry form so that the registrar can make appropriate assignments.
 - If you have aftermarket seats or safety harnesses, *carefully* read the pre-registration and Day of Event information. Otherwise, factory shoulder seat belts on both sides are fine. Contact the event chair if you are in doubt.
 - If you have a convertible, *carefully* read the pre-registration and Day of Event information. Generally, a late-model convertible will require adequate factory roll-over protection *in addition* to the installation of a hardtop. Convertibles must be presented to us for inspection prior to the event.
- ★ Own, borrow, or rent (if available) an approved helmet. See Logistics for requirements and advice.
- ★ Abstain from alcohol, illegal drugs and performance-limiting medications before and during the event.
- ★ Be aware of the limitations of your auto insurance coverage at HPDEs. Recent Massachusetts regulations have made coverage unlikely. While damage to your car at your first driving event is rare, it can happen. Consult your insurance agent or carrier if in doubt. If you are uncomfortable with your lack of coverage, cancel early as directed in the Day of Event package.
- ★ Review (perhaps with your spouse) the liability waivers which you’ll be required to sign.

Background – What it’s all about

You’ll be driving your car at speed on a race track, learning to better control your car and understand how it reacts to your hands and feet. This will help prepare you for emergencies, both on the track and on the street. While you will explore both your and your car’s capabilities, you won’t be pushed or encouraged to go any faster than is comfortable for you.

You are *not* attending a *racing* school; racing and lap timing are strictly forbidden. This is not practice for any racing or speed contest. Until you have much more experience, you will have a trained instructor with you in your car whenever you are on the track.

Overview. Briefly, you will:

- ★ Download from the chapter website www.boston-bmwcca.org the Day of Event document and Tech

Inspection Form, which you'll read and follow.

- ★ Prepare your car by having it inspected and maintained by a competent mechanic.
- ★ Prepare yourself by reading, understanding, and remembering the important information in this guide.
- ★ Arrange to use a proper-fitting approved helmet.
- ★ Attend, if at all possible, the annual spring HPDE Ground School (see www.boston-bmwcca.org).
- ★ Attend an Advanced Driving Skills School, a fun day consisting of some classroom time, then a series of low-speed driving exercises held in a parking lot. (If logistically impossible, contact the registrar.)
- ★ Be assigned a mentor, who will help you before and at the event.
- ★ Arrive at the track on time, sign waivers, register, and prepare yourself and your car for the day.
- ★ Attend a drivers meeting where you'll learn specifics for the day.
- ★ Go to the classroom to learn cool things.
- ★ Meet your instructor, chat, and discuss letting him or her drive your car for a few laps. Then you'll take the wheel and follow your instructor's instructions to drive your car at speed.
- ★ Work a flagging station to protect your fellow participants as they drive. (Not all events.)
- ★ Finish up your day by packing up your car, cleaning up, writing evaluations, returning anything borrowed or rented, and driving home safely, no doubt grinning all the way.

Logistics – What to do and where to go

Signing Up. Complete the on-line pre-registration entry form if you haven't already. Carefully read all the information on the form. Event sign-up is handled on a first-come basis; avoid disappointment and sign up promptly when registration opens. Some events sell out, sometimes very quickly. When you receive an e-mail accepting you into the event, follow the instructions to pay for the event.

Next, download, print, and read the Day of Event document and Tech Inspection Form. Tech Inspection Form is two pages; print it double-sided on one sheet of paper. The Day of Event document contains:

- ★ information reiterating some of your responsibilities,
- ★ driving directions to the track,
- ★ local hotel information (particularly for events outside of New England),
- ★ track-specific instructions,
- ★ event schedule,
- ★ educational materials,
- ★ an optional medical information form, and
- ★ sample liability waivers.

Preparing your Car. About 20-30 days before the event, bring the inspection form and your car to a competent mechanic who is familiar with your make and model of car. This lead time will give your mechanic time to address any problems.

Have the mechanic attend to all the maintenance and repair items on the form's check list. If you are extremely well qualified, you can perform the Tech Inspection yourself, but remember that your safety, and the safety of others, depends upon the mechanical soundness of your car.

There are some areas that deserve extra mention:

- ★ Completely flush (not just bleed) your brake system if this hasn't been done within the past 3-6 months. Brake fluid absorbs moisture from the air and loses its ability to withstand the high temperatures of braking. Take this *seriously*. Your brake fluid may be chemically tested at the track for compliance; failed cars will not be allowed on track.
- ★ In most cars, stock brake pads will be sufficient for your first track day, but they must have plenty of wear material left.
- ★ Be sure your tires have adequate tread for wet-weather driving. Check the side-walls for bulges. All tires must be DOT approved (no slicks), and R-Compound track tires are *strongly discouraged* for novice drivers.
- ★ Track driving is tough on motor oil. Change your oil if it is getting toward the end of its service life. Use summer weight oil.
- ★ Batteries must be secured so that they can't move or short in an accident. Most cars will have a satisfactory factory clamp unless a replacement battery has been installed. Bungee cords, zip ties, and other low-strength mounting means are insufficient.
- ★ While your mechanic will check the tightness of your wheel lug bolts (or nuts) and the inflation of your tires, you *must* recheck these at the track the morning of the event.
- ★ If you have aftermarket safety harnesses (seat belts), carefully read the requirements and detailed installation instructions in the Day of Event package and in the manufacturer's packaging. Improper harness installation is shockingly common, and potentially fatal.
- ★ If you have a BMW E30 or E36 M3, be sure to pay attention to the special warning in the Day of Event package about control arm replacement.

If you have concerns about the eligibility of your vehicle, contact the registrar or event chair well before the event. We don't want to send you home from the event because your car isn't safe or approved. It is unlikely that there will be time at the event to perform any corrections or repairs, at least not without you losing out on some of the fun. There are no refunds for failure to perform a proper Tech Inspection or for mechanical failure at the track.

If you have an aftermarket exhaust or a loud car, ensure that your car's sound, at full throttle and maximum RPM, is under the track's maximum Sound Pressure Level (SPL) as measured in decibels (dB), usually measured about 20 yards from the car. There are no refunds for exceeding the track's loudness regulations. Almost all cars with unmodified exhausts will be fine.

Beyond the tech inspection, you should also clean out your car, removing anything that isn't either needed at the track or bolted down. If you smoke in your car, please clean and air it out as a courtesy to your instructor.

Helmets and Special Apparel. Your helmet *must* be Snell rated, either M (motorcycle) or SA (car), or SFI 31.1 rated. It may be open face or full face. Don't bring a motorcycle "half shell" or other unapproved helmet; DOT approval is insufficient. The sticker date may be no older than 9 years from the current year. For example, an M2000 helmet is okay through 2009 (or until the 2010 helmets are available). Since this is your first event, consider borrowing an approved helmet from a friend, so long as it fits you well.

If you are pretty sure that you are going to enjoy HPDEs and continue driving at the track, go ahead and buy a helmet. Consult the Boston Chapter website www.boston-bmwcca.org and *Bimmer* magazine for

vendors, and mention your membership for a possible discount. Fit is very important. Ideally you should go to a motorsports store and try on several helmets with the help of a qualified sales person, rather than purchase mail order.

Generally, lighter helmets are a bit safer (because there is less mass attached to your head), but are more expensive. SA helmets are rated for fire and multiple impacts. The fire rating is probably not too important to you unless you also plan to eventually wear a fire-resistant suit. While the Boston Chapter also accepts M (Motorcycle) rated helmets, some other clubs do not. Most drivers prefer a full-face helmet.

If your car has an airbag:

- ★ remove any sun visor over the helmet eyeport, and
- ★ if the clear face shield fogs up, remove it completely, rather than wear it raised partially.

If you wear glasses, consider a helmet with a larger eyeport for comfort. Expect to pay \$100+ for an M-rated helmet or \$200+ for an SA-rated helmet.

If you can't borrow a helmet and are unsure about attending future HPDE events, some helmets may be available for rent from the Boston Chapter. The staff at HMS Motorsport (www.hmsmotorsport.com) has generously agreed to help fit you and to collect a small rental fee for the club. (HMS Motorsport does not profit from the rentals.) Quantities and sizes are limited, so call 978-774-1615 early. If you do rent a helmet, you are responsible for it. If you drop it or damage it (including scratching the face shield), you'll of course have to buy it. You may be required to wear a head sock (balaclava) to keep the helmet dry and clean.

You may know of people driving with special apparel such as driving shoes, driving gloves, or neck collars. Most new drivers wait to make these purchases until they have driven more and know what, if anything, they want. Similarly, while a fire resistant suit provides protection, and you may see a few people wearing them, it is rare for a new driver to feel the need for one. Most people feel that the risk of fire is quite low.

Preparing you. Try to attend the annual HPDE preparatory classroom Ground School held in the spring. You'll meet event organizers and other new track drivers. It's nice to have some new friends and familiar faces at your first track day. You'll learn what to expect, as well as some driving techniques.

Attend an Advanced Driving Skills School. The in-car low-speed driving experience will give you confidence and help you get the most out of your first track day. The cost is low. This is also a great experience for spouses and friends. In addition, the Boston Chapter runs special clinics for new teen drivers (see www.boston-bmwcca.org and www.streetsurvival.org). The skills learned at these clinics may well prevent your next accident.

Study this guide and the Day of Event package. You must be completely familiar with the Study Materials and Track Information sections below. While you don't have to memorize the schedule, it's vital that you know what a waving yellow flag means and which way the track goes over the top of the next hill.

Last, download and study the track video, in conjunction with the track map.

Your Mentor. New drivers are paired with an experienced driver to help you before and during the event. You'll receive a phone call or e-mail from your mentor. You'll chat a bit, get some advice, and have a chance to ask questions and express concerns. You'll meet up with your mentor at the track, so be sure to exchange descriptions and perhaps cell phone numbers. Usually you'll meet your mentor at the gate to the

track. (For NHMS, this is also where the registration building is.) Your mentor will be a friendly face to help show you important things (like where the bathroom is, which you'll need if you've awakened early, gulped a cup of coffee, and driven for an hour or two). If schedules permit, you might enjoy lunch together. If this is a multi-day event, your mentor can hook you up with other folks for dinner. With a bit of self reliance and help from your mentor, your first track day should go smoothly and enjoyably.

