

Corinthian Vintage Auto Racing

Student Manual

DRIVERS' SCHOOL MANUAL

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Introduction

The goal of the CVAR Drivers' School is to offer instruction that will result in the development of fundamental driving skills along with the proper attitude to ensure safe participation and enjoyment of the sport of vintage racing.

School participants will:

- Understand CVAR procedures
- Develop car control, judgment and reasonable level of driving skills
- Demonstrate awareness and courtesy on the track
- Understand the philosophy of vintage racing

CVAR Procedures

Information about CVAR process and procedures will be shared during the school and are described in this manual. The school is designed such that the majority of the training you receive will come from the driving instructors chosen to work with you. It is the beginning of a process that will continue throughout your "racing career." Our intention is for you to learn about CVAR and enter the sport safely and with the proper attitude. Your personal development as a driver will depend on your own expectations and motivation.

Car Control, Judgment and Reasonable Driving Skill

Wheel to wheel racing, at any level, is complex and requires you to make instant decisions while exercising car control. During this school you are expected to drive safely and demonstrate that you are control at all times. It is strongly suggested that you spend at least one day in your car at the track prior to the school to become comfortable in your car and be able to benefit from instruction.

We will encourage you to demonstrate a reasonable level of driving skill in competition. When errors occur you must learn from them. After completing this school, you will be observed for at least three complete race events and work a corner one day before you will be considered eligible for a full competition license.

Awareness and Courtesy

You are expected to consistently demonstrate awareness of other cars, corner station locations, flags, and course conditions. Acknowledge flags and be aware of faster cars attempting to overtake you. As vintage racing is a cooperative sport, your lap times, driving skills, enjoyment and friendships will all grow if you wave by a faster car and follow his or her line, noting braking and turn-in points.

Philosophy of Vintage Racing

Vintage racing is about the cars, fun and friendship. You are about to develop many good friends and create wonderful memories, from racing wheel-to-wheel to sharing parts and stories.

No one will remember who won the race, but everyone will remember who ruined their car or who through carelessness, damaged a competitor's. It must be stressed that your racing license may be sanctioned, withheld, or revoked if you make contact with other cars, act in a reckless or disrespectful manner, place others in danger on the track or in the paddock or damage your own car.

Remember that one careless moment, when emotions run unchecked, may result in ruined friendships and harm to yourself or others.

Car and Equipment Preparation

We run cars upwards of thirty years old and without proper preventative maintenance you may experience mechanical and electrical problems that can end your weekend prematurely. Race car preparation includes frequent inspection (wheels, bearings, brakes, frames, throttle cables, crack testing etc.) This is an important part of racing SAFELY.

Have Fun!

We hope you have a great weekend and welcome you to vintage racing!

Overview Of Drivers' School

Flags (see attached)

Friday Early Morning

Novice log books will be available

“Classroom” Topics – CVAR Goals, Procedures and Processes

The Vintage Spirit

Car preparation and eligibility

Registration and tech

Timing and scoring

FLAGS (Be familiar with their meaning prior to the school)

Entering and exiting paddock procedures

Licensing process

Who's who in CVAR

Assignment of Instructors

Friday Morning and Afternoon

Sessions will begin early in the day and continue during the day. There will be another classroom session at the end of the day. With your instructor, walk the track again during the lunch break to get a better feel for visual landmarks, braking points, corner entry, apex, and exit points.

Observe tire marks and discuss braking zones for passing other cars. .

The following is a brief list of the concepts and exercises you will be working on during your first on-track day. Your instructor will provide many details, answer questions and provide further clarification of concepts at various times during the day spend as much time as you can with your instructor, observing other sessions and walk to specific corners that you may find challenging.

Session I: *Follow the Leader – Learn “The Racing Line”*

You will learn the course layout and the racing line by following your instructor at a slow pace.

No passing, single file, low speed

Concentrate on position, comfort with controls and relaxing

Note location of corner stations

Place your car on the “racing line” and use all of the track – use the cones placed on corner entry, apex, and exit points as guides

Practice visual sequence (look for flags, check you mirrors, look for the apex,) before each turn-in

Visually rehearse the sequence of the track while waiting for your next session.

