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Official Publication of Club Racing
of the Porsche Club of America.

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PCA Club Racing News is the official publication of Club Racing of the Porsche Club of America, c/o PCA Executive Secretary, PO Box 1347, Alexandria, VA 22151, and is published six times per year.

Statements made in the PCA *Club Racing News* are those of the authors and do not necessarily reflect the opinions of the Porsche Club of America, the National Committee of Club Racing or the editor. The editor reserves the right to edit and/or omit all materials submitted for publication.

Postmaster:
Send address changes to:
PCA Club Racing News
c/o PCA Executive Secretary
P.O. Box 1347
Springfield, Virginia 22151-0347

Printed By:
Artistic Printing
Salt Lake City, Utah

PCA Club Racing News

Volume 07.3 July-September, 2007

Inside

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

On the Cover:
On track action captured at Lime Rock Park. Photo Courtesy of Tim Rogers.

Deadline
The deadline for the next issue is:
December 10, 2007

Racing Into Fall

by: Bruce Boeder, Chairman PCA Club Racing

I'm amazed at how quickly the summer has gone by. We're now into the fall racing season, with a number of club races scheduled closely together including our return for the second time to Daytona International Raceway. I look forward to seeing you at one of those races.

By the time this issue hits your mail box, the racer comment period for PCA Club Racing Rules Change proposals will have closed. There are quite a number of rules changes proposed this year. We don't view them as major deviations from the Guiding Principals of Club Racing but do view them as enhancements to those principals. I hope that you've had an opportunity to email your comments. Our program is a racing program run for the racers by racers and the national staff endeavors to keep it that way. Look for an announcement of the rules changes for 2008 on the PCA.org web site sometime after November 1st. As always, you will receive a new rule book when you renew your license.

In my previous columns this year I have talked about the two of the four reasons I think someone should race with us rather than with another sanctioning body. In other words, the "elevator speech" about club racing. The first two reasons are the camaraderie of our racing and the close, clean racing you will see at any of our events. The third reason to go PCA club racing is that our events are well run events that have a predictable schedule. I've attended a ton of club races over the years and always marvel at how well organized they are, even though they are being run by amateurs. I'm pleased to tell you that the consistent feedback we get from track managers and staff is how impressed they are both with the quality of our racers and racing, as well as with the way we run our events. On the other hand, I've attended a number of non- PCA club racing events that frankly weren't very well organized. Tech was a mess, grids were disorganized, timing sheets were non-existent, and the schedule was constantly changing on the fly with no rhyme or reason. A racer knows what they are going to experience when they attend one of our events.

The fourth and final reason to go PCA club racing instead of participating in another venue is the consistent enforcement of our rules, including the 13/13 rule. Yes, you read that correctly, I believe strongly that the 13/13 rule is a reason to race with us. I believe that there is a different attitude when one races in a venue where there is a penalty enforced for being at fault for car damage. I don't believe that prevents hard racing (see reason #2 for going PCA club racing) but do believe it makes a difference in the attitude (see reason #1 for going PCA club racing). In addition, the consistent enforcement of our rules is emphasized by the fact that we have a very thin rule book that is easily understood by all participants. Largely it is clear as to what is legal or illegal for a particular car. Sure, racers are amazingly ingenious in trying to find ways to get more performance from their car but remain within the rules. That ingenuity leads us to annually make small adjustments to the rules. However, by and large the rule book is not significantly different than the rule book printed 16 years ago when PCA club racing first started (other than the obvious addition of an amazingly large number of new cars produced by the factory in that time period). I think the way we handle our rules and specifically the penalties for conduct resulting in car damage is one of the reasons to race with us.

Thanks for participating in PCA club racing and see you at the track!