Your Instructor. While your mentor has track experience, his or her responsibility is largely social and logistical. You will also have an instructor who will ride in the car with you. Your instructor will have considerable track driving experience and will have received special training to help you learn comfortably and quickly.

You should obviously follow instructions from your instructor. You should not, however, feel pressure to drive faster than you are comfortable. Having memorized the Study Materials, you will both speak the same jargon, so that if you're told, "breathe off the throttle" you'll know that you should slightly relax the pressure on the gas pedal, not suck air out of the engine. Don't try to impress your instructor; you can't. Don't try to scare him; he already is. Or her, as some of our best instructors are women.

It's important that you and your instructor can understand each other clearly, even in a pinch situation. It's also important that you "click" enough for you to feel comfortable and learn easily. If you have a language, communication, or "chemistry" incompatibility, bring it to the attention of the chief instructor immediately, so that a different instructor can be assigned to you.

Family, friends, pets, and minors. Spectators are welcome, provided they are self-reliant. Some tracks, such as Watkins Glen, require visitors to be included on an approved visitor list, so give these names to the registrar. This is not a good time to be tending to children or worrying about a pet, so leave them at home unless someone else can tend to them. You will be busy and want to focus on learning without any distractions. Guests must sign all waivers to be admitted to the paddock and minors must have the signature of a parent or guardian. Keep minors behind the Pit Road fence.

Other than your instructor, you *may not* take passengers (e.g. friends, family, and other students) on the track.

Driving School Sampler Program. It may be possible to arrange for friends and spouses 18 years old or older to sample the track. They will be able to observe the action and ride as a passenger with an approved instructor for one session. They can attend a classroom session and may work as a flagger. A helmet is required. You can share your helmet if it fits. There is a small fee. Rental helmets may be available (see Helmets and Special Apparel above).

The day/evening before. If you are planning on driving to the track in the morning, be sure to allow enough time to arrive promptly when registration opens. This may mean an early departure, and if it needs to be much before about 5am, consider staying the night before in a nearby motel. You may be excited, but try to get a good night's rest. Abstain from alcohol and anything else that might affect your performance or sleep. Drink enough water so that you start the day properly hydrated.

Check the weather forecast and adjust your clothing as appropriate. This event runs regardless of the weather, even in pouring rain, freezing cold or broiling heat.

You should pack the car (and a suitcase if staying overnight) the night before. A list of what to bring – and what to leave home – can be found later in this guide. Keep your printed driving directions and maps where

you can get to them. It will be easier to sleep if you know that all you need to do is get up and drive to the track.

Consult the Track Information section at the end of this document for travel and lodging tips. Directions are provided from the Boston area; for other locations, we recommend www.mapquest.com or maps.google.com.

The morning: Getting to the Track. Get up and going at your planned time. If it is chilly or cold, dress in layers so that you can shed later as the day warms. Remember that long pants and a long sleeved shirt are required (no nylon). You may want to enjoy a hot cup of coffee in the car, but allow time for fuel and bathroom breaks. You'll probably be excited, but drive safely. Police may be patrolling the area around the track and aggressive driving reflects poorly on our club. Plan to arrive at the track just as registration opens, or a tiny bit before. Top up your gas tank near the track so that you start with a full tank. At the gas station, check your tire pressures and add air if needed. You may well need additional gas during the day; many cars will have fuel starvation when the gas gauge indicates less than half a tank.

The registration, waiver signing, and parking instructions vary with each track. Absent contrary information in the Day of Event package, consult the track-specific Morning Instructions section at the end of this guide.

The Morning at the Track. Expect to be busy. Your registration packet typically will contain a name tag and lanyard, an event schedule, an Instructor/Student assignment sheet, a wrist band, and your car numbers. The first digit of your 3-digit car number is your run group – usually either 3 or 4 depending upon attendance. Your instructor will typically have the same last two digits as you, but with a leading 0. For example, if you are car 417, your instructor will probably be 017. Last minute instructor/student reassignments can change this.

- ★ You and your mentor will find each other. He or she can help you get going.
- ★ Take a minute to examine the event schedule. All students will go to Tech Inspection and the Driver's Meeting. Find your run group (3 or 4). Locate your on-track run sessions, classroom time, and (*very important*) your flagging session (if any – not all events have student flaggers). You may wish to highlight your activities in the schedule to help them stand out. Keep track of time throughout the day as the classroom and flagging sessions are mandatory. Failure to show up for flagging can delay the whole event, waste precious track time, and result in your expulsion from the event. The schedule is *very* tight, and it's really important that you arrive on time. Listen for PA announcements, but they may not be heard everywhere in the paddock.
- ★ Insert your name tag and event schedule into your lanyard. For multi-day events be sure to use the correct day's schedule as they may be different. Wear your lanyard name side out so that people can get to know you. Smiling a lot and looking a bit helpless will solicit assistance.
- ★ Place the wrist band on your left wrist (so that it is easy to show track personnel). Without your wristband, you may be denied access to the track. The wristband signifies that you've signed the liability waiver. If this is a multi-day event, don't remove the wrist band(s) until the event is over.
- ★ Prepare your car for tech inspection. Empty out the contents –maps, tools, floor mats, trunk mat, radar detectors, garage door openers, coins, glove box contents, trunk contents – everything. The purpose is to prevent things from hitting you in an accident, from wedging under a pedal, or from flopping around distractingly. If the day is in-and-out of the sun, you may keep sunglasses in the car only if there is a secure place to stow them. Your spare tire must be removed unless it is in an enclosed trunk (i.e. not a

hatchback) as it may break loose in an accident. Place your belongings on your small tarp and/or in your plastic bins to keep them clean. If it looks like rain, you may wish to place them inside the garage by asking politely.

- ★ Clean your windshield and make sure it is streak-free. Early and late in the day, you may be driving directly into the sun.
- ★ Place your car number on the driver and passenger side rear windows. If you were provided numbers printed on paper, place the paper on the inside of the glass if possible. If you were provided a third set of numbers, place them on the rear windshield on the upper driver's side. Alternatively, you may be provided peel-and-stick numbers. Be sure to press firmly and smooth out any air bubbles to prevent them from ripping off in the 100 MPH wind.
- ★ Check the pressure in each tire. If your tires are warm from a long drive up, they should be 2-4 pounds above the upper range of the recommended pressure, found in your owner's manual or driver's door jamb. (Don't confuse this with the maximum inflation pressure on the sidewall of the tire; that's the pressure above which the tire may rupture.) If your tires are cold, they should be at the upper recommended pressure. If in doubt, ask an experienced driver near you.
- ★ Check the tightness of every single lug bolt or lug nut on each wheel using a torque wrench. Consult your owner's manual for the correct torque setting. For most cars, a torque setting of 80 to 90 ft-lbs is about correct. If you do not own a torque wrench, borrow one. *Do not skip this step.* Retorque again right before your second run group, after your car has cooled down. (Tightening the lug bolts when your wheels are hot will over-tighten them, possibly ruining the bolts (or studs).
- ★ Some people protect some parts of the front of their car against tiny pebbles and black rubber "marbles" that form on the track. Blue painter's masking tape over expensive headlights is the most common area. Many people don't apply any protection – it's up to you. Compulsive car owners have been known to encapsulate their cars in a protective cocoon of painter's tape, to the amusement of all.
- ★ Adjust the seat and mirrors as described in the Driving Techniques /Driving Position section.
- ★ Put your helmet in your car and slide your tech inspection under your wiper (or on your dash if it's raining) and proceed to the tech inspection line. There will be an announcement; feel free to ask where to go as each track and event is different. Don't go to Tech Inspection until you're prepared your car as described above. Please don't be late for tech inspection. The volunteer inspectors will not want to miss their track time in order to accommodate your tardiness, and you must not miss any of the Driver's Meeting. You'll wait in the tech inspection line, moving your car forward until you're at the front. If you must leave the line for some reason, leave the keys in the car. (Many people leave the keys in their car all day long.)
- ★ Inspectors will check basic safety items, but this is not a substitute for your thorough pre-event professional inspection by your mechanic. Your tech inspection form will be collected and your helmet checked. You will receive a small tech inspection sticker (often just a colored dot) on your windshield or side window. You may receive a sticker for your helmet (and if so, this sticker will be valid for the remainder of the year). Return to your parking spot.
- ★ Tend to any personal needs. Drink a little water, snack a bit, or apply some sunscreen. Find and use the bathroom. Walk around and familiarize yourself with the paddock. Look at a track map to freshen up your memory. Introduce yourself to some new friends. Time allowing, your instructor may try to find you so you can chat a bit. But keep an eye on the clock and the schedule. Listen for announcements. If you've arrived right on time, you won't be rushed.