Session II: *Higher Speeds and Learn “The Visual Sequence”*

You will increase the speed to a more brisk pace and practice the **visual sequence** when approaching a corner, (**look for flags, check you mirrors, look for the apex.**)

No passing, single file but with increased speed

Increase familiarity with the track and **work on developing a rhythm to your driving**

Scan for flags and check mirrors

Practice “high eyes” after locating apex

Wave at corner workers after the checkered flag, during the cool down lap

Session III: *Passing and Being Passed – Awareness is key!*

You will learn how to pass, how to be passed, and how the line changes when passing occurs.

Pass and be passed – Upon Green Flag **any where on track with a point by**

Use acknowledgment signals

Watch your mirrors and practice the visual sequence

Cooperate with the passing car

Adjust your line and corner entry speed when passing

Session IV: Typical Practice Session – How to best use “practice”

Continue to work on the areas you’ve identified for improvement.

Continue to always “point by” when being challenged.

Practice the basics and continue to improve driving skills

Be relaxed and aware

Practice visual sequence

Pick something specific to “practice” and really focus on that one thing.

Saturday

Session V: Picking up where we left off

Just like tires and track surfaces, the driver is a little cold, so take some time to warm up.

Pass and be passed – **Anywhere on the track.**

Point-by and acknowledge

Practice the visual sequence when approaching corners

Use your mirrors

Concentrate on smoothness, hitting the turn-in, apex, and using the entire track

Be predictable and remain on-line when faster cars approach

Relax and have fun

Session VI: Side-By-Side Practice Starts

This session will require students to grid according to their assigned position, form up side-by-side, and practice flying starts. The session will include three green flag starts that will quickly end using the yellow flag at the corner stations. Cars will be expected to slow and “re-form side-by-side” according to their current position once the yellow flag is out in preparation for the next start. After the third “start” you will practice your skills until the end of the session.

This is not a race

The pole position car sets the pace for the warm-up lap.

Passing is unrestricted (under green ONLY)

Acknowledge flags

Continue working on your skill goals

Sunday:

Session I

Warm-up-Just like the tires and track surface, you, the driver, is a little coldso take some time to warm up

- pass and be passed
- Point-by and acknowledge
- practice visual sequence when approaching corners
- use your mirrors
- Concentrate on being smooth
- Be predictable and remain on line when faster cars approach
- **Relax and have fun**

Session II

15 Minute Race

Session III

20 Minute Race

After Session III make sure your instructor signs your student log book

What Is Vintage Racing?

Vintage racing is about something other than winning. Although the competitive spirit is there and we would all like to improve our times and maybe even win, there is much more to consider.

Our cars are too valuable to get into the “pushing and bumping” game, parts are hard to find, and our drivers tend to have considerable differences in their skill and experience. Cars with a wide range of horsepower and handling capabilities are on the track at the same time. We’re not doing this to get sponsorship, awards and fame. Dicing with those in front of us and behind us, setting a personal best and simply finishing are worthy goals. Competing in an event is a joy unto itself. We develop many good friends in vintage racing and together, create wonderful memories.

Welcome and enjoy!

What Is Over-Aggressive Driving?

The following is a definition of over-aggressive driving from the Vintage Motorsport Council:

Failing to slow down when passing a waiving yellow.

Weaving at the end of the straight, even once, to block a faster car

Driving 10/10ths all the time.

Continually putting wheels off the pavement.

Sliding into another car due to driving beyond you or your car’s capabilities.

Ignoring the black flag.

Diving deep into the inside of a corner not being able to get a nose in front thus forcing a competitor wide to avoid you.

Over-aggressive driving is NOT:

Ignoring the passing flag – it is for information only

Executing a racing pass to the inside of a corner by CLEARLY out-braking another car and having a SUBSTANTIAL part of your car ahead at turn-in

What Can I Expect For My First Event?

