

Boston Chapter HPDE First-timer's Guide

New to the track? Welcome! We wrote this guide just for you.



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 merely adequate 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!

REQUIREMENTS – WHAT YOU'LL NEED

The Boston Chapter [Procedures and Rules](#) document cover these rules and procedures, including many of the requirements for attending a driving school. You may also find some event-specific requirements in the event's Day of Event document. This section focuses on requirements that are common to all driving schools – things that a first-timer wouldn't otherwise know.

Car. You must own or 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. 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.

Convertible, Removable Roof Panel Vehicles, and cars with aftermarket seats and/or racing harnesses are subject to special rules and restrictions. Read the [Pre-Event Tech Inspection Form](#) carefully.

Helmet. You must own, borrow, or rent (if available) an approved helmet. See [Procedures and Rules](#) document.

Insurance. Your automobile policy may not cover you on the track. See the [Procedures and Rules](#) document.

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.

Briefly, you will:

- Download from the chapter website www.boston-bmwcca.org the Day of Event document, [Pre-Event Tech Inspection Form](#), [Medical Information Form](#), [Procedures and Rules](#) document, and the [Driving Evals SLIP Student’s Guide](#).
- Prepare your car by having it inspected and maintained by a competent mechanic using (and completing) the [Pre-Event Tech Inspection Form](#).
- Complete the [Medical Information Form](#), place it in a business envelope with your name on the outside.
- Prepare yourself by reading, understanding, and remembering the important information in this guide and all the other documents you downloaded.
- 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.
- Finish up your day by packing up your car, cleaning up, returning anything borrowed or rented, and driving home safely, no doubt grinning all the way.
- Complete your evaluation of your instructor and receive an on-line evaluation by your instructor. You’ll automatically receive e-mails with instructions.

LOGISTICS – WHAT TO DO AND WHERE TO GO

Signing up. Complete the on-line registration entry form at www.motorsportreg.com/orgs/bmwcca/boston. 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.

Next, download, print, and read:

- Day of Event document from the MotorsportReg registration page or the [Boston Chapter website](#). This overview document contains a checklist of what you need to read, and event-specific information, and any fresh information that participants need to know.
- **Pre-Event Tech Inspection Form**, which contains a checklist and detailed instructions for how your car must be inspected before the event.
- **Medical Information Form**, which contains medical information that track personnel can use in the event of an injury or illness.
- **Procedures and Rules** document, which contains details of how the Boston Chapter runs its events.
- This guide, which contains information that a first-time student needs to know
- **Driving Evals SLIP Student's Guide**, which contains instructions for completing your evaluation of your instructor, and information about the Skill Level Instruction Program, the rating system that your instructor will use to help you learn.
- A guide to the track you are attending from www.boston-bmwcca.org/DrivingSchools/.

Preparing your car. About 20-30 days before the event, bring the **Pre-Event Tech 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 Pre-Event Safety 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 Pre-Event Safety 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 50 feet 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 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 [Procedures and Rules](#) document contains the current required date rating, usually within 9 or 10 years of the current date. 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 eyepoint, 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 eyepoint for comfort. Expect to pay \$100+ for an M-rated helmet or \$200+ for an SA-rated helmet.

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 the documents. 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 track video, in conjunction with the track map. Also watch the **novice video** the Boston Chapter made, following a novice through his first experience at the track.

Your mentor. New drivers are usually paired with an experienced driver to help you before and during the event. You and your mentor will receive an e-mail introducing you to each other. 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. Agree on where to meet – usually at the track entrance gate or in the paddock. 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 will 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 in

the morning. 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 both parents or guardians. 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.

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-specific for travel and lodging tips. Directions are provided from the Boston area. Some remote tracks may have limited cell phone data coverage. If in doubt, use a dedicated GPS or print some maps.

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. Consult the track-specific 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, and classroom time. 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 sessions are mandatory. 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 club liability waiver at registration. 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 stickers on the driver and passenger side rear windows. If you were provided a third set of numbers, place them on the rear windshield on the upper driver's side. 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 about 90 ft-lbs is about correct. If you do not own a torque wrench, borrow one. *Do not skip this step.* Re-torque 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 **Pre-Event Tech Inspection Form** (aka "tech form") 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 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 safety inspection by your mechanic. Your tech form will be collected and your helmet checked. You will receive a small tech inspection sticker on your windshield. You will receive a sticker for your helmet (and if so, this sticker will be valid until the helmet expires). 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 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, then 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).

