

ECR Competition Club Racing Program

Mission –

Create an easy path to licensing for ECR Members/IPD-APD attendees to extend their driving fun with wheel to wheel racing skills. We want to create an agnostic path to driving in sanctioning body licensing programs. This should be low cost, simple and easy for the attendees to join. The benefit is we can add newly licensed drivers to the rosters of the supporting sanctioning groups, and we can support member's ambitions and continuing track education

Requirements to attend –

- 1) Solo Certified Driver – No novices. This school needs the driver to be competent in an HPDE environment
- 2) All Safety equipment required for racing Sanctioning bodies
 - a. Helmet
 - b. Fire Suit
 - c. Shoes
 - d. Gloves
 - e. Hans Device
- 3) Track prepared race car with current log book
 - a. All safety devices up to date and installed properly
 - b. Belts
 - c. Seat
 - d. Fire Suppression
- 4) Pre-register with any one of the following racing sanctioning bodies –
 - a. SCCA
 - b. NASA
 - c. PCA
 - d. CVAR
 - All pre-registration is required in order to be signed off for a provisional license at the end of the program. This includes medical, membership etc.

Competition Driving School Lesson Plan: DAY ONE

Classroom: 9 a.m to 11 a.m.

Vehicle Dynamics Basics

Vision

A. Basics of Car Control

- B. Car Dynamics
- C. Balance is Key
- D. Trail Braking
- E. Entry Points, Apexes, & Exit Edges
- F. Brake Zones and Brake Markers
- G. The Geometry of Driving
- H. Common Beginner Mistakes
- I. Trying to be fast, right away
- J. Entering the slower corners too fast
- K. Turning in too early
- L. Not looking ahead to your next reference point (apex, turn out, etc)
- M. Not using the whole track
- N. Coasting
- O. Frustration
- P. Track Layout

Corner Entry –

Vortex of Danger Walk Through: 11 a.m. to 12:30 p.m.

Autocross: 11 a.m. to 12:30 p.m.

Lunch: 12:30 p.m. to 1:30 p.m.

Track Orientation: 1:30 p.m. to 3 p.m.

Track Drive-around/Walk

Lead Follow in own cars

Open Track Lapping: 3 p.m. to 4 p.m.

Debrief & Review: 4 p.m. to 5 p.m.

Competition Driving School Lesson Plan: DAY TWO

Classroom: 9 a.m. to 11 p.m.

- A. Review Day One- highlight Common Beginner Mistakes
- B. On-track Tips to Remember
- C. Before you enter the course
- D. As you enter the course – Pace Car/Separation
- E. As you start driving
- F. On-track problems
- G. Passing
- H. After checkered flag

Advanced Driving Techniques

Heel and Toe: Now that we have that out of the way, here is why heel & toe is effective when cornering at speed on a closed circuit: it gets you into the correct gear for the turn and exit without compromising braking, stability, or entry speed. It also keeps the engine revving in its optimal power range (attempting to balance a half clutch while halfway through a corner is ineffective, and accelerating from near engine idling speed is all but useless) This is the basic form of how it is carried out:

Step 1

The illustration below shows our driver building up speed in 3rd gear, approaching the top of the power band as the vehicle accelerates.

