



# News



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*The most widely read and studied page in the Club Racing News.*

Come Visit Our Web Site: <http://www.pca.org/pca/clubrace/>

**On the Cover:**

*Lawson Wilder, 00, (GTC3) is in front of Bill Walczak, 75, (GT3R) through the boot at  
Watkins Glen.*

**Deadline**

The deadline for the next issue is:

**June 15th**

# PCA Club Racing: Still Rolling Forward

by: John Crosby, Chairman PCA Club Racing

The second quarter of the year is historically one of the busiest times for Club Racing and 2006 was no exception. April started out with Road Atlanta, which went to a three day format for the first time, with 1.5 hour enduros on Sunday. I had the pleasure of participating in Atlanta along with over 225 fellow racers. Later in the month, and on the same weekend I might add, came Connecticut Valley's annual event at Lime Rock Park as well as the Heartland Park race in Topeka hosted by Kansas City Region. Mid Ohio was next during the middle of May and despite a weather challenged weekend, it went off with a low number of incidents. Over the Memorial Day weekend I had the opportunity to enjoy some Maverick Region hospitality at the newly configured 3.1 mile Motorsports Ranch track in Fort Worth.

The month of June really put our Club Racing National Staff to the test, even with the cancellation of the Las Vegas race due to some unforeseen track modifications. Great Plains Region hosted their Mid America Motorplex event, with a weekend of perfect weather. The second weekend of June set a new record

for the Club Racing Program, with three PCA races on the same weekend. Even though we have only two sets of timing equipment, this was possible since at the Rose Cup Race, the timing is handled by SCCA. All totaled, nearly 400 PCA racers were out that weekend, plus hundreds of other PCA member volunteers. Out west, Oregon Region hosted the PCA part of the Portland Rose Cup. Jay Culbertson was gracious enough to invite me to drive his GT3 Cup in the PCA part of the weekend while Jay and his son, Scott, drove their matching Nissan 350 Z's in the SCCA National race. In the central part of the country Milwaukee Region invited PCA racers to a new venue, Autobahn Country Club in Joliet, Illinois. On the east coast, the Zone 1 race at Watkins Glen International saw over 230 entrants. Finally later in the month, the Alabama Region brought the Barber Motorsports Park back to the calendar for 2006 and this year's event went off without a hitch.

The Club Racing Program continues to grow as there now are a total of 2,716 PCA members that hold Club Racing licenses. 1,148 are current as of June 30, 2006. This number includes 115 new licensees for 2006.

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The Club Racing submittal period for proposed rule changes in 2007 was open from May 1 to July 1 of this year. The Technical and Rules Committee is in the process of reviewing the suggestions and formulating the list of proposed revisions which will be published on the website and the Club Racing News for racer input on September 1. The final changes to be adopted for 2007 will be published in November.

See you at the track,

John



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# Can You DisplayIT?

by: Michael Wingfield, PCA Club Racing Time & Scoring



provided on your display, refer to the AMB DisplayIT display overview shown below. This illustration appears in the AMB DisplayIT manual.

**Last Lap Time** – You will see your official AMB lap time displayed for all of your on-track sessions. The time will display in minutes, seconds, and 1/100<sup>th</sup> seconds. Whether practice, qualifying, or race, you will get your lap time displayed for every lap, in real time, as you cross the timing loop.

**Gap with your best time** – The difference between your best lap and your current lap will appear in seconds and 1/100<sup>th</sup> seconds format.

Last year AMB, the provider of PCA Club Racing Timing & Scoring hardware and software, introduced the DisplayIT. AMB advertises the DisplayIT on the AMB web site (<http://us.amb-it.com/>) as, “The Ultimate LapTimer.” AMB, in a joint venture with Blind Apex (<http://www.blindapex.com/>), developed this in-car display unit (shown below) to provide lap times and other race information to the racer via an LCD panel inside the racecar.

What makes this unit unique among lap timers is its ability to pull lap times directly from the race timing and scoring equipment. The user does not need to set up any beacons, beams, or other battery powered transmitting devices in order to record lap information. The DisplayIT is a receiver that works in conjunction with your own AMB transponder to provide information directly to you. Not only does the timer display your current lap time, it provides other information as well.

PCA Club Racing used two of these units in 2005 for testing and demonstration purposes, with one unit available at each race. However, in 2005 we did not have the required software to fully utilize all the DisplayIT features. For 2006, we do have the appropriate software, but some additional hardware requirements were added to provide full functionality to the DisplayIT. Unfortunately, PCA Club Racing does not currently have this additional hardware. Do not despair, most of the DisplayIT features will work at PCA Club Races as illustrated below.