- 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.
- Re-check your lug bolt torque (after cooling off) and tire pressures at least once during the day.
- 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, 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 will be charged back to you.
- 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.
- You will receive e-mails with instructions for how to evaluate your instructor on-line, and how to read your instructor's evaluation of you.
- 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 Day of Event, **Pre-Event Tech Inspection Form**, **Procedures and Rules**, this guide, **Driving Evals SLIP Student's Guide**, and track-specific guide.
- 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 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:
 - the documents, including track map and turn-by-turn directions
 - hotel reservation, if any
 - street maps and driving directions
- Completed and signed **Pre-Event Tech Inspection Form**
- Approved helmet
- Long pants and long-sleeved shirt (for safety). No nylon.
- Rain clothes (jacket and pants, or poncho) and umbrella.
- Lace shoes with socks. We recommend a snug-fitting thin-soled shoe. No big boots or open-toed shoes.
- Spare clothes 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
- Wristwatch so you don't need to rely on your phone for the time of day
- Cell phone, turned off to avoid distraction
- Spare car keys
- 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 standing around)

- Yellow highlighter to highlight where you need to be on the schedule
- Pen for note-taking

To bring for your car:

- Torque wrench with socket for your lug bolts (if you own one, otherwise borrow one at the track)
- Tire pressure gauge (dial-type preferred as the stick type are inaccurate)
- Window cleaner and paper towels to clean your windshield
- Blue painter's tape 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, child 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
- Drones and 'copters
- 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.



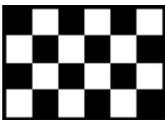
A car wants to
Pass

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 slightly 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 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 (Pit-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 intend to exit the track. Drive the normal line (unless otherwise instructed) until your 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 track-specific guide. 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. Some flag stations will display the blue-and-yellow PASSING flag and a reminder to check your mirrors for a faster car. 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).

Don't race the car to the next corner as the overtaking car needs 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 eventually 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 the waivers. A copy of the BMW CCA waiver is contained in the [Procedures and Rules](#) document. Review it, perhaps with your wife. You will also be required to sign a track waiver, which varies from track to track.

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 9 and 3 o'clock (and not resting on the gear shift lever), keep your left 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 with experience.
- 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. An abrupt lift when the steering wheel isn’t straight will invite a spin.
THE LINE	The optimized path around the track.
OVERSTEER	A condition where the rear tires are sliding laterally 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 closed-fist left 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 pointing left 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. Controlled rotation is an advanced technique. Uncontrolled rotation is <i>bad</i> .
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, 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 laterally 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, focusing on a small set of essentials will help you get the most out of your first track day.

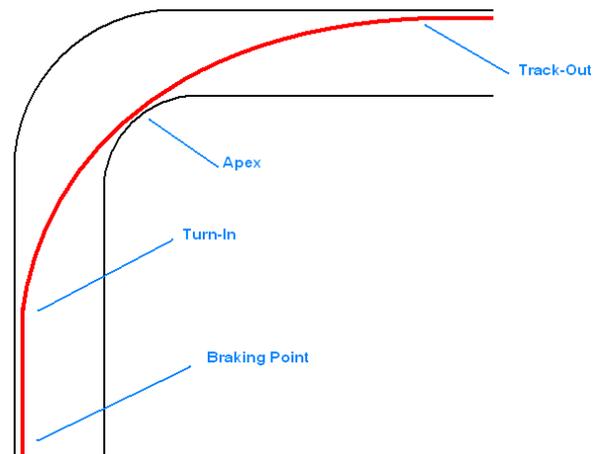
Driving Position. Position the seat so that you can comfortably reach the pedals, including being able to fully depress the clutch. For your safety, lower the seat so that you have at least a fist of room above your helmet. Adjust the back of the seat so that you can drape your wrist on top of the wheel 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 overturned 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. Be prepared to counter-steer in the other 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.