### Racecraft 101

By Steve Beeler

(With an introduction and summary by the VSCDA Drivers' Committee.)

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Introduction:

The primary objective of Vintage and Historic Automotive racing is to promote the preservation of these cars in a racing format for friendly wheel –to-wheel competition with vehicles prepared faithfully to their era. All racing is dangerous and only the proper attitude of the driver and careful preparation of care will diminish the danger and enhance our appreciation of this sport. – VSCDA Board of Directors, Feb., 2019.

In an effort to continue vintage racing as a safe, affordable and enjoyable endeavor, self-policing of VSCDA drivers is critical. The VSCDA Drivers' Committee has been selectively, and successfully, working with race groups, paddock teams and individual drivers to develop <u>mentors</u> to approach drivers who are overly aggressive, lack basic skill or, who, in certain cases are intimidated by wheel-to-wheel racing.

<u>Mentorship</u> requires trust and a level of knowledge and experience that can only develop over time.

<u>Mentors</u>, from the same race group, similar car classification, or paddock, kindly, gently and firmly foster "racecraft" to better enable that driver to remain in the fold and to increase his or her racing experience. <u>Mentoring</u> a driver, who is not racing in a "vintage racing spirit", by other drivers within our club is the most effective, surest and least offensive way of correcting overly aggressive driving.

**Mentoring** is to improve all of us.

--VSCDA Drivers' Committee

## The Need for Racecraft Steven Beeler

Racecraft is the knowledge, experience, and judgment used by a race driver to safely and successfully manage the many risks and challenges encountered in motor racing. These risks are increased when cars with large speed differentials are combined in a race group.

Poor racecraft leads to the very bad outcomes that we want to avoid in vintage racing: outright collisions, rollovers, collecting guardrails, wadded up cars, ambulance rides, hospitals, etc.

New vintage racers typically learn how to drive fast before they acquire racecraft. The purpose of this article is to close that gap. The emphasis will be on passing but I will also share some thoughts on qualifying and starts.

A *mea culpa.* I have bumped into other cars and will certainly bump into someone again. Through good racecraft, the inevitable will be infrequent, light, and hopefully inconsequential.

### Passing

It is the responsibility of the overtaking driver to make a safe, clean pass. This is an accepted maxim in all forms of motorsport and especially applies to vintage racing.

Obvious (but often forgotten in the heat of battle) is that the easiest and safest way to pass another car is to simply drive past on a long straight. Get a good launch off a turn and use that momentum to drive by.

It is equally obvious that a pass on a straight is not always an option. That means, of course, a pass must be made in a turn. Good racecraft manages the risk.

Two conditions on corner entry must be met for a safe pass:

- 1. You must be alongside (driver's shoulder to shoulder) or ahead of the other car before turn-in, and
- 2. You must be on a line and at a speed that does not require the entire width of the track at corner exit (track out)

Note that these conditions are at turn-in, not at the brake marker. Out braking another car into a corner is how most passes get done in road racing. The point here is that, at turn-in, you must be in the other driver's peripheral vision (ahead or shoulder to shoulder) with your car under control.

If both conditions are not met, you are in too late and/or too hot for a safe pass...it's a dive bomb. Let's unpack why:

- A good race driver is going to turn in when it is time to turn in. If you are not alongside, you must assume that the car ahead is coming over on the racing line to the apex.
- A good race driver is going to resist a pass attempt. If you are alongside, you must assume that he or she will drive a higher line around the turn to try to stay ahead without blocking.

Clearly, if these two conditions are not met, there is a chance of contact. If you force a pass, you are betting that the other driver will get out of your way. This is a bad bet...and poor racecraft.

Less obvious is that there are turns where it is very difficult to meet these two conditions. Therefore, good racecraft requires not only the knowledge of <u>how</u> to pass but the experience and judgment on where to pass.

High speed turns, one-line turns, and any turn where mistakes are punished are risky places to attempt a pass.

## Being Passed

Let's revisit the two safe passing conditions, this time from the perspective of the lead car.

Situational awareness is imperative. Know where other cars are around you before the braking zone. Get in the habit of checking your mirrors often. Be alert for blue passing flags.