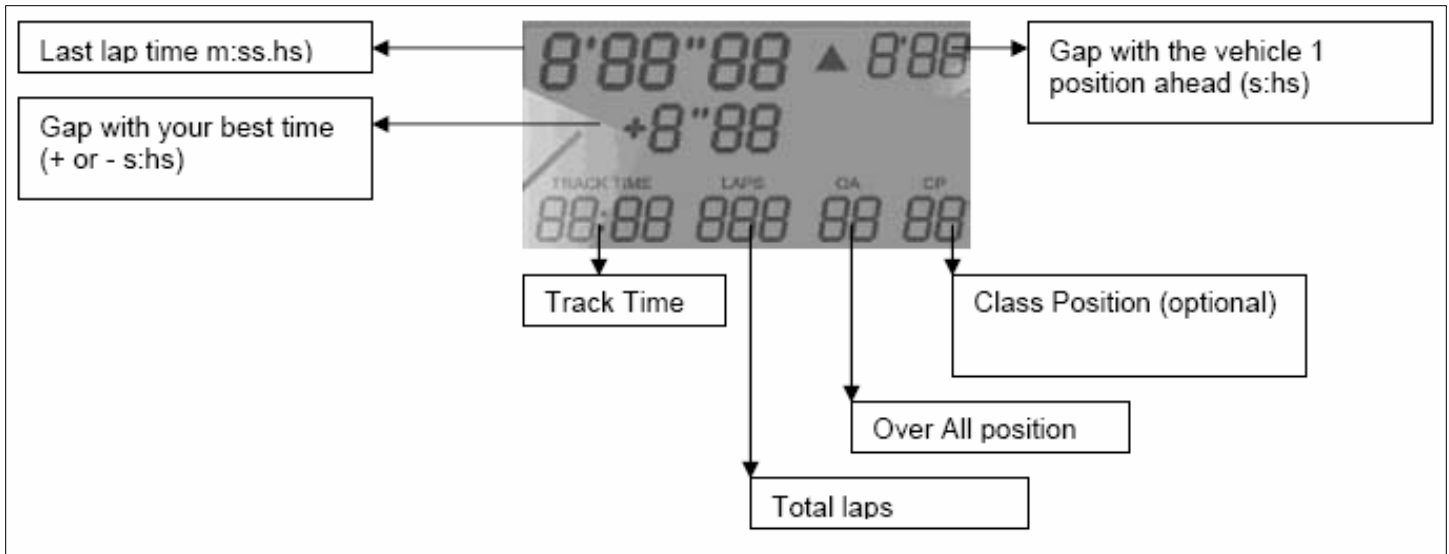
So what will you see on your DisplayIT at PCA Club Races? For a clear understating of the information

The gap will also display a plus or minus indicating the time difference between the current lap and the previous best lap. For example, if you see +1"78 on the display, your current lap was 1.78 seconds slower than your previous fastest lap. If you see -1"24, your last lap was 1.24 seconds faster than your previous fastest lap, meaning you just set a new fastest lap for the session.

**Gap with the vehicle one position ahead** – The distance in time between you and the vehicle immediately ahead of you will display in seconds and 1/100<sup>th</sup> seconds. If you are wondering if you are reeling in your competition ahead, this value will tell you if you are catching up or falling behind.

**Track Time** – The track time displayed is your actual time on the track, NOT the session time. Your individual time will start when you first cross the timing loop, and will reflect the sum of all of your lap times. The value is useful for determining your total time on the track if you log such information. You may also use the value in an Enduro to approximate a pit stop time. For example, if your track time exceeds 15 minutes, then you can make your required pit stop without arriving early. The track time is not reliable for measuring the session time. Specifically, the session time begins when the Green Flag waves, and your individual track time begins when you first cross the timing loop. If you start the race from row ten, for example, your crossing of the timing loop will be some seconds behind the session clock.

**Laps** – The number of laps completed in the current session.



Overall Position (OA) – This value will actually reflect the current Qualifying position during all sessions at PCA Club Races. OA will NOT reflect your Overall Position during a race. What this value means to you when on track is how you rate as if the session were a Qualifying session, yet you will see the information for practice, qualifying, and race sessions. For example, if during a race you see an OA value of 1, this means you set the fastest lap of the race, and are currently the quickest car on track. It does NOT mean you are the first place competitor. Likewise, in this example, you will continue to see an OA value of 1 until someone else sets a faster lap time, even if all your following laps are slower. The OA value reflects your qualifying position for the entire session (practice, qualifying, race), just as if every session were a Qualifying session.

Class Position (CP) – Currently not available.

This article is not intended as an endorsement or criticism for the DisplayIt unit, but rather an attempt to better educate our racers as to what you can expect to see on the unit when used at a PCA Club Race. I have been approached by many would-be DisplayIT customers asking if they purchased one of these units, would it work in a PCA Club Race. I trust I have covered all of those points above. Likewise, in compiling the research data for this article, I learned some component facts about the DisplayIT I would also like to share.

The original DisplayIT has a 6-lap memory limitation, meaning you can only look back at your last six lap times. A 34-lap memory model is planned and in the works. Unfortunately, this unit may not be available this year. When released, the 34-lap memory unit will differ in appearance from the 6-lap memory unit on the faceplate, which will have only the Blink Apex logo and not the AMB logo.