Bruce Boeder

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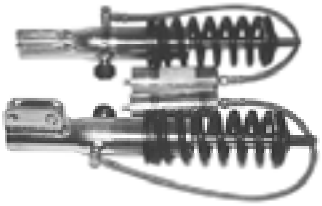

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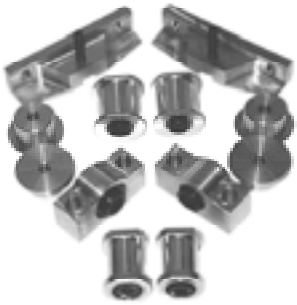

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Rules Proposals from the Racers: The Beginning of the Rules Process

by: Donna Amico, Technical and Rules Chair

This article answers a question I am asked from time to time: How come I didn't see the rule change I proposed posted for racer comment? Did you lose my suggestions?

No, we didn't lose any proposals. At least, I don't think we did. Here's the rest of the story.

From May 1st to July 1st, racers can propose rule changes for the following year through a link on the Club Racing website. As I write this, these submittals for 2008 have been compiled and are under review by all of the scrutineers and stewards. They make recommendations on which of these proposals we want to get feedback on from the racers. That list is published on the website around September 1st.

It's mid-August now, so I don't know yet what will be on that list. Please note that the posting of a proposal does not necessarily mean that we are leaning towards adopting that rules. Instead, we post proposals where we want and need to hear more from you about whether adopting the rule would be good and appropriate for PCA Club Racing.

This was a very active year; 44 racers made rules proposals. A number of those made multiple proposals. Here's the initial tally of individual rules proposals/comments, and note that duplicate proposals are counted only once!

- Stock or Prepared Class Rules: 62 proposals
- 944 Spec Classes: 6 proposals
- GTC Classes: 19 proposals
- GT Classes: 8 proposals
- Safety: 15 proposals

Other (e.g. procedures, enduro protocols, etc.): 14

Total: 124 proposals for rule changes, or in some cases, comments or procedural suggestions.

The first order of business is to separate the comments from the actual rules proposals. Many of the comments are forwarded separately to the stewards for discussion, but you won't see these posted with possible rule changes. We don't need to change the rules to add sprint races to a weekend, or change the order of the sessions, etc.

About 100 rule changes remained after this initial editing, and the scrutineers and stewards wade through all of them. I consider stability in the rules to be a good thing; we don't want to have to make changes to our cars every winter to adapt to a new set of rules. So I think we can agree that 100 rule changes in any one year would be far too many.

We will try to get that down to a reasonable number for racer comment. You don't want to read 100 proposals. We want all of you to read all the proposals that we post and give us comments. We don't want to make a mistake because we didn't have important information from you!

If you made a proposal this year and you did not see it posted in September, it does not mean it was a bad idea. Other issues may seem more pressing. Perhaps it's a fairly sweeping change and we might prefer "baby steps." I won't name any particular rule, but one was passed last year that had been proposed annually for many years before it was adopted. Sometimes, we just need to think about it for awhile!

View from the Tower

By: Bryan Henderson, Chief National Steward

He slammed the door:

As I mentioned in the last column, we are still having incidents where faster cars thought they were being given a corner by a slower car only to have the slower car turn toward the apex resulting in contact as the faster car tried to pass. I don't want to beat a dead horse but it appears we need to examine this further.

Complaints from the faster cars have been along the lines of the slower car ran me off the track or slammed the door on me. This situation is at the heart of our passing etiquette. If you are being overtaken and the other car is overlapping with you at turn in you must leave racing room until there is no longer an overlap. Running the other car into the dirt is not acceptable and can result in a 13-13 incident even if you don't have contact with him. You don't even have to hit him. He may lose it in the dirt and smack a tire wall.

On the other hand, if you are the passing car and overlapping but not even at turn in and you do not back out and there is an incident you most likely will be at fault in the incident. The fundamental concept of him having the corner says you must back out. If you try to hold position or actually gain more position, you are not complying with the car ahead at turn in has the corner concept. The car being overtaken's responsibilities do not relieve you of your responsibility to make a clean pass and to co-exist. In this situation you must retain the ability to maneuver in the corner. If there is contact and you are the overtaking car in a corner and there is room on the inside for your car to fit or you should have been able to back out of a pass that wasn't there, the penalty will most likely be all yours.