- ★ Soon it will be time for the driver's meeting. Report as soon as you hear the announcement. Stand in front and listen carefully as there will be information and details for your safety, comfort, and fun. Pay particular attention to the demonstration of the safety flags and the definition of the passing zones. There may be late-breaking news. Clap for the organizers; they've worked hard. After the meeting is over, consult the schedule. You will likely report to the classroom next. Locate the classroom so you know where to go (ask anyone). Locate the staging area where you'll meet up with your instructor as discussed in the meeting (or ask someone).
- ★ Report to class. Your first classroom session will review vital things that you must know, such as the flags, the track map, the passing zones, and the basics of driving the car on the track. Before you know it, the class will be over and soon you'll hear your run group announced.
- ★ Return to your car, ensure that you have your helmet, and drive the car to the staging. Leave the car running, turning it off only if it warms up fully (about 5 minutes after the water temperature reaches normal). You will meet your instructor, who will briefly chat about your experience and your car. While not required, we recommend that the instructor drive the first few laps in your car to help familiarize you with the track, the flagging stations, and the pit-out and pit-in procedures. Your instructor will provide you with an in-helmet communicator. Put on your helmet (and glasses if any), then before fastening the helmet strap, slide the ear speaker to be directly over your ear. Orient the microphone to be on your chin, just under your lower lip. Then fasten your chin strap.
- ★ The driver's and instructor's side windows must be always completely down when on the track. Sunroofs must be completely closed.
- ★ After your introductory laps, it's time for you to drive! Switch seats. Your instructor will have tried to avoid adjusting your seat and mirrors, but may have made some changes. Readjust them. Fasten your seat belt as tightly as possible, low and across your hips, pulling out any slack. Follow your instructor's instructions and proceed to pit-out. When signaled, proceed onto the track, staying within the blend line as instructed. Now your homework will pay off. You will know where the track goes and where the flagging stations are. You will likely have more fun than you've had in years, maybe ever.
- ★ When your session is over, as signaled by the checkered flag, drive at a pace that is slow enough to avoid braking (about 40 MPH). You will have a partial or complete cool-down lap, depending upon track. Some corners require very heavy braking; this cool-down lap helps your brakes cool a bit to prevent problems. Drive the proper line and wave to each flagger, as it thanks them and helps you remember where they are.
- ★ Cool your head down too. This lap is your opportunity to discuss your driving with your instructor. If you would like either more or less feedback from your instructor, discuss that. Your debriefing should be completed by the time you reach the Pit Road.
- ★ Signal your pit-in with a fist and enter Pit Road. Check your mirrors, and as soon as it is safe, decelerate to a prudent Pit Road speed. If your instructor has another student in the upcoming run session, drop him or her off *without delay*.
- ★ If your vehicle is being driven in the next track session by a co-driver, stop your car at the end of the line of cars forming the next Run Group session. Carry out driver and instructor changes. Otherwise, return to your parking spot, following any traffic flow instructions given during the driver's meeting. Manual transmission cars should gently coast to a stop and be turned off using little or no brake. Do *not* engage the parking brake as it may stick on. If your schedules permit, take additional time to discuss your run session and set goals for the next one.

Throughout the track day. Keep on top of your schedule and drink to stay hydrated (even in cool weather).

- ★ At some events, you will flag for the other drivers. Report on time and take your flagging *very, very* seriously. Follow the How to Flag instructions in the Study Materials section. Don't forget clothes, a drink, or sunscreen, as desired.
- ★ There may be a scheduled lunch break, or you may need to grab lunch as your schedule permits. If you need to leave the track for food, you may wish to carpool with an experienced driver who knows where to go for quick reasonable food. Alternatively, pack your lunch.
- ★ One of the thrills for most new track drivers is taking a ride in an instructor's car. You may be able to coordinate this with your instructor. Otherwise, stand out by the exit from the paddock onto the Pit Road and ask any available instructor for a ride. While this experience is optional, most find it thrilling and educational. Pay attention to the instructor's line and smoothness with hands and feet. The instructor will rely on extensive experience to drive much faster than your skills allow. ***Don't*** try to ***imitate instructor-level speeds*** and braking points when you return to the driver's seat. It's not uncommon to feel queasy when riding as a passenger (ask any instructor), so ask to enter Pit Road and be let out if you begin to feel unwell.

End of day at the track. As the day goes on, you may become fatigued. If you feel you are too tired or distracted to drive safely, tell your instructor and call it a day. Most schedules allow for about four 20-25 minute sessions, which you will likely find exhausting.

- ★ Be aware of the so-called "red mist" which can set in when you are fatigued and in the excitement of high-speed driving, causing you to make an overly aggressive driving error.
- ★ Clean up any fluid spills or trash. Take any old car parts home with you. The track charges an exorbitant clean-up fee, which may be charged back to you.
- ★ After your event is over, fill out your instructor and mentor evaluation forms and return the forms along with your lanyard to the box near where the organizers are (usually in the first garage bay or at control at Mt Tremblant). Your instructor and mentor have donated their time to you and genuinely want your honest feedback. Please give them this courtesy.
- ★ Remove your car numbers (as they tend to attract police) and pack up your car. Say goodbye to your instructor and mentor, and drive home safely. You have been driving at well over the normal speed limit, so the highway may seem initially rather leisurely. Be careful because the police know this too and may be patrolling the area around the track. When driving through towns and residential areas, remember that your behavior reflects on our club, and that continued track operation relies on good rapport with the local residents.
- ★ If any maintenance items came up at the track, tend to them promptly at home. Check your brake pads and tires to be sure they are adequate for your street driving. Your car may have received some black marks from rubber "marbles" bouncing up and hitting the car. These may be removed with bug-and-tar remover. You may also find quite a bit of brake pad dust on your wheels and sides of your car.
- ★ Sign up for your next event and tell your friends how much fun you had.

Preparation – Checklists of what you need to get and do

As soon as you're accepted into the event:

- Print and begin reading and studying this guide
- Download and print the pre-registration, Day of Event, and Tech Inspection Form documents.
- Make arrangements for a helmet (borrow, buy, or rent)
- Schedule a tech inspection 3-4 weeks before the event with a competent mechanic

3-4 weeks before the event:

- Have your tech inspection, as described in the Logistics section. Bring the form and have it signed.
- Collect everything on your To-Bring list
- Download the track video and study the track map and track video.

To-Bring List:

For you:

- Printed copy of:
 - this guide, including track map and turn-by-turn directions
 - downloaded Day-of-Event information
 - registration information
 - hotel reservation, if any
 - street maps and driving directions from maps.google.com or mapquest.com
- Completed and signed Tech Inspection Form
- Approved helmet. Boston Chapter rental helmets must be picked up in advance at HMS Motorsport.
- Long pants and long-sleeved shirt (for safety). No nylon clothes and, if flagging, no red or yellow.
- Rain clothes (jacket and pants, or poncho) and umbrella. If flagging, no red or yellow.
- Lace shoes with socks. We recommend a snug-fitting thin-soled shoe. No big boots or open-toed shoes.
- Spare cloths in case of rain, cold, or heat. If warm weather, include a t-shirt and shorts for when you aren't driving. Some people enjoy driving home in fresh underwear and socks.
- Optional ice chest with beverages, snacks and perhaps your lunch.
- Hat for sun protection
- Sun glasses
- Sunscreen
- Wallet and coins for beverage machine
- Spare car keys
- Cell phone (perhaps best turned off during the day)
- Suitcase if staying overnight
- Personal medications (prescription and perhaps a few basic first aid items)
- Extra prescription eyeglasses
- Hand wipes or sanitizer (if desired; the bathrooms have water, but not necessarily soap and hot water)
- Plastic tarp and/or waterproof plastic bin to protect your belongings from rain and dirt. Bungee cords will hold the tarp down in the wind. Some tracks have no place to store your belongings out of the rain.
- Collapsible lounge chair (optional, but you may get tired of stranding around)
- Yellow highlighter to highlight where you need to be on the schedule
- Pen for filling out paperwork

For your car:

- Torque wrench with socket for your lug bolts (if you own one, otherwise borrow one at the track)
- Tire pressure gauge
- Window cleaner and paper towels to clean your windshield
- Tape for car numbers (and perhaps a razor blade to remove stickers and tape from windows). If you bring blue painter's tape, you can also use it to protect the front of your car, if desired.
- Basic automotive hand tools. Extensive tools aren't necessary on your first day because you can borrow tools.
- Flashlight (for looking into the recesses of your car in the event of car trouble)
- Duct tape
- Mechanics work gloves and/or latex gloves (optional, but helpful in keeping your hands clean)
- Extra Motor oil and brake fluid, if you think you might need them
- Small portable compressor or air tank, with air chuck (optional)

To leave at home:

- Anything in your car that you don't absolutely need, such as irrelevant maps, floor mats, junk in your trunk, trash, car seats – anything that isn't bolted down or necessary
- Radar detector if traveling to Canada, as they are illegal
- Weapons or firearms
- Illegal drugs
- Children, pets or guests who aren't self-sufficient, unless someone else can tend to them.
- Anything that can't get a bit wet or dirty (*e.g.* fancy leather suitcase)
- Distracting thoughts and worries

Study Materials – Stuff to understand and remember

For your safety, you'll need to study and know this material cold. It's a lot. We know. Start studying early.

Flags. Flag stations are located at specific corners and elsewhere around the track. At these stations, corner workers watch the cars and monitor the track's condition. When problems arise, the workers display or wave signal flags to warn the drivers of danger ahead before they encounter it. The flag and *how* it's displayed communicate specific situations and command specific responses from the driver. In order to make this event safe for you and other drivers, you must know where the flag stations are, watch for the signal flags, and know what the flags mean. The flags will be also be demonstrated at the Driver's Meeting or first Ground School classroom session.



Caution!
Slow down.
No passing.

The **YELLOW FLAG** indicates trouble on the track, either on-track incidents or other conditions that threaten the safety of the event. **No passing and slow down** in the area in which the yellow flag is displayed.

A **WAVING YELLOW FLAG** indicates immediate danger – the more vigorously waved, the greater the danger. **No passing. Be prepared to stop.** The waving yellow flag is the first and immediate response by corner workers to any incident.

A **STANDING YELLOW FLAG** may also used to indicate no passing on the warm-up and cool-down laps.



A car wants
to Pass

The **PASSING FLAG** (Blue with Diagonal Yellow Stripe) indicates that perhaps a car behind you wishes to pass. You should consider *if* it is safe and appropriate to give that driver a point-by. This is not a mandate to let the car behind you pass, as the ultimate decision regarding safety rests with you. If you decide to let the car behind you pass, begin to execute a safe passing maneuver, including appropriate point-by, at the next safe opportunity in a designated passing zone. Use a distinct point-by for each individual car you want to let pass. Stay on line and lift if necessary to help faster vehicles pass safely.



Slow cars.

The **WHITE FLAG** indicates that a slower vehicle is entering or is already on the track. At some tracks, the white flag is used whenever a car re-enters the track from Pit Road. It may also indicate the presence of slow-moving emergency vehicles on the track.



End of
session

The **CHECKERED FLAG** will be displayed at designated flagging stations at the conclusion of the Run Group's track session. After receiving the checkered flag, you may see a standing yellow flag at every flag station you reach. Do not pass other cars and do not try to squeeze in an extra lap. Proceed around the track at reduced speed to cool your brakes and debrief with your instructor.



