



# Driver's Education

*for C/D drivers*



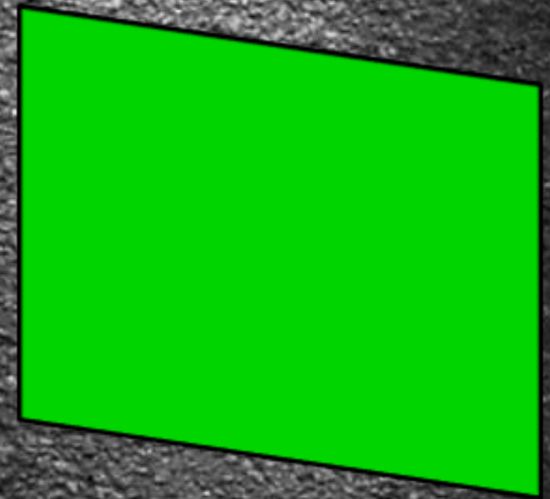
# Introduction

- Driver's ED is not racing. No times are kept or prizes awarded. The intention is to:
  - Develop performance oriented driver skills
  - Understand vehicle dynamics
  - Learn to appreciate your car's capabilities
    - *remember your car's limits are greater than your limits, almost without exception*
  - *Become a better street driver*
  - Experience driving on a race track, some of which are world class



# Flags

- Green Flag
- Start of the session
- End of caution or delay  
(restart of session)





# Flags

- Yellow Flag-Caution
  - May be local or full course

Track Hazard

Passing is prohibited

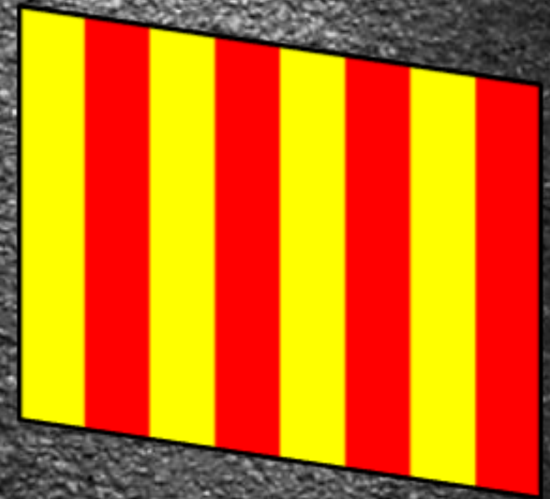
Slow down





# Flags

- Red & Yellow Stripe Flag
  - Grip hazard on track (eg:Debris,oil)
  - Could cause loss of control





# Flags

## Blue flag with yellow stripe

Faster car approaching

- allow faster driver to pass
- courtesy in racing
- *required during DE.*





# Flags

- **White Flag**

- Slow moving vehicle,  
on track

- Slow down and be alert

- *Does not mean last lap like NASCAR*





# Flags

- **Black Flag**

- Unfurled at every station:  
major track hazard
- Slow down & return to pits
- 

Furled and pointed at you:

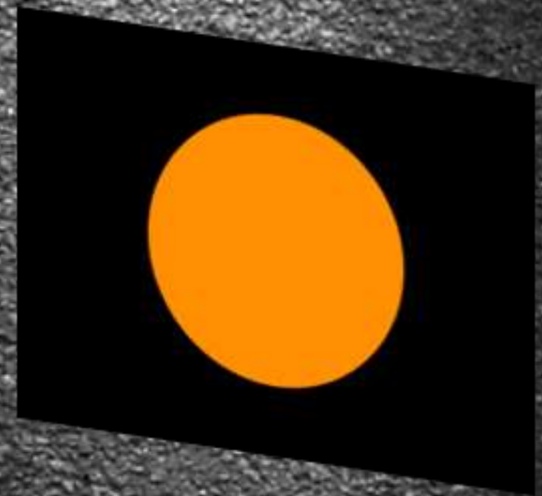
- Something is wrong with  
your driving or your car
- Slow down and return immediately to the  
pits
- May be used in place of the “Meatball”
- mandatory to heed – *this flag is for you*





# Flags

- Black “Meatball” Flag
  - Return to pits
  - Your car has a mechanical problem *and may be unsafe*





# Flags

## Red Flag

- Conditions too unsafe to proceed
- Slow down and stop at the side of the track-in sight of a corner station
- -Stop should be preferably off-line
- Await further instructions-usually a black flag





# Flags

- Checkered Flag
  - Session is over
  - Slow down
  - Take a cool down lap
  - Return to pits





Safety

BE

SAFE!