Some drivers of quick cars tell me that the slower guys are using the passing rule as a weapon knowing that the overtaking car is likely to get the 13-13. It's really pretty simple, if you are not even, he does not owe you the pass. If you are even both must leave racing room. If you are ahead he must back out. The bottom line is you must earn a pass. We do not have a rule that gives it to you if you don't have position just because you have a faster car. With multi-class racing faster and slower class cars do not equate to the lapping cars right of position. Do not confuse your cars speed potential with racing skill.

Get Video:

As you can see the positioning of cars front to rear at turn in and left to right in the corner is critical to the Steward for getting it right. Please consider getting video. A video camera can be had for the cost of a couple of tires. It can prove your position or that of your buddies in the two cars ahead of you. If we all had video the Stewards job would be much easier.

One trick I would like to pass on is using a video camera with its 110 volt charger. Many cameras can be set up with a cigarette lighter plug powering an inverter. The camera power cord is plugged into that. The user then does not have to mess with charging or changing batteries. The cigarette lighter plug in can be had with an on off switch built in. The camera is placed in record mode but des not come on with the power cord plugged in until the power is turned on. You simply wait until just before you go out to turn on the power then hit the record button on your remote. You can then see the red record light in the rear view mirror. Please put all wiring in a safe box.

Prepare to Practice and Race:

An observation from recent races leads me to believe we as a group have changed our preparation for practice and for races. It seems to me like there is a lot more bad stuff going on in the first few minutes than there used to be. We see lots of folks rushing to the grid just as the 5 minute warning is given. I suspect that cool suits and HANS devices are probably what have changed our habits. It takes a bit longer to get strapped in. All this rushing cannot be good. You need to get your mind prepared to go on track.

I suggest using a check list in the paddock to make sure your stuff is in the car and the car is prepared. Leave a bit earlier than normal to go to the grid. Spend time on the grid getting your mind ready to go.

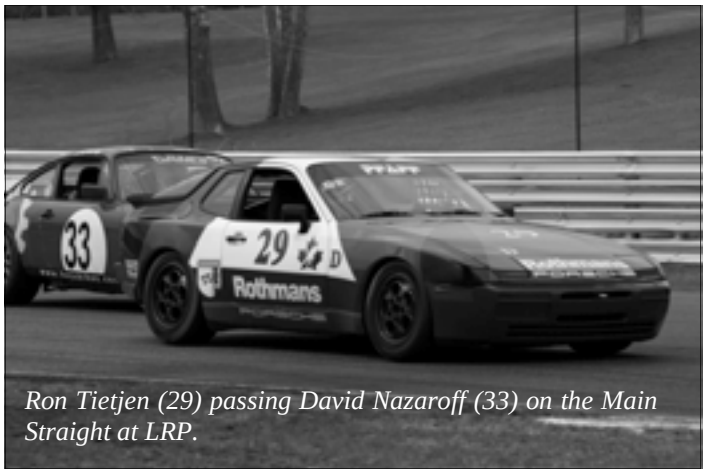
One helpful thing in this area that I learned

years ago as a high school and college athlete is to set up and use a physical ritual to get you concentration and muscle memory started. This is kind of like a high jumper who rocks back and forth seven times every time before starting his approach. My ritual at the track is to arrive at my grid spot early. I like to get out of the car and visit with my competition that is gridded near me. At the 5 minute mark I get in the car. I strap in and connect everything in the same order each time. I put my gloves on last and start the car at the 1 minute mark. When I go through this ritual my body and mind are prepared to concentrate when it's time to go. Find out what works for you and do it.