Return to Pit Road

The **BLACK FLAG** is used as a warning to a particular driver. Upon direction from Control, certain designated flagging stations will display the black flag and point it at the offending car. If you receive the black flag, acknowledge with a hand wave, proceed to Pit Road and report directly to Control. The black flag may indicate either mechanical trouble or incorrect driving. Extremely careless, unsafe behavior or failure to respond to a black flag may result in ejection from the event. Flag stations must report all safety problems to Control.

A **STANDING BLACK FLAG** is also used to indicate that all cars must smoothly and safely exit the track, usually to clear an incident.



Slippery!

The **DEBRIS FLAG** (Red and Yellow Vertical Stripes) indicates that there is an obstacle on the track you should avoid, such as slippery fluids, a cone, car parts, dirt, or an animal. **No Passing. Slow Down.** Reduce speed until you understand the obstacle. This flag may be pulled in after you've seen it, yet the obstacle remains. If you see the debris flag again, it may be a different obstacle.



Stop

The **RED FLAG** is waved to indicate serious trouble on the track. **All cars must promptly come to a controlled stop.** It is displayed only when Control determines that an on-track incident or condition requires that the event be stopped. It will be displayed at all flag stations simultaneously. *Do not slam on the brakes*, but rather first check your mirrors for cars following closely behind you and bring your car smoothly to a stop off-line and within sight of a flagging station.



Broken car

Rarely used, the **MEATBALL** (Black with Orange Circle) is a special version of the black flag specifically indicating a mechanical problem. Slow down and drive off line because you might be trailing a slippery fluid. Just as for the regular black flag, return to Pit Road and report directly to Control.

How to Flag. You will work as a flagger at some NHMS events. If you are sure you won't be flagging, you can skip this section. As a new driver, flagging is an exciting learning experience. You will see skilled drivers at a fairly close distance and be able to learn from their technique. More than just fun, competent flagging is a cornerstone of a safe event. A quickly-waved yellow flag can prevent a minor spin from turning into a crash.

Report on time and take your flagging *very, very* seriously. You will share the flagging station with another person, typically with flagging experience. You will have a radio. To use it, push the talk button, pause a second, speak, then release the talk button. When you first arrive at the flag station, listen to the radio. If you hear nothing for a few minutes, check to make sure that the radio is on, set to the correct channel, and working. If you believe your radio isn't working, try to make visual contact with another flagging station so that a replacement radio can be brought to you.

At most flagging stations, one person should look up the track and the other down the track. Generally the person looking down the track should keep an unfurled yellow flag at hand, but out of sight. The other person can handle the radio. Do not sit as your wellbeing may depend up quick action. Pay attention and

avoid getting lost in fascinating conversation, such as the merits of the E30 M3 over any other car made by civilized man.

At the first sign of trouble (car spun out on or off track, loss of fluids (from a car, not you), animal on the track, dropped car part – anything that is a danger to any car or person), immediately shout “yellow”. Wave the **YELLOW FLAG** aggressively in proportion to the danger. Use the radio to report the problem and your flagging station number to Control. Be specific, but brief, then get off the radio so that Control can speak.

The only other flag which you can issue without direction from Control is the **PASSING FLAG** (Blue with Diagonal Yellow Stripe). This should be issued freely at those stations before and in passing zones when a slower car has a faster car approaching from behind. Hold the flag out with two hands, displaying it to the intended car, without waving it. Don’t be shy about using the flag – it is not a punishment, but rather a reminder that a trailing car may wish to pass.

To prevent confusion, your clothing must not be red or yellow, including any rainwear, outerwear, or umbrella. Depending upon the weather, you may wish to bring a cold drink, sun protection, rain protection, or warm cloths with you to the flagging station. You will be at the flagging station for about 2 hours, so use the bathroom beforehand and avoid over-hydration.

While displaying the standing yellow during the cool-down lap, it is traditional to wave at the cars and for the driver to wave back. This is both a “thank you” from the driver and a way to help them learn where the flagging stations are.

How to enter the track (Pit-Out procedure) So you and your instructor are ready to go out on the track. You’ve checked your tire pressures and the tightness your wheels’ lug bolts. Your seat and mirrors are adjusted. Your seat belt is tight and low across your hips. Your helmet is on and buckled, with your instructor’s communicator on your ear. Your windows are down and your sunroof closed. Your instructor will direct you out onto Pit Road. Using a prudent speed, you’ll proceed down Pit Road where a worker may stop you, perhaps check your wrist band, and wave you onto the track. The White Flag may be waved for you to warn other cars of your entry onto the track.

Following your instructor’s instructions, you’ll briskly accelerate up to track speed and merge in with any fast-moving cars already on the track. Many tracks have a lane separated from the main track by a yellow “blend line”, which you may not cross on your pit-out lap.

How to leave the track (Pin-In procedure) A turn or two before the track’s exit onto Pit Road, place your left hand out the window, forearm point up, and make a fist. You are telling other vehicles that you are slow-moving and intend to exit the track. Drive the normal line (unless otherwise instructed) until you reach the pit road exit. If you are leaving a hot track (*i.e.* other cars are still driving at speed, drive as quickly as you are comfortable to avoid inconveniencing others). Enter Pit Road and smoothly decelerate to a prudent Pit Road speed. You can take your hand in now. Proceed to the instructor drop-off area. Your instructor will tell you where to go.

How to Pass and Be Passed. Proper passing procedures ensure that everyone has a rewarding driving experience. If you are faster than the car ahead, you will naturally want to pass it so that you can drive at your pace. Similarly, if you have a faster car behind you, you will want to let it pass so that you can return your focus to your driving. In this way, cars of different speeds can harmoniously co-exist on the track.

The passing zones will be discussed in the driver’s meeting and may also be defined in the Day of Event package. Most passing zones are long straights. Passing is allowed only:

- ★ in designated passing zones,
- ★ when authorized by a point-by given by the car being passed,
- ★ when track flags allow passing (*i.e.* no YELLOW, RED, BLACK, DEBRIS or CHECKERED), and
- ★ when your good judgment deems it safe.

In the turn just before a passing zone, check your mirrors to see if a car is waiting to pass you. Complete the turn just before the passing zone, then *immediately* give the point-by hand signal. To authorize the car to pass on your left, point straight out your window with your left hand. To authorize the car to pass on the right, point up and over the top of your car with your left hand.

If your car has more power than the car behind you, you may need to facilitate the pass by gently easing off the throttle. Remain on-line and *don't abruptly lift* off the throttle as the trailing car may not be expecting this. The overtaking car will pull off-line in the direction you indicated and overtake you. Generally this means that you should be passed on your left immediately after a left-hand turn (and on your right immediately after a right-hand turn).

Never race the car to the next corner as it is vital that the overtaking car have time to be safely in front of you before the turn.

In cases where many cars are waiting to pass you, give additional point-bys for each additional car, in sequence, as you are being passed. Three passing cars? Then three distinct point-bys. Do not give more point-bys than you intend cars to pass. In order to get a number of cars past you, you may need to lift gently off the throttle. Your instructor will help you get comfortable giving and taking point-bys. Don't fret about cars behind you. They aren't hassling you; they just want to get by you so they can drive at their own pace.

A car right behind you got there because it is faster. It is common for a high horsepower car to pull away from the car behind, only to be caught again in the subsequent corner. Since passing is allowed only in designated straights, this can be very frustrating for the faster but low-powered car. Be courteous to your fellow drivers – one day you may be the faster car. Giving lots of point-bys will make you a hero; withholding point-bys will eventually garner irritated glares, and perhaps a black flag.

The track map and video. Spend some quality time watching the track video while referring to the track map. Eventually, you will be able to close your eyes and visualize driving a lap of the track. You should be able to do this in real time, so that one mental lap takes about 2 minutes or so. Your visualization should be from the driver's perspective behind the wheel, not from an aerial view, such as a track map shows. Notice not only where the track goes, but where the car is placed before, during and after each turn. You should also memorize the location of the flagging stations. This advanced study will greatly ease your first driving day and allow you to focus your learning on driving technique, rather than struggling with the track layout.

Waivers. Without waivers of liability, driving events could not be held. No rational person would volunteer without both these waivers and the liability insurance that the Boston Chapter buys for each event. Your participation is contingent upon you reading, understanding, and signing at least three different waivers. You should obtain copies of these ahead of time (either in your pre-registration information, or in your Day of Event package) so that you can study them, perhaps with your spouse. Because the waivers may vary with track and event, they are not reproduced in this guide.

You should treat these waivers seriously.

Advice. Some well-honed tips from those with lots of track days:

- ★ Read and follow the Driving Techniques (see below): look ahead at where you want to go (not what you want to avoid), don't brake and turn at the same time, keep your hands at 3 and 9 o'clock (not resting on the gear shift lever), keep your foot on the dead pedal, know what to do in a spin.
- ★ Study the track map and description, driving techniques, and jargon *before* you get to the track.
- ★ Do more listening than talking. Ask lots of questions.
- ★ Drive slowly at first. Work on driving the line, being smooth, and consistently hitting your reference marks. Speed will come later. If you miss your reference marks a couple of turns in a row, slow down; you're probably trying too hard. No one cares how fast you go; there's no trophy at the end of the day.
- ★ Don't follow the line of the car in front of you. If they make a mistake, you'll follow them right off the track. Drive your own (correct) line.
- ★ After you've pointed a faster car by, don't try to follow at its faster pace. Drive at your own pace.
- ★ Do not abruptly lift off the throttle in a turn. You will invite a spin. See Trailing Throttle Oversteer in the glossary.
- ★ Avoid the "money shift." Don't rush your shift, but rather make it slow enough to be deliberate. Make sure you are in the right gear before letting out the clutch. If you shift at redline from, say, 3rd gear into what you hope is 4th, but really is 2nd, the transmission will force the engine to exceed its redline. The electronic rev limiter won't help you. If you discover your mistake before letting the clutch all the way out, you may save your engine. This isn't a race, so don't risk your engine by rushing.
- ★ Relax. Breathe. Don't hold your breath in turns. Relax your hands on the straights as nerves will make you grip the wheel tightly. The nervousness will dissipate after the first lap or so.
- ★ Check your ego. Unless you have previous motorsports experience, you are not a good driver. Yet.
- ★ If you don't click with your instructor, ask for another one. No one's feeling will be hurt.
- ★ Don't worry if you're not very mechanically inclined. Beyond tire pressures and checking the tightness of your lug bolts with a torque wrench, it's unlikely that your car will need any maintenance during the day. Over time, many track addicts learn how to do common tasks, such as change brake pads. That may come with time, but you need not be concerned about looking like a klutz with tools. First, no one cares. Second, someone will probably be glad to help you.
- ★ Stay hydrated, even if it isn't really hot. Use the bathroom before your session as it's hard to drive with your legs crossed.

