



Lime Rock Park



NNJR “Trackside Classroom”

Consistency

August 24, 2020



Porsche Club of America



Disclaimer

The techniques shown here have been compiled from experienced sources believed to be reliable and to represent the best current opinions on driving on track. But they are advisory only. Driving at speed at Lime Rock, or any other track, requires skill, judgment and experience. These techniques assume the reader has high performance driving knowledge and applies them as applicable to their level of driving experience.

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NNJR AGENDA: Consistency



- What is it?
- Why does it matter?
- How to achieve?
- Lime Rock Turn by Turn



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- Turn in at the same point, lap after lap
 - Plus or minus 1-2 inches
- Turn in at the same speed, lap after lap
 - Plus or minus 1-2 mph
- “If your tires were paintbrushes and after 10 laps, the lines you painted were no wider than the first lap”
 - Dev Clough, Hooked on Driving Coaching Coord





Consistency: Why is it Important?



- To be fast and safe, you first need to be consistent!
- Safety
 - How far below my limit am I at each corner?
 - Am I “comfortable”?
 - Did something change on the car or the track?
- To improve does not mean “Go Faster”
 - Improvement requires a repeatable baseline
 - e.g. if I turn in sooner, did I improve?





Consistency: How to Improve?



1. Awareness: Focus and Priority
2. Reference Points (RPs)
3. Controls
4. Vision
5. Put it all together: Deliberate Practice





1. Awareness: Focus & Priority



- Pay real attention to Turn In and other reference points
 - Am I “hitting the marks” every lap?
- Use indexing to measure pace*
- For each run, pick 1 or 2 areas of focus
 - Specific corner
 - Specific technique: e.g. turn-in point and exact amount of steering...and speed of steering

* Index points: note RPM or MPH



- Focus Priority List (always)
 1. Exit speed (WOT, TAP, EOB)
 2. Entry speed
 3. Braking





2. Example Reference Points (RPs)



- Beginning of Braking Point (BOB)
 - Where I come off the gas to begin braking
 - i.e. where I tell myself to come off the gas
- Turn-In
 - Where I begin to turn the wheel
- Brake release (End of Braking: EOB)
 - Where I lift my foot off the brake pedal
- Amount of brake at Turn-In (1 to 10 scale)
- Amount of gas & steering at apex, track out



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3. Controls



- Brakes
 - How sensitive is my foot?
 - Consistently 9 to 9.5 for Big Bend? 2 or 3 for Uphill?
- Steering
 - How smoothly do I wind/unwind? How slow/fast?
- “String theory”: are my brakes & steering connected?
- Gas
 - Do I drive with an egg under my foot?
- Cornering
 - What does the car feel like (seat of the pants)?
 - Understeer? Oversteer? Nervous? Planted?



- Basics
 - Always look far ahead
 - Look “around corners”
 - Pick up RPs with peripheral vision
 - Look where you want the car to go
 - Scan: don’t fixate (includes mirrors)
- Refinements
 - Try to see something new on each lap
 - How does sun/shadow change what you see?
 - Carefully observe track surface
 - e.g. grainy vs. smooth, on-camber, off-camber, etc.
- More: “How to See Better” (NNJR YouTube)



5. Put It All Together: Deliberate Practice*



- (Re)Learn the Track
 - Reference Points
 - Track Surface
 - Safety features
- (Re)Learn the Car
 - Brake Application
 - Brake Release
 - Throttle
 - Steering
- (Re)Learn the Traffic
 - Mirrors
 - What Would I Do If?
- Sensory Input
 - Vision
 - Kinesthetics
 - Hearing

* **How you practice is more important than amount**

Do it in a focused way,
With clear goals,
Plan for reaching goals, and
A way to monitor your progress

Sources: Ross Bentley, Speed Secrets Weekly 322 and 370; Talent is Overrated by Geoff Colvin, and Peak. Secrets from the New Science of Expertise by Anders Ericsson and Robert Pool



NNJR Deliberate Practice Worksheets



Topics for Sensory Input Worksheets
Use these topics with your printed track map

Reference Points

- Not cones!
- Cracks, posts, seams, curbs, etc.
- BOB, TI, EOB, A, TO, in between

Track Surface

- Sealer, color change, etc.
- Elevation
- One new feature per lap

Safety

- How soon/far ahead can I see flag stations?
- Bail out area(s) for each corner
- Which curbs could I drive on? Not?
- Etc.

Brake Application

- Quick and hard enough? Too much?
- Does the car get upset?
- Totally consistent lap to lap?
- Get money in the bank early in the brake zone (Cass Whitehead)
- "On like a lion, off like a lamb" (Pobst)
- Etc.

Brake Release

- Modulating pressure thru brake zone properly?
- Beginning release at the right point?
- Right rate? Slow, medium, fast
- Totally consistent lap to lap?
- Come off the brakes politely (Peter Argetsinger)
- Etc.

Throttle

- Squeezing too soon? Too quickly? Not enough?
 - Pause between brake and gas?
- On floor until brake application?
- How are you using it (vs when)
- Use only the top half? (David Murry)
- Etc.

Steering

- Especially how you unwind on corner exit
- Is turn-in from track edge?
- Is turn-in crisp/flowing or gentle/progressive
 - Both correct, depends on corner
- Etc.

Mirrors

- Adjusted properly?
- How many cars behind?
 - End of back straight?
- Closing speed: is car in mirror closer or further away?
 - What color(s) is/are cars behind?
- Etc.