Russell Castagna (123), Louis Betstadt (50) and Hoyt Ammidon (83) go three wide down the main straight at Lime Rock. Turn the page for more info.

16th Annual PCA Club Race at Lime Rock Park

Story By: Erik Apotheker / Photos By: Tim Rogers



Ron Tietjen (29) passing David Nazaroff (33) on the Main Straight at LRP.

After months of planning by Lisa Musante and her Club Race Committee, countless hours of efforts by Nancie Giacalone in coordinating our 100+ workers, 120+ tech inspections performed by National Scrutineers Walt Fricke and Kevin Gross (with support from Tech Chairman Jim Newton and his crew), the morning flag meeting complete, workers in place, and drivers eager to complete…

The green flag flew on the 16th Annual CVR Club Race. As the cars streamed out onto Lime Rock Park, memories of the herculean efforts required just to get to this point were soon fading in the minds of our volunteers, or at least were refocused on the job at hand – execution of a safe, fun event.

Friday was our typical fare of practice and qualifying held across three race groups. Also in attendance were a group of driver educations stalwarts who appeared to have as much fun as our racers, albeit operating under different rules. Afternoon activities saw three fun races, the completion of some rookie driver requirements and a one-hour enduro for GTC1, SP, GT5R, and F-I class cars.

Under the control of pole sitter Charlie Boyer, the field took the green with Ron Savenor getting a great start. As the cars blasted down the straight, jockeyed for position and compressed into Big Bend, the gaps closed quickly. Savenor now alongside the second and third-place cars was left with no racing room, locked the brakes, and spun in front of the fast approaching field. Truly a testament to drivers skill, everyone avoided the #5 car and went about racing as Savenor was relegated back to darn near 30th position. While Boyer, Bob Scotto, Colin Mazzola, Jeff Burger, Tim Lynn, Bill Richter and Steve Berlack sorted themselves out up front the #5 car started its march forward. In the end Savenor would finish no better than 8th while the top ten cars clocked laps sixteen seconds faster than their damp qualifying laps. As post incident pit stops completed, it appeared Noveck in his '92 Carrera Cup Car had nailed his stop strategy perfectly as he moved from an early 12th position, to 6th later, to 3rd — and ultimately to a second-place finish. Meanwhile, Boyer continued to circulate only having relinquished his lead during his stop. By now Richter was at full song as he continued to run well and pick up positions to finally finish third overall in his G-class 911. Burger regretfully fell out early (at approx. the seventeen-minute mark), leaving Scotto, Mazzola and Berlack to sort out the rest of the GTC1 positions. In the end, Boyer came home first with a ten second margin of victory and a best lap of 1:00.5. With Savenor having set the fastest race lap at 1:00.2, one can only imagine how the race could have developed if the early spin could have been avoided.

Saturday brought the trifecta of ideal conditions – a freshly washed and now dry track for maximum adhesion, overcast skies adding to driver comfort and cool air for better horsepower production.

In our sprint race program, Bill Richter once again showed strong form as he finished first ahead of fellow G-class competitors Michael Iapaluccio and Kris Taylor. The Green Sprint was a mini-enduro of sorts with Scotto, Boyer, Noveck, Savenor, Mazzola and Berlack all finishing their GTC1 cars ahead of our lone Cayman, driven by Ernie Jakubowski who finished first in Class D. The Red Sprint was for the fastest cars of the weekend and with 14 of 25 cars turning consistent sub-one-minute laps this remained undisputed. Up front from mid-race on was Wal Jarvis, who finishing .019 seconds ahead of Roy Chong in his familiar red 944. With the top five drivers all cutting laps under 57 seconds, the spectators surrounding the 1.53-mile course were treated to perhaps one of the best races of the weekend and arguably one of the best lessons of managing lap traffic that I had seen in a very long time.

Peter Boll (11) is captured leading the Blue Race Group out of the West Bend.