Glossary of Driving Terms and Jargon. You and your instructor need a common vocabulary to communicate fluently. Please read and understand these terms. Terms in **bold** must be memorized; they are used in-car and must be instantly understood. If your instructor tells you to “unwind”, and you relax and put your hands behind your head, you both will be in for either a very long or very short day.

APEX	The point in the middle of the turn where the car comes closest to the inside edge of the track.
BREATHE	To <i>slightly</i> relieve pressure on throttle.
BOTH FEET IN	To depress both the clutch and the brake <i>hard</i> to stop a spinning car. “If you spin, both feet in.” (Automatic transmission: press brake only.)
CAMBER	The lateral grade (<i>i.e.</i> tilt) of the roadway.
CONTACT PATCH	The portion of a tire coming in contact with the road.
COOL-DOWN LAP	The final lap before entering the pits at the end of the driving session.
CRAB/CHEAT	To gradually leave the outside edge of the track before reaching the turn-in point. Wastes road width, tightening the corner. May lead to an early apex. <i>Bad.</i>
EARLY APEX	Apex in which the car reaches the inside edge of the track too soon in the corner. Usually caused by early turn-in, the car may run out of track at the track-out point. <i>Very bad.</i>
EASE ON/EASE OFF	To smoothly add or remove throttle input.
FRICITION CIRCLE	A graph on which the cornering, braking and acceleration forces of a car are plotted.
HEEL & TOE	A method of simultaneously downshifting and braking.
LATE APEX	Apex in which the car reaches the inside edge of the track too late in the corner. Usually caused by late turn-in, the car will not need all the track width at exit. Slow but safe.
LIFT	To remove throttle input partially or completely.
THE LINE	The optimized path around the track.
OVERSTEER	A condition where the rear tires are sliding more than the front tires in a turn.
PASSING ZONE	A portion of the track designated for over-taking (passing).
PINCH	To add steering input while turning (such as when making up for an early apex) or alternatively to not allow the car to drift out to the track-out point. Invites a spin.
PIT-IN SIGNAL	A hand signal given by the driver of a vehicle warning that he or she is traveling slowly, whether about to enter the pits or not.
POINT-BY	A hand signal given by the driver to indicate on which side another car should pass.
POWER OVERSTEER	Oversteer caused by applying too much throttle too soon.

REFERENCE POINT	A landmark used by the driver to initiate braking, turn-in, apex, or track-out. Also known as mark as in “hitting your marks.”
RED MIST	Over-aggressive judgment caused by the excitement and fatigue of track driving. Also known as Helmet Fire.
ROTATION	The turning of a car by using brakes and/or throttle. See trailing throttle oversteer, trail brake, and weight transfer.
SKID PAD	A circular training course that provides a driver with a perpetual corner
SPIN	A condition where the tires have lost traction and the vehicle is spinning around its vertical axis.
SQUEEZE	To smoothly add more throttle.
STAY IN/STAY OUT	A command given by an instructor asking the driver to either keep the car closer to the inside of the corner (STAY IN), or position the car closer to the outside of the corner (STAY OUT).
STRING RULE	Rule that as you increase one input, another must be decreased, as if connected by a string. Examples include unwinding as you squeeze on power or coming off the brake as you turn-in.
THRESHOLD BRAKE	To use 100% of the car’s braking ability in a straight line. Just shy of wheel lock-up (skid) or ABS (Antilock Brake System) activation.
TRACK-OUT	The exit point of a corner where the car passes close to the outside edge of the track
TRAIL BRAKE	To intentionally use some brakes, in diminishing amounts, from the turn-in point toward the apex, often to induce rotation.
BRAKE OVERSTEER	Oversteer caused by excessive trail braking or by applying the brakes while turning.
TRAILING-THROTTLE OVERSTEER	Oversteer caused by abruptly lifting off the throttle as the car is turning.
TURN-IN	The entry point of a corner where the driver first turns the steering wheel.
TYPE I TURN	A turn that leads directly onto a straight. Considered the most important type.
TYPE II TURN	A turn at the end of a straight. Considered less important.
TYPE III TURN	A turn that connects two other turns (does not lead onto or end a straight), considered the least important. Often a “throwaway turn,” implying that the fastest line doesn’t follow the classic turn-in / apex / track-out line.
UNDERSTEER	A condition where the front tires are sliding more than the rear tires in a turn.
UNWIND	To return the steering wheel to the center position.
WEIGHT TRANSFER	Change in the car’s distribution of weight on each of the four tires as a result of lateral (sideways) or longitudinal (front/back) acceleration.

Driving Techniques – How to drive on the track

While there are many advanced and varied techniques, we've found that focusing on a small set of essentials will help you get the most out of your first track day.

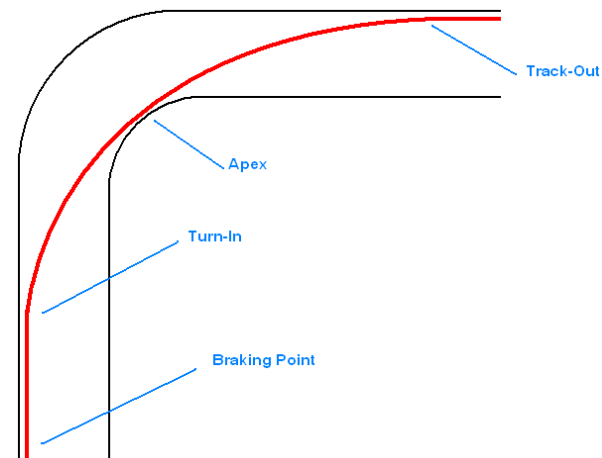
Driving Position. Position the seat so that you can comfortably reach the pedals, including being able to fully depress the clutch. For your safety, lower the seat so that you have at least a fist of room above your helmet. Adjust the back of the seat so that you can drape your wrist on top of the wheel without your shoulders coming off the seat back. If your chest is closer than 12" from the air bag, recline the seat slightly. Place your hands at the 3 and 9 o'clock position. This is where you will keep them while driving.

Adjust your side mirrors so that you just barely *cannot* see your car in your side mirrors. With this adjustment, an overtaking car should move from the rearview mirror to the side mirror to your peripheral vision without a blind spot.

Brake or turn; pick one. Your car can brake at 100% of its ability. It can turn at 100% of its ability. It can't do both at the same time. As a novice, you will be braking in a straight line, without turning. Similarly, while you are turning, you must not use the brakes (except to stop in the event of a spin, of course). And last, you must be gentle in applying power (easing onto the throttle) as you exit the turn and unwind the wheel.

Going through a turn. Most turns will have the key reference points of turn-in, apex, and (sometimes) track-out marked with orange traffic cones. You will likely be at full throttle (gas pedal to floor) as you approach the turn.

- ★ Position the car on the outer side of the track.
- ★ Smoothly come off the throttle and brake in a straight line, starting at your braking reference point. Your instructor will help you find this.
- ★ If you have a manual transmission, downshift as you approach the turn-in point. Let the clutch out gently to avoid lurching. Complete your downshift before the turn-in point.
- ★ At the turn-in point, smoothly turn the wheel to bring the car to the inner side of the track at the apex.
- ★ Apply a small amount of throttle to maintain your speed and bring your inside wheels close to the inner edge of the pavement at the apex.
- ★ Smoothly ease on the throttle and allow the car to drift to the outer side of the track at the track-out point.
- ★ As you approach the track-out point, smoothly unwind the wheel back to straight and smoothly press the gas pedal to the floor (or as desired).



Looking ahead. It is a natural reaction to look right in front of the car. Imagine that you walked through an airport looking only straight down. You'd bump into people, not be able to find the gate, and walk a crooked path. By looking ahead as you drive, your hands will naturally steer the car where you want it to

go, in a smooth path with many fewer steering correction wiggles. In addition, you'll see problems ahead far before you get to them.

The correct line through a turn has a series of reference points (orange cones, brake reference numbers, cracks in the pavement, whatever). These mark the braking point, turn-in point, apex, and track-out point. As you approach one of these reference points, but before you get there, turn your attention to the next reference point. For example, as you are braking and approaching the turn-in point, but before you actually turn the wheel, start looking at the apex.

If things don't go as planned. Your instructor is there to help you avoid driving mistakes. But no one is perfect, so you need to know what to do if things go wrong.

If you've **early-apexed** or misjudged the track-out point and put the outer **two wheels off** the pavement:

- ★ Immediately unwind the wheel to keep two wheels off the track
- ★ Smoothly come off the throttle and allow the car to slow down. If you need to brake, do it very gently.
- ★ Only when the car is slow and straight, gently steer back on to the track. Don't do this too soon or the car may abruptly jut across the track and go off on the other side.

If the car **understeers** and the front of the car starts pointing away from where you want to go:

- ★ Smoothly ease off the throttle a little. The front of the car will "tuck back in" and resume turning.
- ★ Do not add more steering input. In fact, you may have oversteered the wheel and need to unwind slightly.

If the car **oversteers** and the rear of the car starts sliding out:

- ★ *Immediately and abruptly* steer the other way to keep the front tires pointed at where you want to go. This is one time when you do not attempt to be smooth.
- ★ Don't suddenly lift off the throttle, as this will make it worse.
- ★ If you've just lifted off the throttle, add a little more throttle (because you're experiencing trailing throttle oversteer).
- ★ If you have been easing onto the throttle (squeezing on power), breathe off the throttle gently to restore rear traction (because you're experiencing power oversteer).
- ★ If you have been braking, smoothly come off the brake to allow the rear of the car to regain traction (because you're experiencing brake oversteer).
- ★ If you have successfully "caught" the car, *immediately* straighten the wheel out to avoid the car snapping in the opposite direction.
- ★ If the oversteer slide progresses and it becomes clear that you cannot catch the spin, immediately put both feet in – that is, simultaneously depress the clutch and brake – **HARD!** Don't release the brake until the car has *completely* stopped.