- 1.. You must sign the release forms as failure to do so places the club in great jeopardy. You will receive an event schedule, Friday morning
2. Find a pit space in the paddock area. This is actually much more fun on Friday than on Saturday morning, but in either case be aware that pit space is at a premium. Generally, you can count on a 34' x 11' space. Be sure to have practiced backing up your trailer prior to arriving. Do not drive awning or tent stakes into the paved surface.

Use only the space you need

Be a good neighbor to adjoining spaces

You are responsible for your kids, pets and visitors

Adult friends and pit crew must abide by our rules

NO alcohol, etc.

3. Unload the race car and drivers' gear (helmet, suite, etc.) and determine where Tech Inspection is being held. Take your safety gear and car to tech. Formula cars need to have the front body and engine cover removed. "Debates" with the Tech inspector are not recommended. **Try to get your car through tech on Thursday evening.**
4. Find your instructor. Pit nearby if possible. Arrange a general plan of where to meet before and after each session and discuss the instructor's agenda for the weekend. Walk the track if possible, but be certain to take a van ride, offered to those new to the track, prior to the drivers' meeting.
5. Attendance at the Drivers' Meeting Friday and Saturday morning is mandatory. The agenda for the day will be discussed, possible changes announced and other pertinent information such as track conditions will be made available. If you are scheduled to run in the first race group, you should be wearing your driving gear and your car should be driven to the grid prior to the meeting.
6. Be aware of which group is currently on the track so that you can budget your time accordingly. Each session is generally 15-20 minutes in duration. Shortly after the run group prior to your group leaves the grid, bring your car to the grid along with your driving gear. It is better to be too early than too late. Drink lots of water.

7. Pit and grid workers will blow a whistle and hold up five fingers to begin the grid count while the prior group is still on the track. There is roughly five minutes before your group will leave the grid, so get in your car, get the belts on, arm restraints, etc. Most drivers get the belts and straps in place and tight before putting on the helmet and then gloves.

As the countdown proceeds, pit and grid workers will blow the whistle and hold up three, fingers. Start your engine at about two minutes, giving it time to warm up, but not overheat. When it is time to roll out, pit and grid workers will blow the whistle and show a raised fist. If you are lining up for a start, the pit and grid workers will direct you as to which side of the track you are to line-up on. Acknowledge by gesturing which side, it will help you remember.

Mentally prepare for the session, focus on what you want to accomplish.

Occupy the grid position you are assigned.

Observe the pit and grid workers and follow their instruction.

Acknowledge the five minute countdown with hand signals

Your crew must be alert to other cars, and vacate the grid at the one minute count.

If you have a problem and cannot leave the grid with your group, raise your hand as soon as possible to signal both the driver behind you and to get the attention of the workers.

8. When lining up for a race, as you get approximately half-way through the warm-up lap, the corner workers will slow the lead cars to assemble the group into the “start” configuration. At this point, weaving and hard braking tactics need to be curtailed. When the green flag falls, the session has begun.

9. During the start, hold your line, be predictable, and use your mirrors. No race is won or lost in the first turn. If another car spins or slows unexpectedly in front of you, do not lock-up your brakes as you then lose all steering and stopping power. Try to signal the cars behind you by raising an arm into the air. If it is your car that slows, stay on line and raise your hand in the air to be seen.

Check corner stations for flags, every station, every lap.

If yellow flags are shown, no passing!

Check condition of the track, debris, potholes, oil, etc. during your warm-up lap.

When you pass the start/finish check for a green flag to begin your session. Some practice sessions are under the green flag from the moment you first enter the track.

If you have a car problem, raise your hand, make sure you are clear of traffic, reduce speed and gradually (as in predictable to other traffic,) get off the racing line. You must not stop on the racing surface, if at all possible. Get off the track safely and close to a corner station. Wait for their direction.

In the event you leave the racing surface, re-entry will only occur under direction of the corner worker or grid worker.

