

## **Safety Rules for Driver's Education Events, 2015**

### **Nord Stern Region- PCA**

In order for all participants to safely enjoy track time while improving our high speed driving and car control skills, the following general rules shall be observed on track and in the paddock:

- 1) The purpose of DE is to have fun and learn high speed car control under controlled conditions. You will have a lot more fun if you and your car return home on Sunday in the same condition you arrived today! We are not racing!!!
- 2) All participants, drivers and observers, must have signed the waiver and have a wristband.
- 3) For your safety and the safety of others, all cars participating in a DE event must have passed a Nord Stern Tech Inspection. It is your responsibility to make sure your car is in good mechanical condition, which you should monitor in the course of the event.
- 4) You will be assigned to a Run Group by the registrar. Run Groups are assigned by car type and driver experience. You may only run in your assigned Group. If you wish to change Groups, please speak to the Registration Chair. Run Group stickers and Tech Inspection stickers should be affixed to the upper left windshield area.
- 5) No riders allowed, unless one of the individuals in the car is a PCA Instructor. When two people are in the car, one must be a Nord Stern or PCA Instructor. If you wish for a friend or family member to receive a "ride at speed" in a prepared car, we have a limited participation DE option wherein for a small donation to our club charity your friend or family member can ride along with a PCA Instructor.
- 6) Driver and Passenger Restraints must be equivalent. If two people are to ride in a car (at least one being an Instructor), the restraint systems must be equivalent. We sometimes have new Driver Training candidates present with a car that has a race seat with 5 or 6 point harnesses for the driver but a conventional lap/shoulder belt for the Instructor. It would be okay to have a race seat installed for the driver, but then the stock lap/shoulder belt should be used as well on the driver's side if the passenger side was not similarly prepared. Any modifications to a stock car in this area should be reviewed by the Safety Officer for the event, and an "Equivalent Safety" sticker applied to the upper left driver's side windshield for the track personnel to see.
- 7) Windows are normally run in the down position. The driver may alternatively choose to run the windows closed or open 1 – 2 inches. If an Instructor is in the car, the Instructor may request that windows be closed or opened 1 – 2 inches to permit in-car communication with the student. Window nets must be up before entering the track, if the car is so equipped.

- 8) All loose objects need to be removed from the car and trunk before entering the track. In-car cameras, timing devices, etc., must be securely fastened in the car and not obstruct the driver's view.
- 9) Make sure hoods are latched and sunroofs are closed.
- 10) Side mirrors should be adjusted so that one "just loses" the sides of the car. This helps to minimize blind spots while out on the track.
- 11) Driving Attire: Ideally should be all cotton. In the remote event of a fire inside the cockpit, synthetics such as polyester can melt into one's skin. A race type driver's suit is not necessary, but the minimum is as follows:
  - a. Closed toes flat bottom tennis shoes or driving shoes
  - b. Long pants (jeans are ideal)
  - c. At least a short sleeve cotton t-shirt. A long sleeve is ideal
- 12) Helmet: At least a Snell 2005 or newer. THIS IS THE LAST SEASON THE SNELL 2005 HELMET WILL BE ACCEPTED. A NEWER HELMET WILL BE REQUIRED IN 2016.
  - a. "SA 2005" stands for "Snell Automotive". These helmets have some Nomex in the padding to resist flame.
  - b. "M" 2005 for example stands for "Motorcycle". There is little difference in impact resistance between the "SA" and the "M". The motorcycle versions do not have the Nomex. Motorcycle helmets are allowed for DE.
- 13) Pit lane speeds: Keep it down to approximately 30mph until the starter gives you the "enter track" signal from the starter stand and can start to accelerate. Always stay left entering a hot track, then blend into the first corner. When entering a session late, always check over your right shoulder (at BIR) for cars that could be exiting the track onto pit lane at the same time you are entering it.
- 14) Paddock Speeds: Keep it way down to 10 or 15mph. There are kids, bikes, cars backing out, etc. Also keep it way down if cooling off your brakes driving out towards the gate area.
- 15) Keep your helmet and all safety gear on until you are parked in the paddock.