Track Information – New Hampshire Motor Speedway

NHMS. New Hampshire Motor Speedway is the Boston Chapter's home track and is an excellent choice for your first track day. Famous for the NASCAR oval, we run a road course which uses the straights from the oval, but not the big banked turns. This 12 turn 1.6 mile circuit is fun and challenging, with elevation changes and nearly continuous turning.

During most events, the Sound Pressure Level limit is 99dBA at 50'.

Typical passing zone:

- ★ Front straight (between turn 12 and turn 1)
- ★ Back straight (between turn 2b and turn 3)
- ★ Up the hill (between turn 3 and turn 6)
- ★ For instructors and advanced students only, the short chute between turn 10 and turn 11.

NHMS Travel Information. NHMS is about 1.25 hours north of Boston. Take I-93 North to Concord, NH. Take exit 15E onto I-393 West. Take Exit 3 onto NH route 106, turning left to go North toward Loudon, NH. The track is 9 miles on your right.

Many people will get up early to arrive at 7am for registration. You may prefer to go up the night before and stay at a local motel. The Red Roof Inn in Loudon, NH is very close to the track and is convenient. Book on-line for a small savings. Otherwise, any Concord, NH accommodation will do; consult the track's lodging recommendations: www.nhms.com, under Visitor Guide, click Lodging.

The track's Checkered Flag restaurant is usually open for breakfast and lunch.

NHMS Morning Information. Just before the track on Route 106 North, you'll pass a Shell station on the right. This is a good place to fill up your tank. Check tire pressures and add air if needed. Traveling North on Rt 106, you'll pass a closed NHMS gate and then come to the main track entrance gate where there is a registration building. Park in long rows of cars.

Get out and bring your driver's license. There will be multiple lines for students (by last name) and instructors. Get in the correct line. You will likely meet your mentor here. At the window, you'll sign a couple of waivers, show your license, and receive your registration packet and an event shirt (if any). Then go to the window on the right at the end and sign the NHMS track waiver and receive either a hand stamp or a wrist band. This is your pass past the entrance gate.

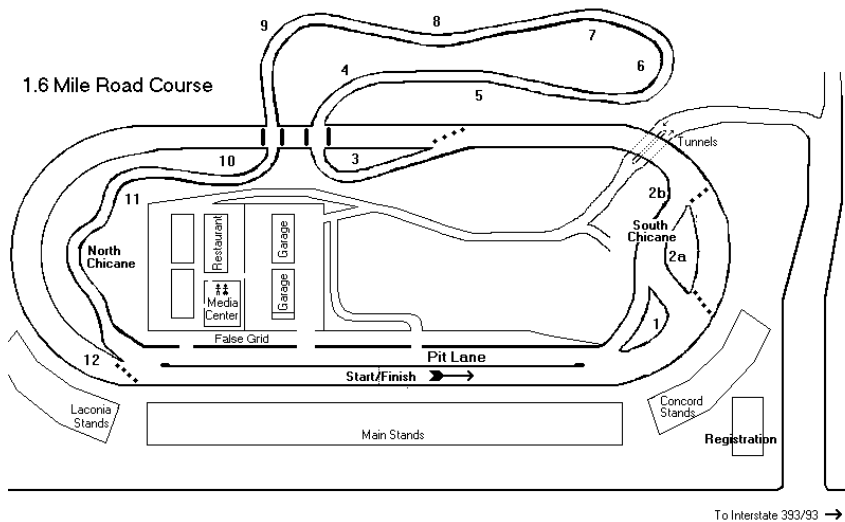
Return to your car and drive slowly through the gate, showing your hand. Obey the track's speed limit (15 MPH) and proceed straight until you see a tunnel on the left. Go through the tunnel and follow the signs to the center garage, bearing left at the fork. There will likely be lots of other cars there. Find a spot on either side of the garage along the fence and back in, leaving enough room behind your car to unload your belongings. If it raining or it looks like rain is possible, ask someone if you can place your belongings in their garage space to keep them dry – you are entitled to this. If you can share a garage bay with your mentor or instructor, that's even better.

NHMS Pit-Out procedure. Absent other instructions, take your helmet and drive your car clockwise around the garages, through the gate at the end of the garages, turning immediately right onto the "false grid." Proceed down to the next available parking spot and back in diagonally, trunk to the fence. Your

instructor will meet you at your car. When you're ready, you'll continue down the false grid and make a left U turn at the break in the wall onto Pit Road. Look right and yield to any traffic returning from the track. At the start/finish line, personnel in the Pit Road may signal you to hold or to proceed down Pit Road to the end. The corner worker at the end of Pit Road may hold you and may check your wrist band. When waved onto the track, get up to speed briskly, turning left and staying inside the row of orange cones. Check your mirrors for cars to merge with. Turn right at the end onto the hot track and stay all the way to the left side of the track. At turn 2b, you'll be entering the back straight. Turn sharply left around turn 2b, staying inside the yellow blend line painted on the pavement. Not too fast here as the turn is sharp. Accelerate up to speed, then track out after the blend line ends.

NHMS Pit-In procedure. After you come down the hill from turn 9, turn right at turn 10 onto the "short chute". Track out left and give the pit-in fist hand signal. Drive the normal line, but at turn 11 (marked North Chicane on the map), go tightly left around the apex and enter the Pit Road marked by orange cones. Decelerate gradually to a prudent Pit Road speed and watch for any inattentive cars leaving the false grid. Drop off your instructor, if needed, then proceed past the Control station at start/finish to the next small break in the wall. Go through the wall and through the fence, onto a small access road, which will bring you back to the entrance to the paddock area where you came in this morning. Find your parking spot.

NHMS Track Map and Description



The following turn-by-turn description is intended for a novice driver.

Front Straight. You are traveling down the front straight, past start/finish. Position your car about a half car width from the right side of the track. Full throttle.

Turn 1. Brake in a straight line and look at the apex on the left side of the track. Downshift if needed. Release the brake and turn the car in a wide arc, bringing it to the apex and keeping the car on the left side of the track. Apply very little throttle to maintain your speed.

Turn 2a. Sight the apex cone on the right and turn in, bringing the car to the apex and keeping it on the right side of the track. Continue to maintain only moderate speed.

Turn 2b. Check your mirrors for car that may wish to pass. Sight the apex on the left and turn in. At the apex, and not before, ease into the throttle gently. Allow the car to drift out to the right. There will be a tall wall on your right. Look where you want the car to go, not at the wall. Point cars by to your left as needed.

Turn 3. Veer left off the back straight and line your car up on the left side of the track like a plane landing on a runway. Brake in a straight line. Downshift if needed. Turn in at the turn-in cone, and hit the apex on the right, going over the rumble strips in the pavement. Track out and ease into the throttle.

Turn 4. Ignore the apex code of turn 4 – you may or may not come near it. Instead focus on the track-out point of turn 4, where there is a small extra strip of pavement. Ease into the throttle, allowing the car to drift out to the left of the track at the track-out point. Check your mirrors for cars wishing to pass. As soon as your wheels are straight, point any cars by on the right. Upshift as needed.

Turn 5. This is a slight bend in the track at the crest of the hill. As you accelerate up the hill under full throttle, trend right, leaving a car width of track on the right (otherwise you'll be out of track after the crest of the hill).

Turn 6. Eek! You'll be accelerating downhill into the "carousel", a sweeping U turn to the left made out of turns 6 and 7. Position your car on the right of the track. Until you have some experience, you will probably come off the throttle and coast down the hill. Brake on the right side of the track, turning slightly as the track curves left. There will be an incredible temptation to "crab in" and turn in before you get to the last cone. Resist! At the last cone, turn in toward the apex and apply a little throttle to maintain your speed. Your left wheels should come very close to the apex curbing at the apex cone. Sight the track-out point at the rumble strips and allow the car to drift all the way to the right side of the track to the rumble strips, but not on them.

Turn 7. Turn 7 is a continuation of Turn 6 and, when done correctly, requires very little steering correction. Continue the left-turning arc of Turn 6 all the way to the apex of Turn 7, bringing the left wheels close to the apex curb. After passing the apex, turn right and start looking at the top of the hill, hunting for the apex cone on the right, just past the crest. Check the flagger in the tower on your right.

Turn 8. The apex of Turn 8 is at the top of the hill and the track turns right past the crest. Your car should be positioned on the right side of the track at the crest, about 3 feet from the edge of the pavement. This will allow you to hit the apex of turn 8 without running out of track width. Resist the temptation to jerk the wheel or abruptly come off the throttle as you crest the hill, as it will upset the balance of the car. Sight the turn-in cone of turn 9 on the left side of the track and aim directly for it.

Turn 9. As soon as the car settles from turn 8, brake in a straight line toward the turn-in cone of turn 9. At the turn-in cone, come off the brakes and turn left, downhill and around the corner. Allow the car to drift out about to the midpoint of the track. Sight the wall on the left and aim to bring the car parallel to the wall, a few feet from the left side of the track.

Turn 10. Sight the apex cone at turn 10. There is also a large mound at the apex, which you must miss to avoid car damage. A small tap of the brakes may be needed, then turn right toward the apex, missing it by a few feet. Ease onto the throttle and continue turning right in a big arc across a wide expanse of pavement.

Turn 11. Turn 11 appears on the map to be a left, a right, and a left, but really the first two turns are slight enough that you can line the car up to go between them in a straight line. Align the car so that your left wheels will just miss the curbing on the left and the right wheels will just miss the curbing on the right. Brake in a straight line. Sight the true apex on the left and, just past the curbing on the right, turn left to hit

the apex. At the apex, ease onto the throttle and track out to the right side of the track. There is a large ditch just past an extra patch of pavement on the right; avoid it. Don't turn left up track until you are at this ditch.

Turn 12. Turn 12 is the continuation of turn 11 as you turn up-track to the left onto the front straight. Check your mirror for cars waiting to pass. Sight the cones dividing Pit Road from the front straight, and bring the left of the car within a few feet of these cones. Ease into the throttle, going full throttle as soon as the car is straight and going down the front straight. This is a major passing zone. Upshift as needed. Point cars by on your left, lifting as necessary to get as many as possible by you. Keep the car on the right side of the track, and you're ready for another lap.