However, if you currently have a 6-lap memory unit, you can have it upgraded to 34-laps of memory for

the cost of shipping and handling (estimated at \$20). You must contact Blind Apex and receive an authorization number before returning the unit for the upgrade. You can contact Blind Apex at:

Blind Apex Inc.  
 Attn: Carl St-Onge  
 8990 Boul. Henri-Bourassa  
 Charlesbourg, QC G1G 4E3  
 Phone: 418 651 0752  
 Fax: 418 651 9179  
 Email: [support@blindapex.com](mailto:support@blindapex.com)

Blind Apex prefers shipping via FedEx. USA customers must include the proper export documentation for Canada. Here is a sample of a FedEx export document:

Desc.: Lap Timer  
 Tarrif code: 9106 90 5510  
 Country of origin: Canada  
 Reason for export: Repair

Method of payment for shipping and handling charges (going back to customer) is MC or Visa.



# Pit Pass

By: Bill Chadwick, North East Racing News, [bill935K3 at porschenet.com](mailto:bill935K3@porschenet.com)

There has been some pretty rough racing going on in professional road racing circles of late. In the last couple of weekends I've seen; Wolf Henzler was mugged by a series of General Motors backed cars which cost Porsche a manufacturer's championship and a usually mild mannered Porsche pilot pulled off a really wild airborne, over the berm bonsai heavy contact pass to win a championship for Porsche. This brings me to this month's topic.

## *PCA Club Racing Sportsmanship and Etiquette*

I want to start this with a disclaimer. "The opinions and suggestions stated here are strictly my own. This is how I try to interact on the race track with my close competitors and fellow racers based on what I have been taught by PCA, and three visits to two different professional racing schools. And, what some of you might find surprising,- what I have picked up from hanging out with two very serious and skillful stock car racers, Vinny Annarummo, six time track champion at Seekonk Speedway and Buggy Stevens three time National NASCAR Modified Champion."

There are very few hard and fast "rules" on this subject, based on where you are in a race (number of laps to the finish) past experience with the track or history with another driver. Thus these guidelines are subject to adjustment. The one thing that does not change however is you had better be able to justify what madness took place to the race steward.

## *Brake point to turn in position.*

If a driver can get to the inside of me and put the front bumper of his car at least to the front edge of my door between the my braking point and turn in point I figure he has earned the apex of that corner. I now have two choices if I want to "race" him. One is to get slowed down and pick a real deep turn in, get most of my turning done very early (make the cross over move) and beat him back to the throttle and re-pass under him as we track out. Or I can signal my intention to stay on the outside of him to the apex and on to track out. I tend to do this by coming off the brakes early enough that he can see me making ground on his outside as I follow his turn in move. This is a very common occurrence when a good braking naturally aspirated car is in company with a turbocharged one. The fastest line for us turbo guys is a looping entry with early throttle and late apex. This leaves a tempting opening. If you can get to my A-pillar you have earned a car width plus two feet at the apex, but if you don't, my definition of "racing room" is that you are going to have to put two wheels on the berm! Another guide line here is what do I feel is going to happen long term. If it is the first lap and I'm pretty sure when the tires and I am up to speed I'm going to pull away, then the race is on. If you have been catching me up steadily it is time to let the guy or gal go and learn something, such that if the car or my driving improves we can race later.

## *Class Vs Overall racing*

PCA racing is suppose to be all about racing with cars

in you class or "finding" racers running similar times and racing against them. This can be kind of a tricky issue. One good thing about our race weekend format is we have quite a lot of practices, fun races and qualifying sessions before the "feature races". I strongly recommend that you make yourself known to the guys around you on the time sheet, especially if you are not in their class. If you are right in the middle of two or three guys in the same class I would strongly suggest talking to them and feeling them out on the subject. They might welcome you to the party. Great, every man for himself. But if they start telling stories about this being the rubber match of their personal, season long duel you have some decisions to make. I had this experience at Mid-Ohio this year. I was new to the track, not driving particularly well and the weather hampered practice. Thusly I ended up with the GTC3 leader pulling away and another two very good GTC3 racers who I had out qualified on my butt. They were having a hell of a good race behind me. I had already decided that if one of them got by me I would let them both go. Further it was dawning on me; even though they were racing each other hard behind me I was not pulling out a lead. This was a big signal that I should not be holding them up. As it turned out I had a mechanical failure so the decision was made for me. Generally if you inch up on someone or they inch up on you and no one else is real close then the race is on. But be aware! If you are holding a guy off for a couple of laps and another car shows up back there, it might be his class rival that he had been pulling away from.

PCA Club Racing may not take official notice of who crosses the finish line first overall but you can be sure that in each race group there is a race to be one of the first three people under the checkered flag. My general feeling on the subject is that from 5<sup>th</sup> overall forward everyone has to earn that pass with a good clean overtaking move. From 3<sup>rd</sup> to 1<sup>st</sup> overall I don't care what class you are in I will defend (within the limits of PCA Club Racing rules) and you will have to out fox me.