### **Entering and Exiting the Track**

**BIR Long Track: Entry:** Queue up under the grandstand in general order of speed in your run group. Wait to be released onto pit lane by the starter. Blend onto pit lane but check over your right shoulder first to insure no-one is exiting from the track onto pit lane. 30-35MPH Pit lane speed. Wait for corner worker @entry to waive you on. STAY TO THE LEFT as you enter the track(the "blend line") and check your mirrors before you enter turn one for other cars coming

at speed up the straightaway. **To Exit:** Stay to the left side of the track coming out of turn 9, start to slow, and put on your right turn signal("pass me on the right side"). Stay out to the left side through turn ten and continue to slow as you enter pit lane. Continue on to the end of pit lane and then turn left onto the access road to return to the paddock at a slow speed.

### Nord Stern Passing Rules

- 1) All passing is by Contract. No passing is allowed unless a "contract" to pass is first given!!!
- 2) The car allowing the pass stays on the ideal racing line.
- 3) The car doing the passing goes off-line to complete the pass (just like you do on the freeway- go around).
- 4) The car allowing the pass should lift/slow some to allow for a safe pass before the next corner.
- 5) If a contract to pass is given, it **does not** need to be accepted!! Use your judgment as to whether it can be safely done before the corner. If in doubt, don't attempt the pass.
- 6) NO PASSING IN THE CORNERS (except for group 4 – still by contract)
- 7) An invitation to pass is given by either:
  - a. Using your turn signal("pointing device to which side they should pass you on")
  - b. Or a "point by". This method of using your index finger to point the passer by on the side you are pointing to is used by those potentially who have race cars and nets and no functional turn signals.
  - c. Remember to "cancel" the contract to pass by turning off your electronic pointer!!
  - d. Unless you cancel the contract multiple cars will assume they can pass.
- 8) Passing Zones will be announced at the morning driver's meeting for the particular track and different run groups.
- 9) When entering the pits at BIR, the right turn signal is turned on before entering turn 10. This is consistent with letting people pass you on the right but signals your intention to pit. Here it is acceptable to pass in the corner if the pitting car stays way left and has slowed down before pitting to make his/her intentions clear.
- 10) Remember that there is no passing allowed under any yellow flag scenario.

### FLAGS

- a) **Static Yellow** - Caution. No passing. Situation somewhere ahead on the track. Be alert.
- b) **Waving Yellow**- More Urgent Caution. No passing. Incident just ahead of you! Be alert.
- c) **Yellow at all stations**- Caution. No passing. First lap or two of the first session of the day to get heat in your tires, or track may be clearing an incident or spin somewhere.
- d) **Yellow with Red diagonal stripes**- Debris flag. Debris- gravel, dirt, oil, coolant, etc. somewhere on track surface ahead. Could also be a dead squirrel or turtle!
- e) **Red**- Major problem or crash on track. Stop immediately on the side of the track nearest a corner worker station in your view. Don't proceed until another flag is shown.
- f) **White**- There is an emergency vehicle on the track or just off the track assisting a car or driver- be alert and use caution!

- g) **Black Flag all stations-** The session is terminated due to a serious situation on track. Slow down and enter pit lane as soon as you come to it.
- h) **Black Flag shown at you(possibly with your car number on a board)-** You are driving erratically, or have done something wrong! You are to exit the track next opportunity and discuss your infraction with Nord Stern Safety or the Corner worker at pit lane.
- i) **Black flag shown, then furled and shown to you-** You are doing something wrong/inappropriate. Think about what you did and knock it off. If you do it again you will be black flagged and have to exit the run session.
- j) **Black flag with an orange meatball in the middle-** There is something mechanically wrong with your car, leaking fluid, smoking engine, fire or bodywork falling off. You need to exit the track and have it attended to immediately.
  - a. **If you know you are leaking fluid-** Please pull off the track, don't continue to "oil" or dump antifreeze all over the ideal racing line until you can exit into the pits! Wait for a tow. Stay in your car!!
- k) **Green-** usually shown after the first lap or two under yellow first session in the morning at the start-finish line indicating passing now allowed.
- l) **Blue with Stripe – also known as the Passing Flag -** this is an informational flag to alert a driver that a faster vehicle is overtaking them. If you see a blue flag, check your mirrors and look for the next safe passing zone to offer a pass contract.
- m) **Checkered-** end of session. Will be shown at turn six at BIR, start- Turn 14 or start/finish at RA.