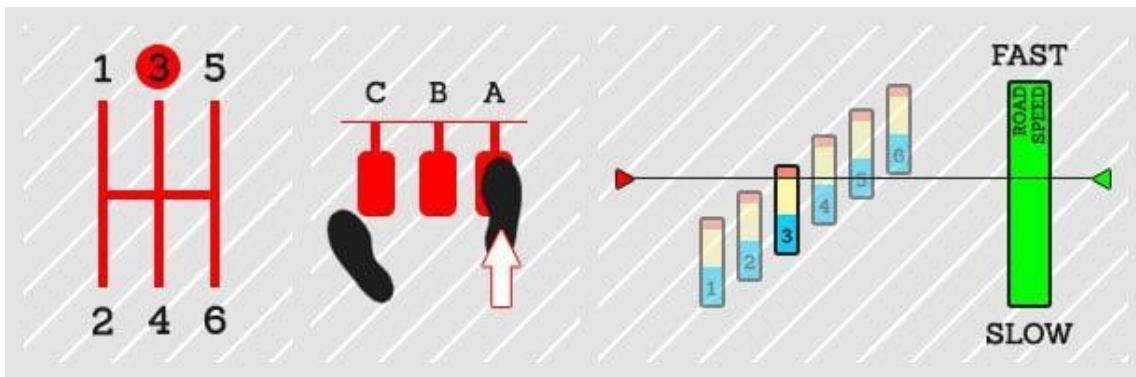


Diagram 2: As our driver brakes before the corner, engine speed starts to decrease, along with road speed

Once you've reached your braking point, hit the brakes and reduce your speed until you can downshift without over-revving. The illustration below shows our driver in 3rd gear, slowing down in preparation for a shift down into 2nd.

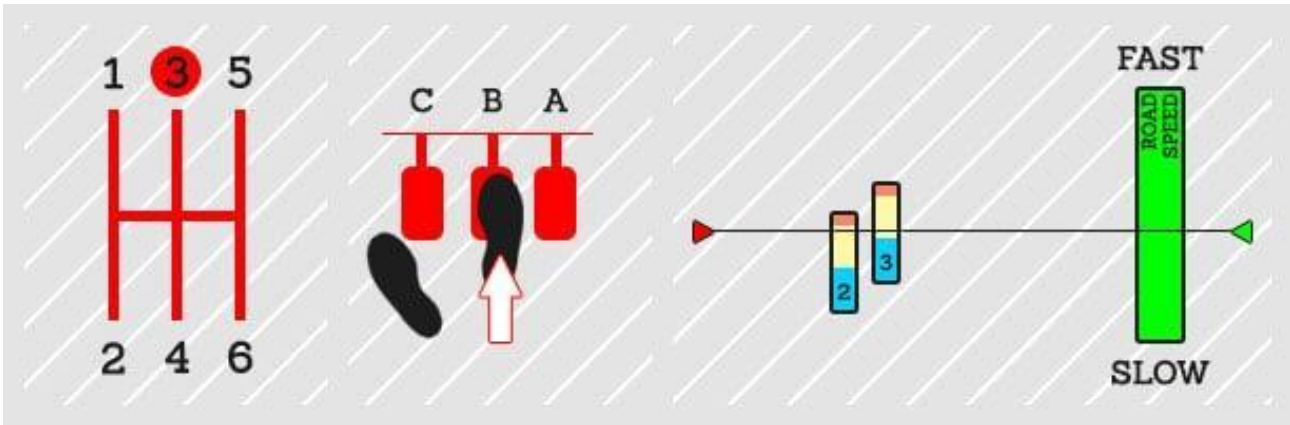


Diagram 3: Right foot swivels, ready to push down on the throttle, pushing the clutch

Whilst still braking, swivel your right foot and get ready to press the accelerator pedal with your heel. At the same time, you'll need to push the clutch down with your left foot, this is to disengage the wheels from the engine.