## *DEFENSE – taking his line Vs blocking*

During the course of a race the lap times of cars and drivers change. Guys figure out ways to go faster or tires wear out and slow people down. What it all boils down to is we all want to finish the race in front of as many other racers as possible. The generally accepted protocol is that the car in front is allowed one move per strait or corner to try to deny the car behind from passing you.

As a general rule if you as the "lead car" makes a mistake in a corner leading onto a long strait and the following car is catching you in a hurry, you are cooked and might just as well take you medicine. If you do make a defensive move you will probably just make it easier for the overtaking car. Your move away from "the line" will allow the overtaking car to flow by you on the outside without any scrubbing of speed. If you are going to get caught mid to late in the strait "taking his line" will be an option. I feel it is more sportsmanlike to time the closing rate and make your defensive move first BEFORE the over taker makes his "flick or pop out". It is also safer! If you wait for the very last second, both drivers might make their move simultaneously and thus both arrive at the same point (impact)



with no time to react. When I make a line taking move I like to make it pretty big and obvious like 1 1/2 car widths. In this way if he goes to the inside he will have to do something really special in the brake zone to establish a dominate position plus he should be really pinched down and slow at the apex. With a larger radius on the outside to work with fighting him off should not be too hard. On the other hand if he goes outside you are still in a good position - to control the corner and carry exit speed- as long as you can do a good job in the braking zone.

Some times you can do what works with some racers and get taken to school. This year at the Watkins Glen enduro I started up front after developing a push during the sprint. I was running a good second a lap off my earlier times. A couple of laps into the enduro, Wolf Henzler caught up to me under braking into the bus stop and was about 6 car lengths back through the outer loop and headed down the hill into the laces. I knew my only chance was to try to hold the lead (hoping my front tires would come to me) was to hold him off to the toe of the boot where I could pull out some breathing room climbing the long hill with more power. I made a small move to the left hoping to bait him into out braking me to the apex, and then I might hem him in and hold him along side down to the toe where I would be on the inside and able to control the turn in. I was WRONG. He held back far enough until I committed, so that as I slowed and started to look to the apex he planted his cup car door at my right front tire. Game – Set – Match, he danced right around me on the outside! Note; any time a guy makes an outside move and establishes his turn in point with a half of a car length lead he sure has earned the pass in my book.

To conclude this section, if you make a good move and have the inside and overlap at track out and your competitor is out on the berm for crying out loud give him a car width of track by the time the berm runs out!

### *Angling & Chopping*

It is an acceptable tactic when it is necessary to cross from on side of the track to the other to set up for the next corner to take as slight an angle as possible assuming you get to your turn in point. Naturally this takes more time and track and makes it hard for the overtaking car to judge what side to try you on. This can be very effective in combinations of corners. But remember once you set up your angle you can not reverse back across the track. That is blocking. My rule of thumb is that if I get overlap with a car and he is angling/squeezing me I have to give ground until one of two things occurred. First, I am aligned with his A-pillar/leading edge of his door and second my wheels are on the edge of the road. At ether of those two points I hold my ground.

Chopping is a very last minute violent move in front of an overtaking car. On a straight it usually happens when an overtaking car pulls out to pass in a relaxed manner do to his belief that the closing rate makes this an obvious situation. Waiting for an overtaking car with a significant speed advantage to get very close and then jerking you car in his path is a good way to get sent on a wild ride with lots of loud noises! Unfortunately do to strange interpretation of the 13/13 rule some misguided racers think they can use the back of their car as a





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weapon. I have had this happen repeatedly with the same car. As a result, I took my video to the stewards and the situation was resolved peacefully.

The other kind of chop is when someone does not quite establish his correct position between the braking point to turn-in point. Assuming that the over taker might be on his limit to get where he is (off your rear quarter) is not a bad assumption. Yes he should be trying to back out of the situation but I would not recommend trying to put your inside wheels on the apex berm. Yes, feel free to hem him in (in a non dangerous manner) coming off the corner so you get a better launch. But blindly hoping that he will be gone is a real bad idea. I recently misjudged an opening while trying to follow a fellow I was racing through lap traffic. I was half way up the door of the lapped car and starting to turn in and pick up the throttle when I saw out of the corner of my eye a big hand movement that said, he is coming all the way down!! No where to go but to put all four tires over the high berm and grab some grass with the left side. I came back on the track right behind him thinking "that was pretty #@%\$% unfriendly." I made sure I was fully along side at the next corner and gee, there are the marbles, I guess I can turn in now. One thing that really gets my goat is to establish a position with my nose some were between the A-pillar and fully along side a car between the braking point and turn in and then have him let off the brakes and surge forward to an un-godly late turn in and chop me. It is one thing to stay along side and race two wide through the corner. But to surge out into no mans land and then use the tail of your car as weapon show a total lack of respect and sportsmanship for a person that made a clean move.

### Brake Checking and Gamesmanship

I define a brake check as when you have a person squarely behind you and you go to total threshold breaking 20-30 yards early. It is wrong and a good way to get your self wrecked. As I told a guy not too long ago, "I damn near had you. If I had hit you **I probably would have hit you good enough** that you would have gone sideways into that gravel trap. I might get 13 months of probation but you probably would have rolled your car." Obviously nobody wins or has a fun weekend if a scenario like this comes to pass.