The final race of the weekend was the big car enduro which turned out to be a case study in driving style and the technological competency of the Porsche marque through the ages. Gregg Healey led the race early and often throughout the one hour enduro, with Russ Castagna, Wal Jarvis and Patrick Martin all vying at times for the lead spot. Healey's '05 GT3 Cup car easily had the legs over Castagna, and Castagna's 993 Cup car certainly had the handling over the '70 911 of Jarvis, at least in the early going. Further back in the pack GT3 Cup cars diced with 944 Turbos – mostly driven by members of the Tietjen Family – mother Mary, father Ron, and son Derek, while C- and E-class cars mixed it up as well. A true testament to the vision of the PCA Club Racing program, never before had I seen so many battles continuing long into the race with many to the 43 minute mark when the later pit stops came about. In the end Healey finished just a short 6 seconds ahead of Jarvis who for a short time might have caught Healey if not for having been caught out on the marbles while making one too many outside rim-shot passes. Martin ultimately bested Castagna to fill the remaining podium spot. Trust me you had to be there…

With hundreds of hours having been expended on the event by its organizers and countless hours of prep by the drivers and crew, I can honestly claim that all were rewarded with a series of great races. What better way to spend a weekend.

Greg Healy (31) and Bret Stern (57) pass the start/finish line during Saturday's Red Group Sprint Race.

Race Data Analysis—Keeping Up with Your Race

By: Michael Wingfield, PCA Club Racing Timing & Scoring

In the 06.3 issue of Club Racing News (CRN, page 14), I detailed how a racer can be passed during an Enduro, based on the amount of traffic on the track one competitor experiences while the other competitor makes the mandatory pit stop. The article explored the lap times of two racers, comparing the lap times recorded on track for each racer while the other racer made a Green flag pit stop. The article explained how a racer making a pit stop while many cars remained on track actually passed a faster racer who later made a pit stop when the track was mostly clear of traffic. The racer who had the least amount of traffic on track was able to record faster comparative lap times, and ultimately place ahead of the racer who had to battle a densly populated track. As illustrated in the 06.3 CRN article, the faster car does not always get to the finish line first. Track position, pit stop strategy, and even "racing luck" all play a factor on who gets to the Checkered flag first.

In this article I explore how the occurrence of a Full Course Yellow (Double Yellow) flag can impact the lap times and pit stops of racers during an Enduro. Granted, racers may not make the mandatory pit stop during a Double Yellow flag. However, racers who are already on pit road when the Double Yellow flag is displayed may continue with their pit stop. Keeping up with your competition during a Double Yellow flag, knowing if your competition is on the race track or on pit road, can help you understand how a competitor may pass you later during the race. A racer that spends time following a pace car around the track under a Double Yellow flag is likely to loose time and track position to another race that is sitting on pit road during the same Double Yellow flag.

The 2007 Heartland Park Blue Enduro provides a good example for illustrating how the Double Yellow flag combined with pit stop scheduling can affect the final outcome of the race. During the 2007 Blue Enduro, racer Steve Washburn (#69) entered pit road before a Double Yellow flag. Meanwhile, racer Grant Phipps (#63) remained on track during the Double Yellow flag. The #69 was able to continue his pit stop under the Double Yellow flag, while the competition was forced to circulate the track behind the pace car. Later, during the race, #69 passed #63, much to the surprise of #63, when #63 made a Green flag pit stop. This article explains how this occurred.

If you have not raced at Heartland Park, there is one important track fact you need to understand to fully appreciate the information presented below. The Start/Finish line timing loop crosses pit road ***after*** all pit stalls. Thus, any car that scores a lap on pit road must be exiting pit road, and have already completed the required pit stop if the pit lap was for the mandatory pit stop. This is important when looking at the data shown below.