# Safety

Don't be featured on YouTube.





# Important

Everyone was once a novice.

Beginners: it's *expected* that you will be apprehensive.

- *Performance Anxiety* is normal.



# Important

- Stay within your comfort zone.
- Expand the envelope only when you feel capable, not because you feel pressured - be it internal or external.
- Even experienced drivers – who know their limits – can still cross into dangerous territory in milliseconds.



# Street vs. Track

- Street driving skills must be deconstructed and track driving skills reconstructed and perfected.





# Street vs. Track

- **Steering**

- Both hands on the wheel at the 9 & 3 or 10 & 2 position.

- The only time one hand should be on the wheel is when shifting or signaling a pass.





# Street vs. Track

- **Braking**

- Street braking involves gradual pedal pressure that increases as the car slows to approach a turn.
- Track braking involves hard pedal pressure early and easing gradually off the brakes as the car enters a turn.
- *At turn-in* decreasing brake action to help rotate or turn the car is referred to as *trail braking*.



# Street vs. Track

- Throttle

- Throttle application should be smooth on and off.
- With experience the use of throttle-on or throttle-off (lifting) may help turn the car.
- You must understand your vehicles dynamics and its final handling characteristics..



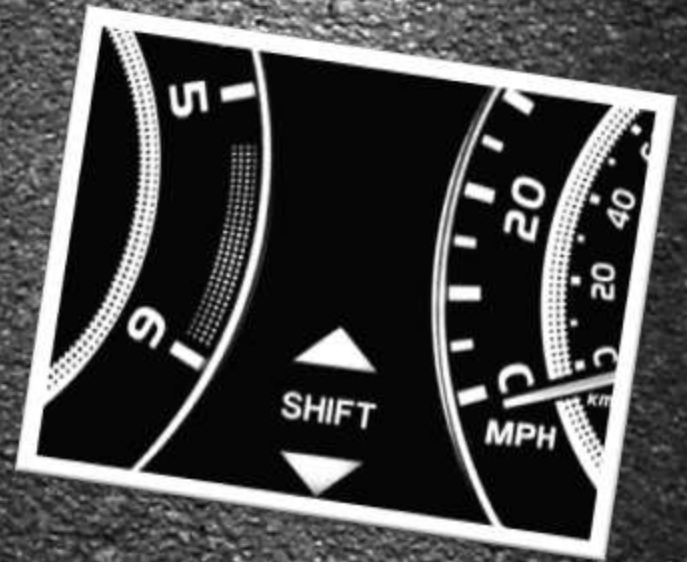
# Street vs. Track

- **Shifting**

- Initially, don't make shifting a priority.

- Focus on steering inputs, braking and throttle control as you learn the line.

- As speed builds shifting can be incorporated.





# Street vs. Track

- **Transitional Driving:**
  - *Defined as those circumstances where steering/braking or steering/throttle actions occur together with or without shifting or using the clutch.*
  - *Key to building speed.*





# Vehicle Preparation

2. Be sure you're dressed properly. Dress code will be announced at the driver's meeting.
3. Check your car before entering. A general inspection plus the tire pressures, lug nuts, and the car's fluids should be checked before every run.



# Vehicle Preparation

4. If you are not seated correctly car control may suffer.

- Be sure your seat adjustment is correct for feet and hand positioning.
- You should be able to comfortably reach all controls when belted.
- Be sure your mirrors are properly adjusted for the final seat position.



# Mental Preparation

*Driving is cognitive  
with integration  
of physical  
and sensory skills.*





# Mental Preparation

## 1. Vision

– Good hand–eye coordination is vital.

- Keep your eyes up -- look ahead.
- *Remember — the car will go where your eyes go.*
- Look at where you want to go, not necessarily where you are going and the car will follow the steering input you provide.



# Mental Preparation

– Always be aware of your surroundings and your location on track.

- *What corner?*
  - Know the corner stations and flags
  - What are the track conditions
  - Where are the *cones*?
  - Are they up?
- .Watch your mirrors for overtaking *cars*.



# Mental Preparation

## 2. Touch:

The car sends you feedback through the steering wheel, brakes, and seat.

You may begin to slide or spin before you know it's slippery.





# Mental Preparation

## 3. Hearing:

- *Listen* to what your instructor tells you.
- Listen to what your car tells you?