If the passing car is close but not quite alongside at turn in, turn in on a line that is slightly wide of the apex. That small adjustment will give the other driver an extra split second to get his or her nose out of somewhere it doesn't belong. But not too wide...this racecraft courtesy is not an open door for the passing car.

If the passing car is essentially alongside at turn in, turn in on a wide line that leaves room for the passing car. Don't squeeze down...the other driver has earned the apex.

If ahead or even with the passing car at the apex, you may well have defended the pass! Continue your wide line on corner exit. After a tight corner entry, the other car is going to need a lot of road to make the turn. Your wide line will maximize corner exit speed and keep you ahead.

If the passing car is ahead at the apex, the pass attempt is probably successful. Let the passing car clear yours. No need to risk contact on corner exit for nothing. Get a good launch off the corner and start thinking about setting up a re-pass. Do this just right and you have "over undered" the passing car...nice!

You may find yourself in a race group with much faster cars. Large speed differentials can be uncomfortable. Mirrors and blue passing flags are your friends. Stay on the racing line...be predictable. And give a point by to an overtaking car.

### Traffic

If you hit a slower car, it is your fault.

Contact with a lapped car is not the same as contact with a car you are racing against. It is not a racing incident. It is bad racecraft.

Why? You could have waited to make a no risk pass on a straight. You could have waited to properly set up a pass into a corner. Because you are faster, low risk passing opportunities are everywhere around the lap.

# If in doubt, DON'T. Typically, if you wait ten seconds and then you will find an opportunity to pass.

"He moved over" and "I thought he saw me" are the two lamest excuses in racing. They are admissions that you needed the other car to get out of your way. You just plead guilty to poor racecraft.

A few tips for getting through traffic:

- leave more margin for error around slower cars
- don't surprise slower cars...show your nose before the braking zone
- be prepared for the unexpected
- acknowledge a point by...reinforce good racecraft!

If you hit a slower car, it is always your fault *(repeated for emphasis*).

## Qualifying

In a race, the objective is to cross the finish line first. That almost always requires passing other cars. In qualifying, the objective is to set the fastest lap. No passing is required!

From a racecraft perspective, the risk reward of "racing" during a qualification session is upside down: you are going slower while taking on the risk of passing. Contact with another car in qualifying is really bad racecraft. For what purpose exactly were you that close to somebody?

If you find yourself in the middle of a "race" during qualifications, politely decline. Slow down a little bit to create some clear track and then get back to the work at hand...driving a fast lap.

A caveat. On tracks with long straights (think Road America, again), you will want to be around other cars in qualifying. Getting pulled along by the tow is good racecraft. Drafting by on a straight is good racecraft. Racing side-by-side through turns is not good racecraft.

Qualifying requires different thinking.

#### Starts

Contact during the first few corners after a start is not uncommon. Starts are very hectic. Cars are moving around everywhere, ahead and behind. The field of vision in your mirrors is limited. Situational awareness is incomplete.

Until the field strings out, assume that there is a car in your blind spot. If you are on one half of the track, stay there until you are sure you are clear to move over. It may take two, three, or even more corners for the field to string out.

Also assume that not everybody knows where you are. That little gap opening up between those two cars just ahead? It will be closed before you get there. The drivers never saw you until the bump.

## Final Thoughts

In vintage racing, we must look out after each other. It is a good weekend when everyone rolls their car back onto their trailer on Sunday afternoon.

On those early practice laps, put some thought into where it is safe to pass and where it might not be such a good idea. Don't put another driver into a bad spot that you would not want to be in.

Spread the vintage spirit through good racecraft.

### **SUMMARY:**

When you are on track and observe a driver who is not racing in the vintage spirit, or who exhibits a lack of racing skill, feel free to contact any member of the Drivers' Committee, your

VSCDA race group leader or any member of the VSCDA Board of Directors. A mentor may then be selected and that driver guided into becoming a more safe, trustworthy and respected member of your racing group.

--VSCDA Drivers' Committee

## **Author Bio**

Steve Beeler races a Lola T-540 Club Ford. Steve, his wife Karen, and their Black Lab Bo live in Holland, Michigan. Steve has been hooked on racing since his dad and granddad took him to the Indianapolis Motor Speedway in 1960. Steve first drove a race car in 1978 and has been racing his Lola since 1998. When not racing, Steve is a Professional Engineer and also plays golf.