What I believe is acceptable gamesmanship is as a car is catching you up, you can show him a slightly early brake point in the corners where he has the advantage for a couple of laps, then about the time he is ready to make his move start using your deepest brake point. In other words ten to twenty feet one way or the other is making the guy think. Twenty yards is using the back bumper as a weapon. Another fair tactic in my opinion is if your competitor is following you through (learning you) and you know his power band is not good off a corner adjust your turn in speed. Thus he is committed to braking behind you so you brake at the normal point but trail off the brakes a little later over slowing say 3-5 MPH so he is caught between gears.

In conclusion here is a quote from my pal Buggy Steven's book about leaving a guy racing room and giving him room to save his car. "Because see, when the race was over, we were all gong to go out in the parking lot and relax. Somebody was going to cook up some lobsters and clams and we were going to drink some beers together."



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Photo: John Perry



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Registrar  
Kathy Black  
kblack88@aol.com  
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Drivers Education  
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# Staying on the Lead Lap: Successful Co-Driving

Story by: Patti Mascone, Public Relations Coordinator

When you join a team, what a relief! The burdens, the journey, the triumphs and the failures are shared. You lose together; you win together. You don't have to explain much to your teammate; you just know you had a blast.

When approaching an enduro, each driver brings strengths and weaknesses to the team of two. An enduro is not the time to ask for performance beyond the capabilities of any driver (or car), but to sustain and combine the proven skills of each for maximum results.

The enduro can be broken down into the starting leg, the pit stop transition and the finishing stint. At the start of the enduro, adrenaline, jockeying for position, sprint-like zeal and reflexes are key realities—just when the cars and traffic are at their heaviest. The starting driver must look far ahead of the chaos—to the team and car finishing the race. Passing battles must be chosen wisely; after all there is plenty of time, plenty of driving lines and plenty of turns. At this point, you may want to take the advice of the Italian cross-country ski team from the Lillehammer games: Follow closely, take the easy stuff and save energy—so you can pounce at the end over the behemoth Norway.

PCA does not mandate that qualifying drivers start the race. If a team has drivers of differing speed, it is up to the teams to put the rabbit out first or send the rabbit out second. However, sometimes, “catching up” is impossible, no matter how good the rabbit drives the second half. So, you can match your drivers (or their styles) against the drivers of your competing teams. Lastly, it may be something as simple as height difference between the drivers that may determine who goes first.

If your car starts further back than anticipated (with past performance authorizing this strategy), the starting driver may be asked to pass several cars while traffic is easily attacked. In this case, you must put your best passer in first, then let him or her have at it. If this is a driver in an unfamiliar car, the owner should clue him or her in on the car's characteristics, because practice runs don't match the wildness of race starts. If your lead-off driver has been doing a lot of work, you may want to shorten the first stint.

As the midpoint approaches, the car's handling changes, hopefully for the better, as the tires come in, the driver's rhythm gets going, traffic spreads out and the car lightens its fuel load. The best lap times of the race are often garnered here—not during the starting laps. Letting the car come to you is a great feeling.

However, leaders begin lapping traffic and yellow flags may interrupt your flow. You may have to change pitting plans based on incidents on track, traffic slowing them down, a bad lap or cars already in pit lane. As the starting driver, you must take in a lot of information, make confident decisions or follow team orders without hesitation—and act with precise determination. Again, too much fighting and fending with others zaps you and your car's strength, but staying on the same lap as your fellow competitors is paramount.

When coming in for the pit stop, both drivers must be good communicators. Often, the new driver is entering an

unfamiliar racecar, so the first task is communication—even if prior radio communications have occurred. This brief exercise provides clarity and calmness—before refueling or other minor car work begins. If you watch any sports, you'll notice a repetition of simple key thoughts. Surely, though, the entering driver must be someone who takes everything or anything “in stride.”

At our level, speed is not the key factor in winning an enduro. Because most of the time, we run in 20- or 30-minute increments, successful sprint racers don't automatically become natural enduro winners. But we have great cars and a lot of sessions, so our drivers tend to hang around—for at least the length of a session. A reliable PCA driver, seen or unseen in mirrors, puts pressure on racier competitors that often results in their making mistakes. If you look at percentages, a fresh driver, rabbit or not, is preferable to a tired one.

Enduros are great opportunities for all kinds of racers to improve and succeed. Even the “non-rabbit” can offer things that may be more important than a few blazing laps: morale, freshness, consistency, traffic management, calmness, car knowledge, visual skills or ability to forget mistakes. This type of driver may get stronger with the repetition of laps or in a co-driver setting. The restarts are rarely as hairy as the original start, and offer opportunities for alertness to pay off.

In the later stages of an enduro, it is often hard to tell where you are in the placements, so the tendency is to worry about other cars passing you or whether you should pass someone else. Positions have been lost by racers fending off someone who was really one lap down. Without real-time scoring, this dilemma is not easily addressed. And you'll never know what penalties will do to the results, in your favor or not.