NHMS Track Video

Go to www.boston-bmwcca.org, click Photos/Movies, and you'll see some video from NHMS (formerly known as NHIS).

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Track Information –Watkins Glen International

Watkins Glen. The Glen is a 3.45 mile road course located in the middle of New York State at the tip of Lake Seneca. The track has long straights and high speeds, as well as lots of elevation change. While it has about the same number of turns as NHMS, it is a bit more intimidating due to the higher speed potential of the long straights.

During most events, the Sound Pressure Level limit is unlimited, but you must have a reasonable muffler for the sake of the other drivers.

Typical passing zones are all straights, except no passing between turns 10 and 11, specifically:

- ★ Front straight between turns 11 and 1
- ★ Back straight between turns 4 (last of the esses) and turn 5a (entry to bus stop)
- ★ Chute, between turn 5 (outer loop) and turn 6
- ★ Laces of the boot between turn 6 and turn 7 (toe)
- ★ Sole of the boot between turn 7 (toe) and turn 8 (heel)
- ★ Back of the boot between turn 8 and turn 9 (off camber)
- ★ Between turn 9 (off camber) and turn 10 (fast left).

Watkins Glen Travel Information. Watkins Glen is about 7 hours west of Boston. Start by taking I-90 (Mass Pike) West, then I-87 (New York Thruway) North toward Albany, then I-90 West toward Buffalo. There are several variations which differ in length but all take about the same amount of time. The route suggested by maps.google.com via I-88 to Route 17 is popular and fairly easy to follow. Be careful of speed traps in New York State. Try to arrive early enough relax.

The Seneca Lodge is rustic, but popular; avoid the “cottages.” For other lodging, visit www.theglen.com, then under Fan Info, click Accommodations. There is a gas station in the town of Watkins Glen at the intersection of Rt 16 and Rt 414 which has coffee and convenience style type breakfast in the morning. Gas up either the night before or in the morning before heading up to the track. Print some maps so that you’ll know where you are going in the morning.

There is usually no food available for purchase at the track. Pack a lunch or drive into town at lunch (perhaps with a friend).

Watkins Glen Morning Information. Traveling west on route Route 16, you’ll see a large Watkins Glen International sign marking the main entrance on your left. Pull in line and stay in your car. Do not arrive before the gate opens as the police don’t allow cars to queue up on the public road. When at the head of the line, you’ll be handed the track waiver, which you’ll sign. Proceed through the gate, up the hill and under the underpass. Obey the track’s speed limit, which is 15 MPH here. Proceed straight through two stop signs and enter the fence at the end, turning left into the garage area. Find a parking spot along the fence on either side of the garage. Back into the spot, leaving enough room behind your car to unload your belongings.

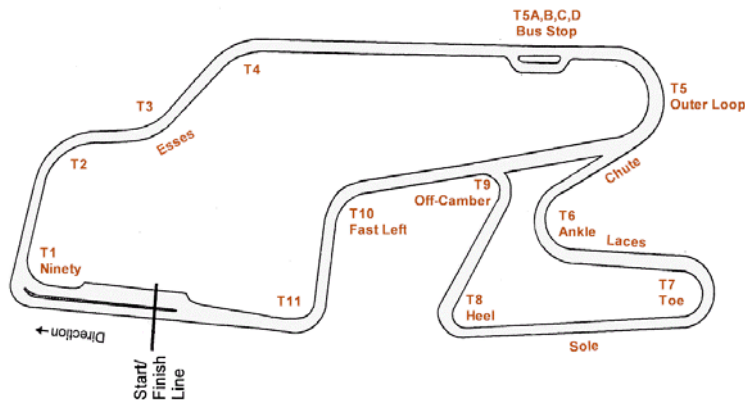
Bring your driver’s license inside the garage and find the registration table at the end. Get in the correct student line, by last name. Receive your registration packet, event shirt (if any), and sign the club waivers. If it raining or it looks like rain is possible, ask someone if you can place your belongings in their garage

space to keep them dry – you are entitled to this. If you can share a garage bay with your mentor or instructor, that’s even better.

Watkins Glen Pit-Out procedure. Absent other instructions, bring your helmet and drive your car clockwise around the garages to the staging area parallel to the garages (on the side with the bathrooms). Park in parallel lines usually marked with orange cones. Pick up your instructor here. Before putting on your helmet and seatbelt, proceed through the gate, staying right of the orange traffic cones. Turn slightly right, driving across an expanse of pavement outside of the control tower. Go through a gate and queue up in rows. Put on your helmet and seatbelt here and prepare to go out on the track. You’ll be waved out onto the track by a corner worker. Display your wrist band as you pass. Turn sharply right onto Pit Road. Proceed down pit road and go around the corner to the right. Check your mirrors for cars to merge with. Accelerate briskly up to track speed, staying all the way to the right, inside the yellow blend line painted on the pavement. Stay right all the way to the apex of Turn 2 (the entry into the esses).

Watkins Glen Pit-In procedure. Go through turn 9, the off-camber left, tracking out to the right. Give the fist Pit-In signal. Take a wide “rim shot” line through turn 10 (the fast left), staying away from the apex. Keep your fist out the window and stay all the way right. At turn 11, Stay inside the yellow line and turn right tightly around the apex and enter Pit Road. *Other cars must yield the apex* to you, staying outside the yellow line. Decelerate to a prudent Pit Road speed and turn right at the first gate. Stay right of the orange cones in the gate and return to your parking spot.

Watkins Glen Track Map and Description



The following turn-by-turn description is intended for a novice driver.

Front Straight. You are traveling down the front straight, past start/finish. Position your car about a half car width from the left side of the track. Full throttle.

Turn 1 The Ninety. Brake in a straight line and look at the apex on the right side of the track. Downshift if needed. Release the brake and turn the car in an arc, bringing it to the apex. Sight the track-out, squeeze on power and track out to, but not on, the track out pavement curbing. Check your mirrors and point by cars to the right as needed. Also be aware of cars entering the track between turns 1 and 2.

Turn 2 The Esses. Upshift before Turn 2 as needed, even if this means short shifting before red line. You will not want to shift in the Esses. Turns 2, 3, and 4 are linked right-left-right turns. Check your mirrors for entering traffic. Lift off the throttle before turn 2; some novices may feel that they need to tap the brakes. With neutral throttle (just enough to maintain your speed), sight the apex curbing on the right and turn in. Stay tight to the right curbing until the apex curbing ends. Squeeze on power as you are comfortable.

Turn 3. Sight the apex curbing on your left and smoothly transition left to the apex. Maintain your throttle and look at the top of the hill on the right. Do not abruptly lift off the throttle in the esses as you may spin.

Turn 4. Transition smoothly back to the apex on the right. Check your mirrors for traffic. Sight the track-out point and allow the car to drift out to the left. Point by cars to the right as soon as you are comfortable. You may need to lift to allow lower horsepower cars by you. Full throttle down the back straight with the car positioned a few feet from the left of the track. Upshift if needed. Highest speed at the Glen.

Turns 5a, b, c, d The Bus Stop Brake hard in a straight line. Downshift as needed. Look deep into the bus stop. You are making one big swooping right-left-right turn. Be smooth with the steering and don't accelerate yet – you're not done. Track out to about one car width from the left side of the track and begin looking around the corner to the right.

Turn 5 The Outer Loop. Gradually wind the car to the right down to a blind apex around the corner. Once you are at the apex, check your mirrors and squeeze on the throttle. This chute is usually a passing zone (confirm this at the morning's Driver's Meeting). Point cars by to the right as desired/allowed. Transition to the right side of the track.

Turn 6 The Ankle of the Boot. You are going downhill. Brake hard. Sight the apex around the corner and turn in smoothly. Sight the track-out point and squeeze on the throttle when you're sure that you'll make the track-out. Do not put tires off the track here. Check your mirrors. Complete the turn, transition left and point by on the right. You may need to up-shift.

Turn 7 The Toe. You are going down hill positioned on the left side of the track. Brake in a straight line and downshift if needed. The apex is most of the way around the corner. Smoothly turn-in. At the apex, squeeze on full power and track out to the left side. Check your mirrors and point by to your right as needed. You may need to lift to help the other car(s) pass. Go up the hill and stay on the left side of the track. Upshift as needed.

Turn 8 The Heel. Brake hard in a straight line and turn in for a late apex. At the apex, squeeze on the throttle and track out to the left. Check your mirrors and point by to the right as needed. This is a short uphill section; any passing will have to be completed quickly. Transition to the right side of the track.

Turn 9 The Off-Camber. Brake and look around the corner. The apex is very late. Do not squeeze on throttle until you can see the track-out point and are sure you will make it. There very little extra room here. Check your mirrors and point by on the left as needed.

Turn 10 The Fast Left. Tap the brakes as needed, and smoothly turn in. Make sure you get all the way down to the apex. Track all the way out to the track-out curbing, smoothly squeezing on throttle. Transition to the left side of the track.

Turn 11. Align your car parallel to the left side of the track and brake in a straight line. Check for cars entering Pit Road, and if so, adjust your apex so that you do not cross the yellow Pit Road line, leaving the inner lane for cars leaving the track. Turn in, apex, then sight the track-out point and squeeze on throttle. There is not much extra room here. Don't accelerate until you can see the track-out point and are sure you are going to make it. Point cars by on the right, as needed. Upshift as needed. You are now back on the front straight.

Track Information – Le Circuit Mont Tremblant

LCMT. Le Circuit Mont Tremblant is a 15-turn 2.65 mile road course in beautiful Quebec, northwest of Montreal. The course has a very challenging hill/turn combination, a hair-pin turn, and fast straights. LCMT would be a bit more challenging than NHMS for a first track day.

During most events, the Sound Pressure Level limit is 92dBA, measured at 50'. Due to conflict with the local town, noise limits are *extremely* strictly enforced by our club, the track, and the police. Always be respectful and as quiet as possible to minimize potential conflict.