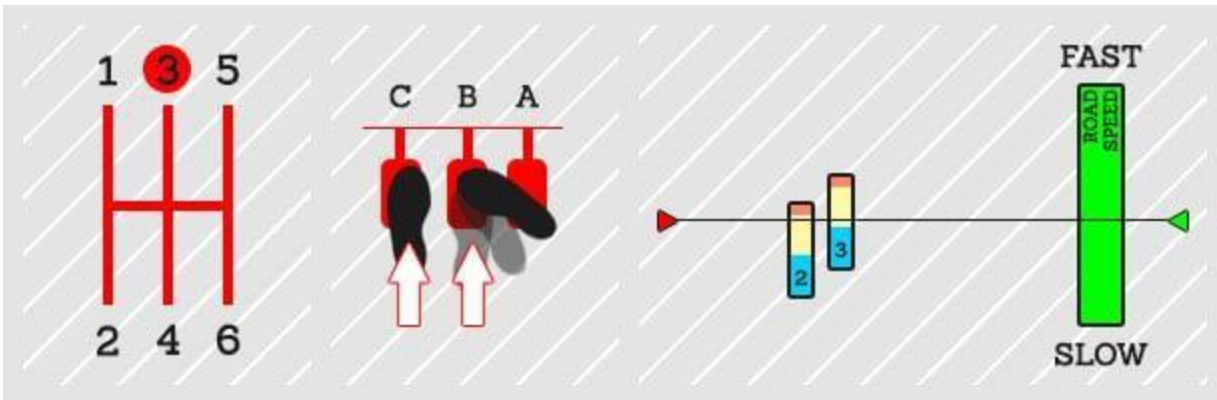


Diagram 4: Accelerator is pushed with the heel, increasing engine speed

Once the clutch pedal has been pushed, your speed will start to decrease. Increase your speed by pushing the accelerator with the heel of your right foot until you've matched the revs (take a look at our [rev matching tutorial](#), if you're not sure how it works) in 2nd gear to your road speed.

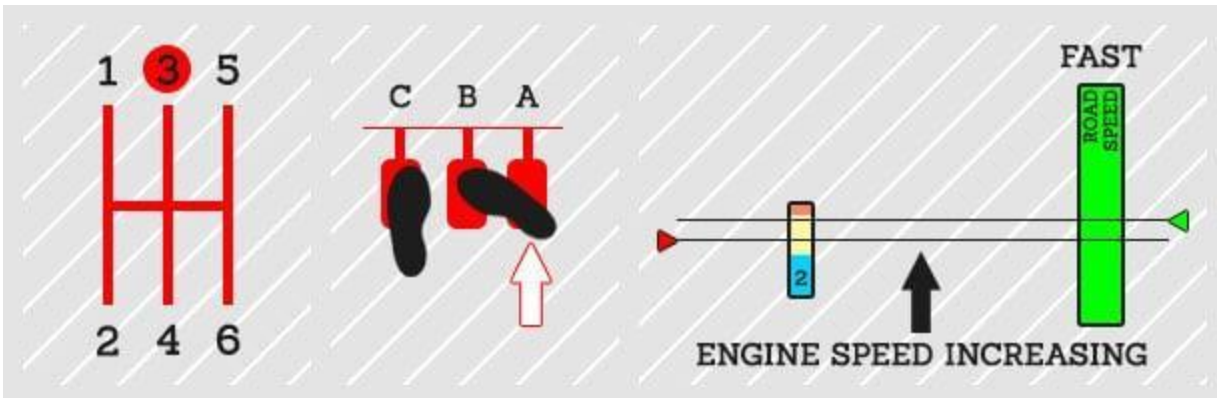


Diagram 5: Downshifting to 2nd gear

Your road speed and engine speed should now be the same. Proceed to downshift from 3rd to 2nd, this will allow a quick corner exit.