That's why even-keeled co-drivers are so important. They don't fret over being passed by a competitor, they smoothly “re-pass” back, without giving time away. They navigate other traffic with safe, early, easy passes that save brakes, momentum and tires. No matter what, if they are getting lapped, they let the other car go.

Driving second should never be confused with driving passively—You drive until the fat lady sings, no matter what, even if you have no one to chase visually. You drive to whatever level the conditions give you. Even as you “save” the car. The good co-pilot definitely drives consistently with the lead, maintaining a controlled pace and picking it up when necessary. If your teammate, on the radio, provides lap and gap times, you can monitor your pace effectively to help keep you in front of significant passing offensives.

After waiting, with helpless nerves jangling about, the relief driver has to be comfortable entering the car, putting on the belts and leaving the pit lane on time. It takes a certain personality to handle “not driving” at the start. Coaching the starting driver over the radio from pit lane keeps the waiting co-driver in the game, ready to take over without missing a beat.

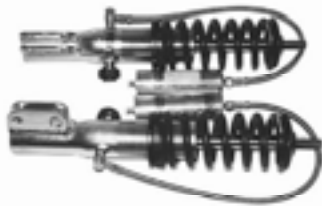


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# Race Data Analysis - How did he/she pass me?

by: Michael Wingfield, PCA Club Racing Time & Scoring

Driver / Lap	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1 - STEVE VALENTINETTI (127)	51	60	60	60	60	60	60	60	60	60	90	90	90	90	90
2 - RUSSELL M SMITH (38)	60	81	81	81	81	70	132	132	132	127	127	127	127	127	127
3 - RAMEZ WAHAB (26)	81	51	911	911	70	132	70	118	90	92	92	92	92	92	92
4 - JOHN BIBBO (51)	911	911	70	83	132	118	118	90	127	60	60	60	38	38	38
5 - JOSEPH OSHA (168)	70	70	83	70	118	90	90	127	92	38	38	38	60	60	60
6 - KARL SALNOSKE (118)	83	83	132	132	83	127	127	92	38	81	81	81	81	81	81
7 - JOE DOWNS (911)	19	19	19	118	49	92	92	38	81	123	123	51	51	51	51
8 - BART CROSBY (132)	132	132	118	49	911	38	38	81	123	51	51	123	123	123	123
9 - PAUL CAMUSI (171)	49	118	49	90	90	81	81	51	19	19	19	19	19	19	19
10 - PAUL GUTOWSKI (60)	118	49	90	127	127	51	51	123	51	70	70	70	70	70	70
11 - GLENN P SAPA (70)	131	90	127	92	92	123	123	19	70	168	168	168	168	168	168
12 - RICK POLK (92)	61	127	92	26	26	19	19	70	168	132	132	132	132	132	132
13 - BOHDAN J KROCZEK (81)	90	26	26	38	38	168	168	168	270	270	270	270	49	49	49
14 - RICHARD FISCHER (83)	127	92	38	51	51	49	270	270	49	49	49	49	270	270	270
15 - GARY L KNOBLAUCH (19)	123	38	51	123	123	270	49	49	61	61	61	61	61	61	61
16 - BRUCE McPHERSON (155)	26	123	123	19	19	61	61	61	131	26	26	26	26	26	26
17 - WAL JARVIS (123)	38	168	168	168	168	26	26	26	26	131					

Figure 1: (Pictured Left)

## MyLaps.com Lap Chart

From Figure 1, we see #70 leads #19 through lap 21. On lap 21, #70 makes the required pit stop as noted by the dark box around the car number. The dark box indicates crossing the timing loop on pit road. Also note that #19 made the require pit

Reviewing the race data collected during a PCA Club Race is just one of the jobs Timing & Scoring (T&S) performs. Occasionally, a racer will ask T&S to help explain how the racer landed in a particular finishing position. Typically, this includes pointing out a post-race penalty assessed by the Race Steward. But what about occasions where no penalties were handed out?

Understandably, a racer immerses himself in “his” race, which includes keeping an eye on the competitors in the same class. So what happens when a racers leads his competition during an Enduro, performs the required pit stop without delay, does not spin or go off course, does not receive any penalties, but finds himself behind his competitor at the end of the race? How does this happen?

This was the question Glenn Sapa (#70) posed after Enduro A at the Mid-Ohio Club Race this year. Glenn kept an eye on his GT4S competition, starting ahead of and leading his competition for most of the race. He briefly relinquished his class lead to Richard Fischer (#83) just before Richard retired from the race. However, Glen found himself behind competitor Gary Knoblauch (#19) after Glenn made his required pit stop.