## 4. Smell:

Normal or abnormal?



# On the Track

## Warm-up

- No track records on the 1<sup>st</sup> lap.
- Observe the track and track conditions.  
*Wet? Dry?*
- Identify the manned corner stations.



# On the Track

## If a beginner...

1. Shifting is not a priority early on.
2. Concentrate on the track and the line.
3. Focus on smoothness in transition driving. With smoothness comes speed.
4. All braking and shifting should be done with your wheels in a straight line (before turn-in.)
5. Your in-car instructor will guide you and advise you as you progress.



# Performance Anxiety & Stress

- *This cannot be underestimated.*
- It may impact all other aspects of your driving and negatively impact your performance.





# Performance Anxiety & Stress

- Some manifestations:
  - You fail to *do* what you must!
  - You fail to *see* what you must!
  - You fail to *hear* what you're told!
- *You must learn to focus and anticipate!*



# Corners

- The most important part of a race track.
  - Straights are fun but serve only to connect corners.
- Use the whole track: it's *one way!*





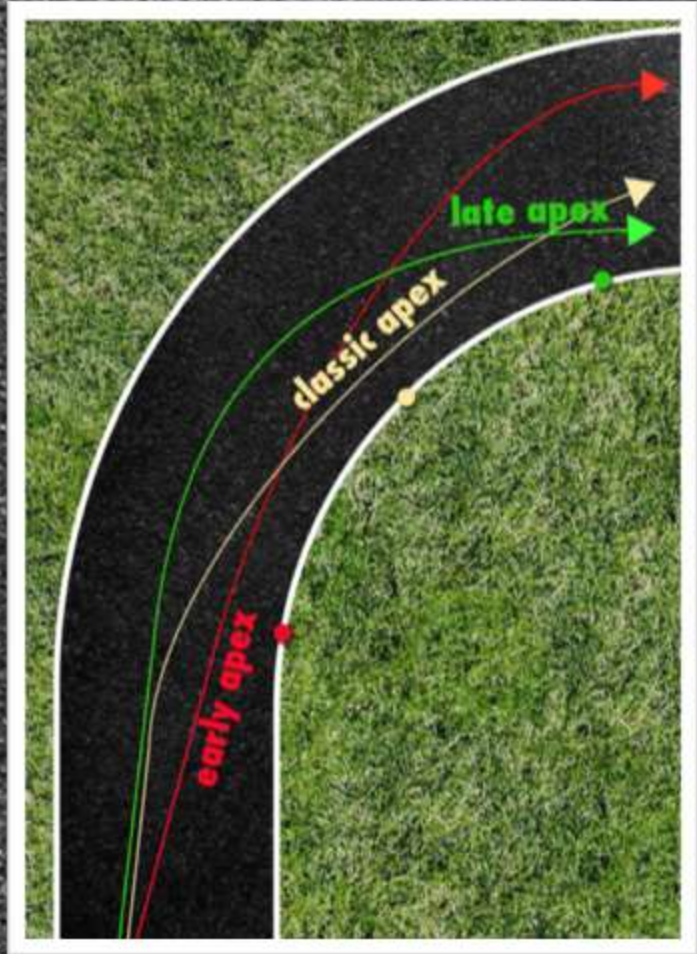
# Corners

- The *apex* of a corner: the point at which your car is closest to the inside of the corner.



# Corners

1. Geometric bisection of the corner is the true or classic apex. The point in a curve where the angle is most acute.
2. A late apex is after or beyond the classic apex; also called a delayed apex.
3. An early apex is before the classic apex.





# Corners

- An early apex permits more speed at entry but carries the risk of running out of track at exit.
  - It works for expanding radial turns where there is room to run to the outside.





# Corners

The CLASSIC APEX and EARLY APEX permit more speed at entry and thru the turn.

Often provide the fastest line but require good car control and awareness of the track.

May run out of track at exit.

- A LATE APEX requires sacrificing speed at entry to achieve a faster exit

,

Ideal for collapsing radial turns.



# Corners

- The *school line* favors safety and – generally a late apex but there are exceptions at every track.
- It's important to know that there is more than one line around a track, not just the school line.
- As you progress, your in-car instructor will work with you on variations in the line.



# Questions



# Credits

- Chief Instructor
  - Bruce Graham
- Classroom Instructors
  - Larry Pryor, Sr.
  - Larry Pryor, Jr.
  - Ralph Gaudio
  - Dan Bursick
- Media Production
  - Nick Smerker

