



DE Classroom Outline

Novice

June 1-3, 2018

NOVICE

SESSION #1

DE Objectives

- ▶ Learn
 - ▶ Keep open mind – listen, then apply
- ▶ Strive for progression
 - ▶ Safe speed before fast speed
 - ▶ Prove you deserve to move up
 - ▶ Stay relaxed & comfortable
- ▶ Have fun!

Copyright Ross Bentley, 2008



Page 2



Flags

- ▶ Single most important thing that you must learn - you must know the meaning of flags
- ▶ All flags are used to warn you of possible impending danger - they are used to keep you safe
- ▶ All flags must be observed instantly without question, and failure to do so will only result in your being severely reprimanded – YOU MUST OBEY THE FLAGS
- ▶ Acknowledge flags

Instruction

- ▶ Listen to instructors – they're here to keep you safe and help you learn
- ▶ Instructors have different experiences, so language may be different

Copyright Ross Bentley, 2008



Page 3



- ▶ What to expect:
 - ▶ Verbal instruction
 - ▶ Hand signals
 - ▶ Right-seat steering
 - ▶ Feedback, evaluation, commands and support
- ▶ Safety is #1
- ▶ Objectives for every session – set in classroom, and emphasized by in-car Instructors

Strategies... Objectives...

“A sure sign of insanity is doing the same thing over and over again and expecting something to change.” - *Einstein*

- ▶ Seat time for the sake of seat time is inefficient



- ▶ Use objectives & strategies for improvement – every session

Preparation

- ▶ Clean your car's interior
- ▶ Check tire pressures

Performance Driving Basics

- ▶ Seating:
 - ▶ Bent arms
 - ▶ Bent legs
 - ▶ Left foot on dead pedal



Performance Driving Basics

- ▶ Steering:
 - ▶ Driving is a 2-handed sport
 - ▶ Hold wheel at 9 & 3
 - ▶ Smooth

Performance Driving Basics

- ▶ Footwork:
 - ▶ Left foot on dead pedal
 - ▶ Keep heels on the floor

Performance Driving Basics



- ▶ Shifting:
 - ▶ Smooth is more important than fast
 - ▶ Place shifter in gear
 - ▶ Shift with finesse

Performance Driving Basics

- ▶ Vision:
 - ▶ Look farther ahead
 - ▶ Look where you want to go
 - ▶ “Big eyes”

Track



- ▶ Track entry & exit
- ▶ Track layout
- ▶ Cones
- ▶ Passing rules

The Line... A Preview

- ▶ Begin-Braking
- ▶ Turn-in
- ▶ Apex
- ▶ Exit



Copyright Ross Bentley, 2008



Q & A

On-Track Objectives – Session 1

1. Learn track – which way it goes, and references
2. Smooth use of controls
3. Get comfortable

SESSION #2

Reference Points

- ▶ Begin-Braking
- ▶ Turn-in
- ▶ Apex



Copyright Ross Bentley, 2008

Page 9



- ▶ Exit

Geometric Line

- ▶ The fastest way to drive through one turn
- ▶ **Not** the fastest way around track

Geometric vs. Late Apex

Advantages of Late Apex:

- ▶ Maintain straightaway speed longer
- ▶ Begin accelerating earlier
- ▶ See through turn
- ▶ More time driving straight, less time cornering



Copyright Ross Bentley, 2008



Corner Radius vs. Apex

- ▶ The tighter the radius, the later the apex
- ▶ The larger the radius, the earlier the apex

Off-Track Recovery

Q & A

On-Track Objectives – Session 2

1. Vision – look ahead
2. Establish braking points

Copyright Ross Bentley, 2008



Page 11



3. Focus on exit speed

SESSION #3

Vision

- ▶ Look ahead – High Aim Vision
- ▶ Look where you want to go, not where you don't want to go
- ▶ Look through the turns

Vehicle Dynamics

Three things you can make a car do:

1. Accelerate
2. Brake

Copyright Ross Bentley, 2008



Page 12



3. Change direction

Tire Traction

Traction limited by:

- ▶ Tire:
 - ▶ Rubber compound
 - ▶ Construction
 - ▶ Size
 - ▶ Alignment
- ▶ Loading:
 - ▶ Aerodynamic
 - ▶ Weight/weight distribution



- ▶ Track surface (coefficient of friction)

V = S = B = T = S

Vision = Smoothness = Balance = Traction = *Speed*

Weight Transfer

- ▶ Balanced
- ▶ Acceleration
- ▶ Braking
- ▶ Cornering

Balance = Traction



Copyright Ross Bentley, 2008



“Traction Unit Number”

Handling Characteristics

- ▶ Understeer
- ▶ Oversteer
- ▶ Neutral Steer

Handling Characteristics

Causes:

- ▶ Car setup
- ▶ Weight transfer/balance
- ▶ Abrupt steering control



You have control over 2 out of 3 while driving.

100% Tire Rule

Q & A

On-Track Objectives – Session 3

1. Weight manager - be aware of your car's balance
2. Focus on smoothness – steering input, squeeze and ease the pedals
3. Finish day with smooth, precise laps - collect mental image of track for tonight's mental replay

Copyright Ross Bentley, 2008



Page 16



SESSION #4

Errors

- ▶ We all make them
- ▶ Objectives:
 - ▶ Recognize them as early as possible
 - ▶ Minimize the affects of them
 - ▶ Learn from them
- ▶ Think of them as “Learning-takes”

Turn-In Errors

- ▶ Too early
- ▶ Too early



- ▶ Too late
- ▶ “Crabbing”

Identifying Errors...

- ▶ Does Fernando Alonso make more or less errors than you?
- ▶ He just identifies them earlier, corrects them earlier, minimizes the affects of them.
- ▶ How?
- ▶ More references...

Corner Priorities

- ▶ The fastest corner leading onto the longest straightaway.
- ▶ Next fastest...



- ▶ Fastest corner at the end of the longest straightaway.
- ▶ Next fastest...
- ▶ Fastest corner between corners.
- ▶ Next fastest...

Q & A

On-Track Objectives – Session 4

1. Fine-tune your line
2. Work on the most important corner
3. Work on consistency

Copyright Ross Bentley, 2008



Page 19



SESSION #5

Brains or Brawn?

- ▶ What's driving your car?
- ▶ What percentage of race driving is mental?
- ▶ Brain controls your body, so...

Performance Model

Sensory Input

Quality In = Quality Out

- ▶ Visual
- ▶ Kinesthetic
- ▶ Auditory



Page 20

Copyright Ross Bentley, 2008



Sensory Input

- ▶ Traction Sensing: The ability to sense how much traction you have to work with
- ▶ The better you are at soaking up sensory input, the more sensitive you will be to driving the limit

Q & A

On-Track Objectives – Session 5

1. Soak up Visual info
2. Soak up Kinesthetic info
3. Soak up Auditory info

Copyright Ross Bentley, 2008



Page 21



HAVE FUN!

Copyright Ross Bentley, 2008



Page 22