One can easily verify that #19 passed #70 during the #70 pit stop by viewing the lap chart for the Mid-Ohio Enduro A race on MyLaps.com. When viewing lap charts on MyLaps, you can select a driver’s name in the left column to highlight that driver’s name and position throughout the race. Selecting multiple drivers in the left column will highlight each driver in a different color. Figure 1 illustrates this point by showing the lap chart for laps 15-29. Note the position of #70 and #19 during these laps.

stop much earlier, on lap 17. Finally, note that #19 takes the class lead from #70 on lap 22. One question remains, if #70 made a quicker pit stop than #19, how did #70 loose track position to #19 during the #70 pit stop, and thus relinquish the class lead to #19? The answer may surprise you.

To find the answer, one must examine the individual lap times for both #70 and #19. First, let’s verify that #70 did have a quicker pit stop by looking at in-lap and out-lap times for both competitors. Table 1 shows the pit stop lap times for #70 and #19, comparing their in-laps (entering the pits) and out-laps (after leaving the pits) for the pit stop. The table illustrates that #70 spent less time on pit road for the pit stop than did #19 - 0.297 seconds less.

Lap time / Car#	#70	#19	Difference
In-Lap	1:57.71 3	1:56.25 4	1.459 (advantage #19)
Out-Lap	6:35.41 0	6:37.16 6	1.756 (advantage #70)
Total	8:33.12 3	8:33.42 0	0.297 (advantage #70)

Table 1: Pit stop in/out lap times

We know that #70 was leading #19 before #19 made his pit stop on lap 17 (Figure 1). The T&S software shows this lead as 13.893 seconds, when #19 crosses the pit road timing loop. Thus, if #70 had a 13.893 second

lead before #19 stopped, and #70 gained another 0.297 seconds during his pit stop, how did #70 lose this “perceived” 14.190 second margin?

The solution is found when considering the lap times of each competitor while the **other** competitor sat on pit road. This means comparing the lap times for #70 on laps 17-21, while #19 sat on pit road with the lap times of #19 while #70 sat on pit road. Table 2 presents this side-by-side comparison of the lap times for each competitor while the other was on pit road.

#70	#19	Difference
1:46.247	1:43.806	2.441
1:49.493	1:43.337	6.156
1:52.797	1:43.166	9.631
1:47.812	1:45.260	2.552
1:57.713	1:44.910	12.803
Total		33.583

**Table 2: Lap Times with competitor on pit road**

Table 2 illustrates that #19 gained a 33.583 second advantage while #70 sat on pit road. How can this happen? Recall that #19 made his pit stop early in the race on lap 17. Most of the 25 cars starting the race remained on track and the #70 had traffic with which to deal. By contrast, when #70 made his pit stop later on lap 21, attrition and simultaneous pit stops by other competitors left as few as 12 cars circulating the track. Among those cars on track was the #19. The #19 had a much clearer track when #70 was on pit road.

When #70 returned to the track on lap 22 after his pit stop, he entered 16.597 seconds behind the #19. It is interesting to note that the sum of the “perceived” margin (14.190 sec.) plus the gap at return (16.597 sec.) almost equals the advantage obtained by #19 in Table 2. It is also worth noting that #70 closed the 16.597 second gap behind #19 down to 3.358 at the checkered flag.

So what did we learn? Determining **when** you make your pit stop during an Enduro can play an important factor in the outcome of your race. While you may turn quicker lap times than your competitor when you are both on the track and you may have a faster pit stop, those laps when you are not on the track at the same time can and do affect the outcome of the race.

My thanks go to Glen Sapa for raising the question and allowing me to use him and his race as an example of race data analysis.



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Aug 4/6	<u>Brainerd International*</u>	<u>Nord Stern</u>	Roger Johnson 763.557.9578 Rsamerica93@comcast.net
Sep 2/3/4	<u>Road America*</u>	<u>Chicago</u>	Keith Clark 630.690.3381 kc_design@sbcglobal.net
Sep 16/17	<u>Pueblo Motorsports Park</u>	<u>Rocky Mtn</u>	Kathy Fricke 303.499.6540 walterfricke@msn.com
Sep 30/ Oct 1	<u>Miller Motorsports Park</u>	<u>InterMountain</u>	Ed Mineau 801.278.9681 emineau@comcast.net
Oct 6/7/8	<u>Summit Point*</u>	<u>Potomac</u>	Dirk Dekker 410.819.6789 clubrace@pcapotomac.org
Oct 13/14/15	<u>Daytona International Speedway</u>	<u>Florida Citrus/Florida Crown</u>	Dave Rodenroth 904.251.9552 racer914@earthlink.net
Oct 14/15	<u>Hallett Motor Racing Circuit</u>	<u>Cimarron</u>	Gary Bernard 918.254.1104 gary@bernarddesign.com
Nov 3/4/5	<u>Carolina Motorsports Park*</u>	<u>Carolinas</u>	John Alpaugh 803.551.1786 jpa914@aol.com
Nov 18/19	<u>NP Raceway</u>	<u>Mardi Gras</u>	Nick Hingel 504.782.3530 nick@hingelpetro.com
Dec 2/3	<u>Roebing Road</u>	<u>Florida Crown</u>	Thom Portz 904.693.6993 TEPortz@aol.com

• Note: For the latest updates on the Club Racing Calendar, visit [pca.org/pca/clubrace](http://pca.org/pca/clubrace); "\*" indicates an enduro.