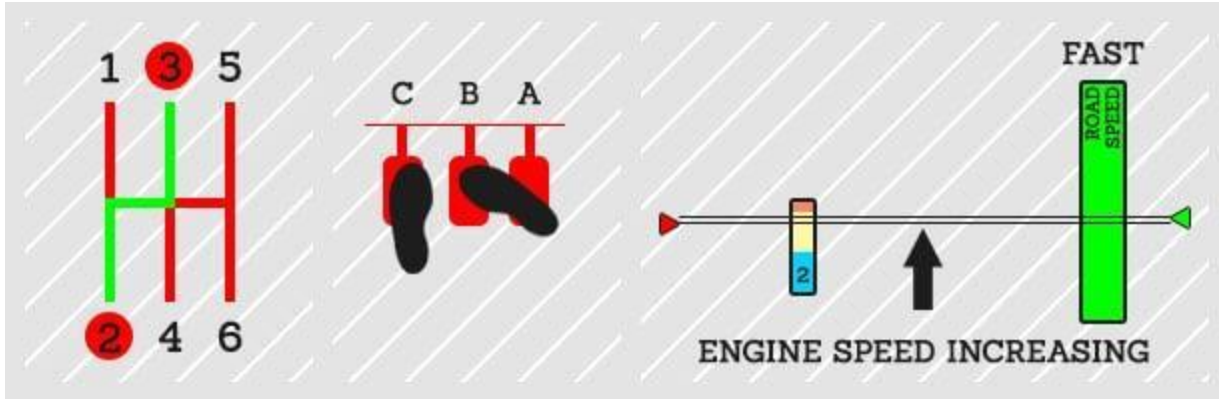
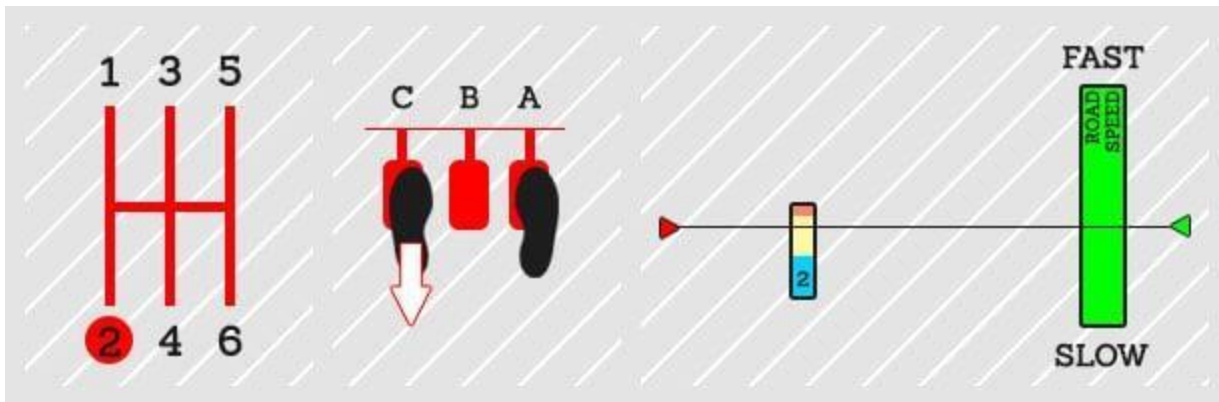


Diagram 6: The clutch is released, accelerate out of the corner

Release the brake, come off the clutch then take the corner and accelerate out, looking ahead to the next part of the track.



his, like any other high-performance driving technique, requires a lot of patience and practice to master. You could liken it to learning chords on a guitar for the first time. With repetitive practice, muscle memory will tend to take over and it will become second nature.

The best way to practice is in a stationary vehicle, becoming comfortable in getting your right foot to cover both brake and accelerator pedals at the same time. Once this is down you can put into practice the skill on a track day event or [driving experience](#) on a real circuit.

- A. Throttle Steering Discussion
- B. Drills On Track

General Flags

- 1) Green
- 2) Yellow
- 3) Black
- 4) Red
- 5) Checkered
- 6) Sanctioning Bodies Flag Changes –

- a. NASA
- b. SCCA
- c. PCA
- d. CVAR

Practical Application: 11 a.m. to 4 p.m. (Lunch break from 12:30 p.m. to 1:30 p.m.)

- Lapping Sessions in own cars
- Passing drills
- Side-by-side
- Passing drills again
- Grid to Track Race set up
- Pace Car Drill
- Re-start Drill
- Threshold Braking Drill
- Heel and Toe Exercises
- Lapping Sessions (combine what you've learned for the day)

Debrief & Review: 4 p.m. to 5 p.m.

Competition Driving School Lesson Plan: DAY THREE

Classroom: 8 a.m. to 10 a.m.

Review Days One and Two- highlight Common Beginner Mistakes

SCCA, NASA, PCA, CVAR procedures and policies

Flag Details- use example flags

GREEN FLAG (Solid Green) A race is under way the instant the green flag is displayed. This flag shall normally be in possession of the Starter only, and shall not ordinarily be displayed at the flag stations around the course. When displayed, the green flag indicates that the course is clear.