10. At the end of all sessions, practice or race, you will see the checkered flag. Do not slow suddenly. Take your cool-down lap and wave at the workers, (at Tech and the spectators,) enter the pits and be very careful of pedestrians in the pit area. Try not to stop in the middle of the access lane in the paddock as this may cause a traffic jam. After you've had some water, go find your instructor.

Watch your speed in the hot pits and in the paddock!

As soon as possible, check over your car for leaks, tire wear and anything that may need to be checked before your next session.

11. During lunch and at all social times scheduled for the end of the day, be sure that corner workers are served first. Without them, we wouldn't be here.

Random Advice

The driver is always the best place to begin to improve lap times. There is no substitute for seat time. Don't try to go fast before working on smoothness, line and consistency. Get all the experience you can.

Make the car reliable and consistent first, improve your driving, and then think about improving the car.

Don't expect too much, too fast. Try to work corners at least once, especially if you find a specific corner to be challenging.

Check over your car after each session. Look for oil, water and fuel leaks. Check for tire

wear and wheel torque.

Pick a few things to work on at every race, create a list at the beginning of the season.

Use a notebook. Organize it in specific areas and add information at every opportunity.

Find mentors. A mentor should have experience in your racing class. Ask questions and get feed back. Make friends and help to create a friendly atmosphere. If someone else struggling, lend a hand.

Prepare the car before the event, not at the track.

Take care of yourself. Be rested, exercise, use sunscreen, drink lots of water, and eat healthy foods.

Remember — it's about the cars, camaraderie and fun!

Driving School Concepts

Be sure to review the following terms and topics with your instructor during the weekend. *They need to be discussed, practiced and observed.*

Line

Track layout

“Racing” line and “ideal” line

Use of entire track (turn-in, apex, track-out)

Locating flag stations/Black flag station

Hand position on wheel

Consistency

Predictability

Cornering

Visual sequence

Low/High Eyes

Exit speed

Turn in point/Track out point

Constant, decreasing, increasing radius of corner

Under-steer and over-steer

Late apex

Early apex

Car rotation

Conditions that affect apex

Track camber, elevation, pavement changes, traffic, grip

Smoothness (**heel/toe**)

Trailing Throttle Over-steer

Braking

Conditions that affect braking

Temperatures, track camber and surface, **contact patch**

Coasting

Reference points/Braking points

Center of gravity

Threshold braking/Trail braking

Trajectory

Weight transfer - smoothness

Awareness, Safety, Judgment and Courtesy

Visual Sequence

Corner Station Location/Flags

Hand signals (grid, on-track, off-track, acknowledgement of flags)

Passing (point-by and acknowledgement waves)

Starts

Passing

Visual sequence

“Who owns the corner?”

Philosophy of Vintage Racing

Attitude

10/10ths vs. 7/10ths

Car control

Friendship and fun

Recommended Reading

The Ace Factor – A Guide to what you need to know about Vintage Racing

Compiled by E. Paul Dickenson – Published by VMC

While mostly devoted to the beginning race car driver, it is an excellent resource to re-visit as you continue to develop your racing skills.

Going Faster! Mastering the Art of Race Driving

Carl Lopez

Bentley

ISBN 0-8376-0227-0

This is an exceptional book, even for beginning drivers. It is well illustrated with examples and clear explanations. Carl is a career instructor for the *Skip Barber Racing School*. This book is the most clearly written and well thought-out in presentation. Carl and the *Skip Barber Racing School* (800-221-1131) have been teaching race car driving at a high level for many years and they have distilled their collective experience into this book.

Bob Bondurant on High Performance Driving

Bob Bondurant and John Blakemore

OSPREY

ISBN 0-87938-158-2

Jackie Stewart's Principals of Performance Driving

Edited by Alan Henry

OSPREY

ISBN 0-905138-34-0

This is about driving, mostly by describing Jackie Stewart's approach.

Think to Win, the New Approach to Fast Driving

Don Alexander

Robert Bentley

ISBN 0-8376-0070-7

Any of **Carroll Smith** books support race car fabrication and preparation.