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**1974 914-6 GT**: Current PCA DE car, former stock PCA/vintage race car; recently rebuilt 3.2L Euro Carrera and 901 side shifter with separate remote oil coolers; 930 Turbo brakes, 23mm master, all new rotors and Hawk blue pads; extensive suspension upgrades; custom welded roll cage; fuel cell; \$25,000 OBO; photos and detailed complete spec sheet available from: [vanordense@verizon.net](mailto:vanordense@verizon.net)

**1988 944 turbo**, red/black, cup specs, 1 bar. PCA D since 02. rebuilt engine in 05, only vegas 05 since new oil pump, turbo cup clutch, radiator, turbo, lindsey club wastegate, fuel pump, injectors, super starter, receipts, specs. turbo S/cup trans, second oil cooler. Full cage, 2 corbeau, net, momo, monoball suspension. Charlie arms, monoballs, cup sway bars, composite hood, technodyne suspension, 2770 lbs with all glass, lexan front, nationally competitive. 17 in by 8.5 and 10 Fikses. \$22000 obo. Pre buy inspection welcome. [cafeqh@aol.com](mailto:cafeqh@aol.com), Car 1-970-260-9655.

**1974 914**, F Production/ PCA 1.8 liter, fresh Jake raby 170 hp engine, bilsteins, open top, sway bar, 2 sets of wheels, custom geared tranny, solex carbs, front runner in the SE. Mark 407 496-6669, nosubt2@aol.com

**'70 Porsche 914/6**, #9140432646, stock race/street, Engine rebuilt w/10 hrs total; short & std

box, Bremtek brakes, MSD, cage, Schroth belts, zero rust, spares pkg. w/deck lid, rocker panels, spoiler, brakes. \$28k/complete: 12 wheels, 2 trans, Alan Benjamin, P: (303) 996-8114

**1973 RSR look alike - GT4R**, 1,970 lbs., 6 events on motor - 2.8 early alum case, Haltech inj, Schrick cams, extra wheels, new fuel cell, 3 nozzle fire, MSD, Bremtek, Quafe, full cage, C/F wing, spares, logbooks & open trailer. Photos avail. \$40,000. Gary McNair, Napa, CA . 707 252 2363. [gtrackman@sbcglobal.net](mailto:gtrackman@sbcglobal.net)

**1988, 911 Carrera, F Class, SILVER, Race Car**: Race ready with PCA Log Book, street licensed. Engine/transaxle and pre and post race work by Pat Williams Racing. 5 sets of wheels & tires. Multiple race specific mods including suspension. Original street parts included with race related spares. \$33,000 Specification details contact Barry Bays, at (901) 359-6542, [winerace@bellsouth.net](mailto:winerace@bellsouth.net) or [patwilliamsracing.com](mailto:patwilliamsracing.com)

**1983 944 COUPE SILVER/ BLACK WPOAA0940EN451334**, Pro Built I Class, 1987 2.7 0 hours, Accusump, Koni Coilovers/ Eibach, Turbo Spoiler with Custom Ducts, Custom Cage with Door Bars, Quick Release Momo, Autometer Gauges, Fire System, Transpower Seats, SS LInes, Bushings, KM Camber. None Better \$16,000. OB Chick, 2155 Coker Ave., Charleston, SC 29412 (843)795-7437 [USDRCRTS@AOL.COM](mailto:USDRCRTS@AOL.COM)

**1994 GT1R/S Race Car 964 Turbo chassis**, less than 12K miles on chassis. Fresh 3.6 turbo twin plug engine w/ zero hours, (originally built by TPC). 500 rw/hp @ .9 bar boost (dyno sheets available). Motronic DME. 2600lbs w/ ability to remove more weight. NASCAR style cage. JRZs dbl adjustable shocks/struts and ERP spherical bearings and camber plates. 6-speed trans w/ GT2 gears and diffs. 27 gal Fuel Safe cell, carbon wing, Big Red brakes. 335s/275s on Kinesis wheels, Fire suppression system, 1:19 @ Summit Point, 1:17 w/slicks PCA and SCCA log books. Ready to race out of the box \$65,000/OBO. Open trailer w/electric and manual winch (excellent condition) available also. Call Ken Maynor 410-461-4756 or [ken.maynor@intel.com](mailto:ken.maynor@intel.com) for more info and pics.

**1983 911 TURBO RACE CAR**: fast and reliable DE track car, fully sorted, many PCA race podiums, all performance upgrades, 1989 5-speed transmission (G 50), fresh 3.3-liter motor rebuild (w/ few hours) 300+ HP/ 2880 lbs., custom roll cage, "fuel safe" fuel cell, Corbeau Monza seats with 5-pt harnesses, custom window net (removable), Fikse FM10 wheels. \$32,000 Bert Cossaboon [lbcossaboon@mtmail.biz](mailto:lbcossaboon@mtmail.biz) for pics

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