Typical passing zones are:

- ★ Front straight between Paddock Bend and turn 1
- ★ After the Esses, between turn 5 and turn 6
- ★ Between turn 6 and turn 7
- ★ Between turn 7 and turn 8 (the Carousel)
- ★ Between turn 8 (the Carousel) and turn 10 (the entry into the Gulch)
- ★ Between turn 12 (the Bridge Turn) and turn 14 (Namerow)

LCMT Travel Information. Mt Tremblant is about 7 hours northwest of Boston, plus any customs delays. You may go either I-89 through Vermont or up I-93 to I-91 and then A-10 West once in Canada. Both are about the same time. Recent border crossing have been faster at the I-91 crossing, but that could be luck. Radar detectors are illegal in Canada. You should make every attempt to be through Montreal before 1pm to avoid heavy rush hour traffic which could easily add an hour to your trip. Take Route 10 West into Montreal, then Route 15 North toward St. Jerome. Route 15 briefly merges with route 40, then splits and eventually becomes Route 117. There is no shoulder to pull off in Montreal to read a map, so study it before you enter the city. Continue about 1.5 hours to St. Jovite. (Do not exit off the highway onto earlier confusing Route 117 exits). One exit past St. Jovite, take exit 119, Montée Ryan. Proceed straight past Route 327 at a 4-way rotary. At the 3-way rotary just before the lake:

- To go to the ski area (if your hotel is there), turn right on Chemin Duplessis. Take your second left on Chemin des Voyageurs. This brings you to the ski area. You should get detailed driving and parking instructions from your hotel. If you are staying at the Lodge de Montagne or Le Sommet des Neiges Tremblant take your second right onto Chemin au Pied-Di-La-Montagne and your hotel will be near the top on the left.
- To go to the track, turn left at the rotary onto Chemin du Village. Pass through a stop sign by the lake. At a 3-way stop at the top of a small hill, turn left Chemin Séguin. The turns to dirt.

Print maps and directions before you leave home. There is a Petrol Canada gas station on Chemin du Village past Chemin Séguin on the outskirts of the old village of Mt Tremblant. On the way to the gas station, there is a breakfast place on the right.

You may wish to obtain an insurance card from your insurance company covering you while in Canada. You may also wish to bring a list of your belongings to assist with customs at the border crossing. There is no garage or shelter for your belongings at LCMT, so definitely bring a tarp and/or a waterproof storage bin. Fill your tank and add air to your tires if needed the night before your track day.

If there is a large difference in currency, you may wish to exchange some US dollars for Canadian dollars at the bank in St Jovite, but US currency is accepted everywhere. Don't let all the French addresses scare you. English is almost universally understood, and you will have little trouble if you don't speak French. A few French driving words are helpful for reading signs: North: Nord. South: Sud. East: Est. West: Ouest. Exit: Sortee.

There are lots of activities for your spouse and family while you're driving, including eating French-influenced cuisine. The track usually has fantastic food for purchase at the café by the entrance gate.

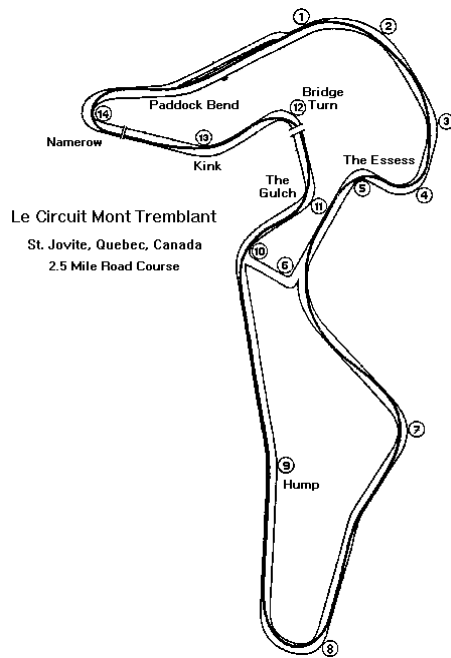
LCMT Morning Information. Traveling South/West on route 327 (Chemin du Village), turn left at the three-way stop sign at the top of a small hill onto Chemin Séguin. The road will turn to dirt and become bumpy. Proceed slowly and as quietly as possible to avoid disturbing the residents. At the end, stay in your car and wait in line. When at the head of the line, you'll be handed the track waiver, which you'll sign. Proceed slowly through the gate and locate a parking spot. The flow of cars in the paddock parking area is counterclockwise.

Your Day of Event package may have included a map showing what general area students should park in, otherwise park where everyone else does. Back into the spot, leaving enough room behind your car to unload your belongings. Get out of your car and bring your driver's license to registration, usually held in the café on a small rise by the entrance gate. Get in the student line, by last name. Receive your registration packet, event shirt (if any), and sign the chapter waivers.

LCMT Pit-Out procedure. Traffic flow in the paddock is counter-clockwise. With your helmet, drive down to the Pit Road entrance past the café, staying on the *left* side of the road. Go left around the circle at the end, staying on the pavement. Pick up your instructor here if you haven't already. Prepare to go out onto the track. When waved by the corner worker, show your wrist band, drive through the gate on the left side, and turn sharply left. Check your mirrors for cars to merge with and accelerate briskly up to speed. Stay left at the top of the hill at turn 2 and continue down the left side of the track, merging with any traffic before the turn-in point to turn 3. Be careful here as hot traffic may have a difficult time adjusting their line or speed to your car. Time your acceleration for a smooth merge.

LCMT Pit-In procedure. Go up the hill and through turn 12, the bridge turn. Give the fist Pit-In signal, and move left, pointing any waiting cars by as needed. Enter turn 14, Namerow, on the left. Take a wide line through Namerow, track out left and enter Pit Road. Decelerate to a prudent Pit road speed and drive down to the gate where you enter. Turn left through the gate, staying on the left side of the road. Pull forward before dropping off your instructor to avoid a traffic jam. Continue up the left side road toward the café. Return to your parking spot following a counter-clockwise traffic flow.

LCMT Track Map and Description



The following turn-by-turn description is intended for a novice driver.

Front Straight. You are traveling down the front straight, past start/finish. Full throttle. Upshift as needed. Look down the track into a small depressed area. The turn-in point for turn one will be marked with a row of cones. Aim for this to position the car somewhat left of the center of the track.

Turn 1 and 2. These turns are linked and are really one turn. Yikes! You will lift off the throttle and probably tap the brakes as the car transitions into the depressed area before the turn. Watch for entering cars. Turn-in at the cones and apply maintenance throttle (enough to maintain your speed) as you go up the hill, *smoothly* apexing just past the crest on your right. Do not abruptly lift off the throttle as you may spin. Continue down the other side of the hill, tracking out to the left side of the track.

Turn 3. Check your mirrors for traffic merging onto the track. Tap the brakes as needed and turn in to the right. As soon as you make the apex. Unwind the wheel, aim the car at the left side of the track, and brake hard in a straight line.

Turn 4 The Esses. You are on the left side of the track, braking. Drive deep into the corner, waiting to turn in until just before your run out of pavement. The apex is far around the corner. Don't accelerate yet. Track out as little as possible, keeping the car on the right side of the track. This is a "throwaway" turn.

Turn 5. Patience. Tap the brakes and turn in smoothly to make the apex around the corner. Sight the track-out point. Squeeze on throttle when you are sure that you will make the track-out. There is little extra room here. Check your mirrors and point cars by to the left as needed. You may need to lift off the throttle to help lower horsepower cars get by you. Upshift as needed.

Turn 6. Approach on the right side of the track. Most novice drivers will be comforted by lifting off the throttle before turning in. Sight the apex and keep the car tight to the apex curbing until it ends. Allow the car to drift out to the track-out on the right. Transition to the left side of the track. Check the mirrors and point cars by to the right.

Turn 7. Brake a moderate amount to lose some speed. Turn-in at the cone and look for the blind apex around the corner to the right. Don't accelerate until you've apexed, seen the track-out, and are sure you will make it. Despite lots of run off area, this is a fast turn that demands lots of respect. Check your mirrors and point cars by to the right, lifting as needed.

Turn 8 The Carousel. Approach with the car positioned on the left side of the track. Brake hard in a straight line. Downshift as needed. This U turn has a variety of different acceptable lines. Turn in and be sure to reach either the first apex curbing, the second apex curbing, or both. Don't accelerate until you can see the track-out point all the way around the corner and are sure that you are going to make it. Check your mirrors and point by cars to the right. Long passing zone up and over the Hump (Turn 9), but lift to help cars pass as needed.

Turn 9 The Hump. Barely a turn at the crest of a small rise. Just keep your car on the left side of the track. Passing zone from Turn 8 continues through the Hump to Turn 10.

Turn 10. The Gulch Fastest speed at LCMT. Position the car on the left and brake hard in a straight line. Downshift as needed. Turn in, apex, squeeze on some throttle, and track out very little, keeping the car toward the right side of the track.

Turn 11. Approach on the right side of the track. Tap the brake (or more as desired). Sight the apex and turn-in. Don't squeeze on power until you are sure you will make the track-out. Track out all the way to the right and go up the hill.

Turn 12 The Bridge. Brake in a straight line. You will go under a bridge. After the hill crests, release the brakes and turn-in, hitting the apex on your left. Sight the track-out and be sure that you will make it before accelerating. Transition toward the left. Check your mirrors and point cars by on your right.

Turn 13 The Kink. A small right bend in the straight between the Bridge (Turn 12) and Namerow (Turn 14). Passing zone.

Turn 14. Namerow. The slowest point at LCMT and the track's most famous turn, pronounced *nam-row*. Position your car on the left side of the track and parallel to it. Brake hard in a straight line and downshift as needed. Very slow here. Turn-in at the cone, and come close to the apex, but don't go over the apex curbing. Dive down the hill and track out to the middle of the track. Squeeze on the throttle. Exiting cars will track all the way out and exit left onto Pit Road. Transition to the right side of the track.

Paddock Bend. Turn in just after you complete Namerow, making sure you get all the way down to the apex curbing. Track out to the right. No brakes and many drivers will not lift off the throttle. Upshift as needed for the front straight.

Track Description / Video

There are several good descriptions of the track available by searching on the web. Ask your mentor to help you if you have problems finding one.