**If you leave the track surface:**

- a) **Remember "Both Feet in"!** If you brake too late to make a corner or turn in too late and have to go off, it is best to go straight off. Any turning off the track surface while braking can be dangerous, sometimes resulting in a roll of the car due to potential ruts in the ground. It's always nice also not to kill the engine, so clutch goes in when brake does!
- b) **Two wheels off:** Slow the car, check your mirrors and traffic, and try to come back onto the track surface at as much of a right angle as possible. The reason for this is that there are some areas of the track where there are big drop-offs when the asphalt ends. It is possible to "hook a wheel" trying to come back on and upset the car, particularly at speed.
- c) **Four wheels off:** If you are fairly sure you have not hurt the car, check traffic and re-enter the track at as close to a right angle as possible. A corner worker may also give you the signal to re-enter when it is safe. It is mandatory to come in after 4 wheels off to discuss with Safety and to have the car checked over. Repeated incidents of going off-track or being black-flagged may result in termination of driving privileges for the rest of the weekend.
- d) **If you have to leave the track surface due to a mechanical or other disabling issue-** Stay in the car!! Track personnel will assist you with a tow back to the paddock. If you get out of the car you could be hit if someone loses concentration and spins!

**Rainy/Wet Track at Brainerd International Raceway-** The drag strip/front straightaway is EXTREMELY SLICK when wet!! Many cars over the years have been known to spank the cement walls either side of the drag strip after losing the rear end of the car. It truly is more slippery than glare ice in these conditions. The reason is that the burnouts and all of the rubber laid down makes the actual surface devoid of any roughness as in a normal asphalt surface. That, combined with the chemicals laid down for the initial burnouts to prime the tires combines to make the surface an almost certain wreck in the rain. Nord Stern may elect to run the BIR short track in these conditions instead, or do one of the following two things:

- 1) Run cars through pit lane and back onto the straightaway after the drag-strip bypassing the dangerous portion, or
- 2) Instruct DE participants to slow their speed coming out of turn ten to approximately 35 mph, select a higher gear, and proceed down the center of the drag-strip with NO change in throttle input and NO change of gears. The center of the drag-strip has a cement section which is largely devoid of the rubber from the dragsters.

**General Safety steps to follow throughout the weekend:**

- 1) Check your oil, brake fluid, and coolant periodically and look for any ponding under the car.
- 2) Torque your lug-bolts or lug-nuts frequently
- 3) Check your brake pads, particularly the inner side of the calipers(they can wear more rapidly due to greater heat build-up)
- 4) Check your tire pressures hot (Instructors or Track Side Tire can help you with target pressures)

**Be aware of the following potential brake issues:**

- 1) Fade. The pedal is firm as you get deeper into a session but it takes more pressure to get the car to stop. This is brake “fade” usually due to a street pad operating at too high a temperature. The compound loses friction due to operating outside its target temperature range. Solution is usually higher temp/higher friction “track” brake pads. Back speed off and come in.
- 2) The pedal gets soft and goes further to the floor in order to get the car to stop: You may have either boiling fluid in your calipers or have expanding air or both. Solution: Bleed the brakes or have “Race” type brake fluid installed such as Castrol SRF or Motul or ATE Blue which have very high heat tolerance.

**Be aware of these potential tire issues:**

- 1) Excessive wear and/or “chunking out” of the outer third or so the tires. Lack of negative camber and excessive shoulder heat is the cause, increasing negative camber with an alignment change is the solution.

- 2) Excessive heat buildup in thicker carcass street tires can occasionally make them “go off” all of a sudden. The tire compound is designed to operate at much lower temperatures on the street, and will reach a “transition” temperature, where they will get greasy and lose grip. “R” compound high performance tires or track only tires are much less prone to this happening.

**Enjoy the track!** Remember, we are not racing but working on our higher speed car control skills and our smoothness. Take care of each other, be courteous and pay attention to the corner workers and the flags. Check your mirrors often. If someone is on your bumper, they are probably not purposely trying to annoy you but rather politely asking for permission to pass. And always remember to keep your eyes up and way ahead of the car! Your car will go where your eyes go, and at speed bad things happen when your eyes are fixated only 30 feet in front of the car.

Revised 2012: Keith Erickson and Brad Lano

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Revised 2015: Paul Ingebrigtsen

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