What Would I Do If

- I smell anti-freeze?
- Car in front swerves under braking?
- Brake pedal soft in middle of traffic entering bus stop? off camber?
- Two fast cars, you give one signal, can't see second one?
- Etc.

Vision

- Everything you can see on and off the track surface
 - Something new each lap
 - e.g. Horizon change during cornering
- How far ahead can you see?
- Etc.

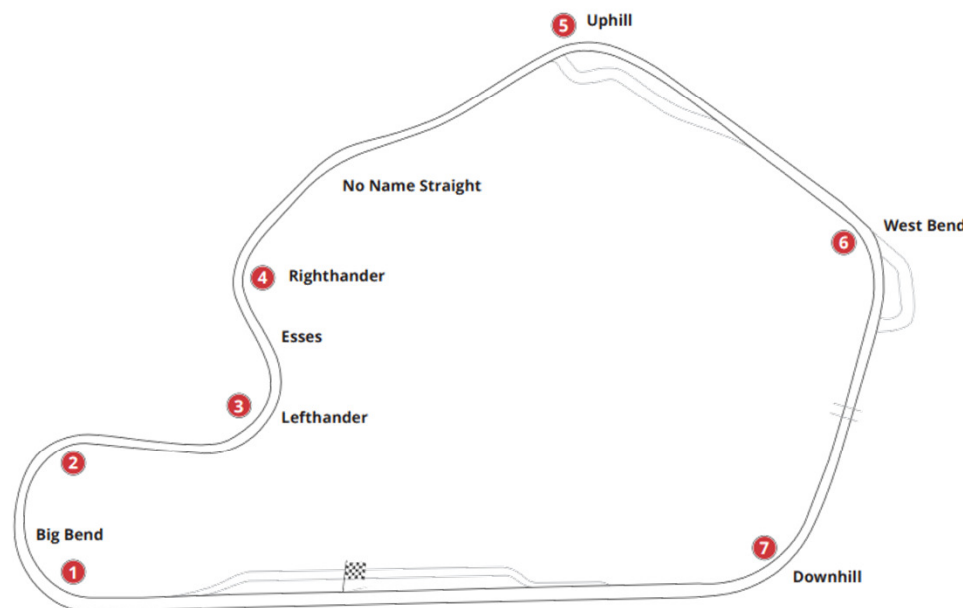
Kinesthetics

- Steering wheel feedback
- How g-loads build; weight transfer
- Feel the track surface
- Etc.

Hearing

- Wind noise, tires, brakes
- Cornering vs. straight
- Different parts of track
- Etc.

LIME ROCK



Remember: Capture learning right away: in the first 10 minutes

- Write down what you saw, heard, felt
- Before lap times, data, video, socializing



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1. Capture learning **right away**

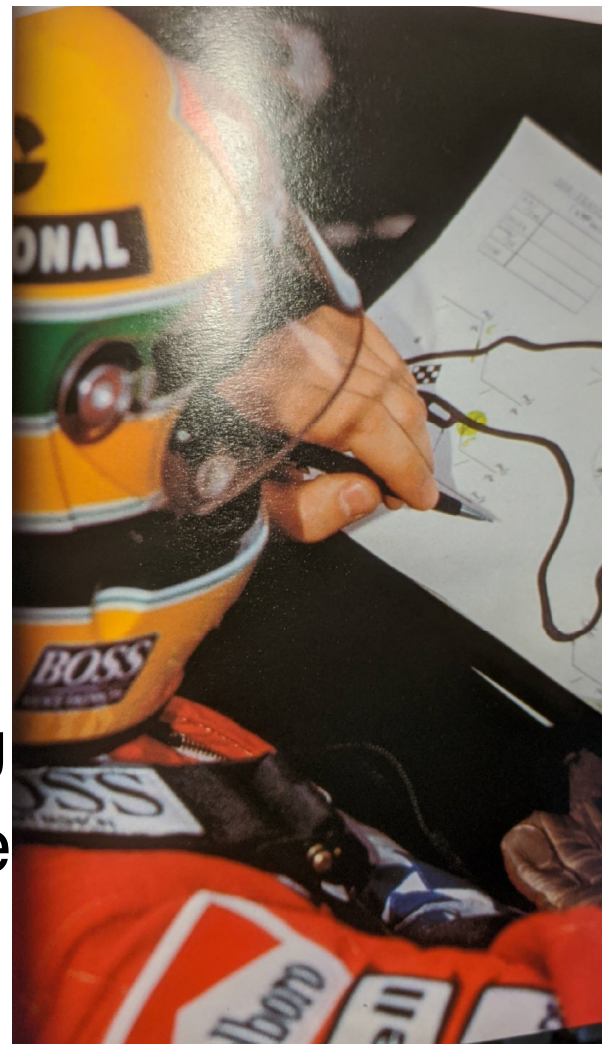
- *First 10 minutes*
- Write down what you saw, heard, felt
 - What did I do well that session?
 - Rate your performance 1-10; not the result
 - Note as many details as possible
 - “turn in at tire mark”, “loud noise in LH”
 - If I could do just 2 things better next session, what would the priorities be?
- Before lap times, data, video, socializing

2. Relax, grab food, prep car, socialize

3. Time permitting, data and/or video

4. Mentally prep for next session

Source: Ross Bentley, Speed Secrets Weekly 309



NNJR Consistency Summary



- Be focused
 - One corner or technique
 - Use indexing
- Be precise with Reference Points
- Be sensitive and smooth with controls
 - Refine “seat of the pants”
- Look ahead, scan, observe
- Use Deliberate Practice worksheets
- Keep it safe!
 - Emphasize learning, not speed