YELLOW FLAG (Solid Yellow)

STANDING YELLOW -- Take care, Danger, Slow Down, NO PASSING FROM THE FLAG until past emergency area. WAVED -- Great Danger, Slow Down, be prepared to stop -- NO PASSING FROM THE FLAG until past emergency area.

DOUBLE YELLOW, DISPLAYED AT ALL STATIONS - Indicates the entire course is under a yellow condition. SLOW DOWN, NO PASSING. This flag condition may be used with or without a Pace (Safety) Car, including pace lap(s). Cars may carefully pass emergency vehicles. Cars may also pass other cars that are disabled or otherwise cannot keep the pace as signified by a raised arm on the part of the driver of the off-pace car (see Section 6.3.2.).

NOTE: A driver may encounter several flags before reaching the emergency area. The requirements are still the same "SLOW DOWN, NO PASSING."

BLUE FLAG (Blue with Diagonal Yellow Stripe) another competitor is following you very closely or is trying to overtake you. This flag may be displayed standing or waving, depending upon the speed with which you are being overtaken.

SURFACE CONDITION FLAG (Yellow with Vertical Red Stripes) Take care. Oil has been spilled, or a slippery condition exists, or debris is present on the racing surface. This flag is displayed standing.

WHITE FLAG (Solid White) Caution -you are approaching a slow moving race car (e.g., with mechanical trouble), ambulance, or other emergency vehicle on the racing surface. Take care. This flag shall be shown standing for two (2) flag stations prior to the vehicle. A standing white flag shall also be displayed during the first lap of a practice or qualifying session to indicate the location of the flagging stations.

BLACK FLAG (Solid Black)

CLOSED BLACK FLAG (Furled) Pointed or shaken at an individual car from the Starter's stand (optionally, accompanied by a number board indicating the car number): WARNING! You have been observed driving in an unsafe and/or improper manner. If the action continues, you shall be given an OPEN BLACK FLAG.

BLACK, OPEN - Displayed from the Starter's stand, and accompanied by a number board indicating the car number: Proceed directly to the pits and the location designated by the Chief Steward or

event Supplementary Regulations for consultation with Officials. DO NOT TAKE ANOTHER LAP.
NOTE: This flag and accompanying number board may be additionally displayed at another station location elsewhere on the course.

Competition Driving School Lesson Plan: DAY THREE {cont}

BLACK, OPEN, DISPLAYED AT ALL STATIONS - The session has been halted. Practice/qualifying/racing has stopped and all cars shall proceed directly to the pits. This flag condition shall be accompanied by an 'ALL' sign displayed at the Starter's stand and the sign may be repeated at stations located elsewhere on the course. If the session/race is restarted, it is done under the provisions of Section 6.5, Restarts.

NOTE: THE BLACK FLAG CAN ONLY BE DISPLAYED BY ORDER OF THE CHIEF STEWARD AS RELAYED THROUGH RACE CONTROL.

MECHANICAL BLACK FLAG (Black with Orange Ball) There is something mechanically wrong with your car. Proceed to your pit or designated black flag area at reduced speed.

CHECKERED FLAG (Black and White Checks) You have finished the race (or practice/qualifying session). Continue cautiously to the pits.

RED FLAG (Solid Red) displayed at each station and on the Starter's stand - EXTREME DANGER - THE SESSION HAS BEEN STOPPED. Come to an immediate, controlled stop at the side of the race track (indicated by an official at that location or as specified in the event Supplementary Regulations). When released by an Official, proceed cautiously to the pits. NOTE: THE RED FLAG CAN ONLY BE DISPLAYED BY ORDER OF THE CHIEF STEWARD AS RELAYED THROUGH RACE CONTROL.

Lapping Sessions: 10 a.m. to 12 p.m.

- Open Practice
- Flagging Drills

Lunch: 12 p.m. to 1 p.m.

- Practice Starts: 1 p.m. to 2 p.m.
- Mock Races: 2 p.m. to 3 p.m.
- Debrief,
- Review
- **Sanctioning body Breakouts Certificate Presentation: 3 p.m. to 5 p.m.**