Figure 1 presents the lap chart for laps 0-14 during the Blue Enduro. This information is available on MyLaps.com. Lap 11 shows #63 in second place overall, and #69 in fifth position overall. Lap 12 shows #63 continues in second position, while #69 drops to 15th position, and one lap down to the leader. Lap 12 is when #69 made the mandatory pit stop, and went one lap down to the leader. Also note that #69 is on pit road during lap 12 as denoted by the blue box around the car number. As mentioned above, #69 scores lap 12 while exiting pit road, at the end of the mandatory pit stop. Finally, note that a Double Yellow flag gets displayed on lap 12. The Double Yellow flag condition is denoted by the car numbers surrounded by a yellow box. The first car to cross the Start/Finish line under Double Yellow flag is #39 as shown in **Figure 1.**

Driver / Lap	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 - RICK POLK (99)	99	99	99	99	99	99	99	99	99	99	99	96	96	96	96
2 - CHRIS WALLY (96)	96	96	96	96	96	96	96	96	96	96	96	63	63	92	92
3 - JERRY GREENE (92)	92	92	92	92	92	63	92	92	63	63	63	92	92	63	63
4 - DAVID BAKER (1)	1	63	63	63	63	92	63	63	92	92	92	311	311	311	311
5 - GRANT E PHIPPS (63)	63	1	1	1	1	1	311	311	311	311	311	69	436	436	436
6 - DAVID BANAZEK (73)	73	311	311	311	311	311	73	73	73	73	73	43	113	113	113
7 - BRIAN A AMOND (311)	311	73	73	73	73	73	89	89	89	89	89	113	4	4	4
8 - KEVIN SMITH (436)	436	09	09	09	09	09	69	194	194	194	69	436	051	051	051
9 - JAMES R BREAKEY (89)	09	113	113	113	113	113	194	69	69	69	43	4	5	5	5
10 - STEVE WASHBURN (69)	69	69	69	69	69	69	113	43	43	43	113	051	87	87	87
11 - CARL AMOND (113)	113	43	43	43	43	43	43	113	113	113	436	5	39	39	39
12 - DAVID P FARRELL (4)	4	841	841	841	194	194	841	841	841	436	4	87	30	30	30
13 - SCOTT ROBERTSON (841)	041	4	4	194	041	041	436	436	436	4	18	39	99	99	99
14 - MICHAEL HEMINGWAY (10)	10	10	194	4	4	436	4	4	4	18	051	30	39	43	43
15 - CLINT J SAWINSKI (43)	43	436	10	10	436	4	10	18	18	051	5	99	69	69	69

Figure 1: MyLaps.com Lap Chart Laps 0-14 (Yellow Flag on Lap 12)

To better understand what MyLaps is presenting, I need to provide some additional data from the scoring system. The Double Yellow flag was displayed at 24:45.669 minutes into the race. Car #69 crosses the Start/Finish line on pit road (lap 12) at 27:20.462 elapsed time of the race. Thus, #69 exited pit road 2:34.793 ***after*** the display of the Double Yellow flag (27:20.462 – 24:45.669 = 2:34.793). This means #69 was already on pit road before the Double Yellow was displayed and served approximately 2:25 of the required pit stop with the track under the Green flag (5:00.00 – 2:34.763 = 2:25.237). The pit-in pit stop timing crew also verified that the #69 entered pit road well before the Double Yellow flag was displayed.

So the question becomes, how did the ~2:35 spent on pit road under Double Yellow by #69 affect the finish positions of #69 and #63? To understand the finish order, we must look at the lap times of the competitors during the Double Yellow flag, and the pits stop times for each competitor. This is the same type of analysis shown in the 06.3 CRN article mentioned at the beginning of this article. Since we have seen #69 make a pit stop on lap 12 before the #63, we examine the lap times for #69 and #63, during the Double Yellow and the #69 pit stop. The laps and times for which we are interested are laps 12-15, the Double Yellow laps. These laps and the associated lap times appear in **Table 1.**

Race Lap	Double Yellow Flag Lap Times			
	Car #69	**Car #63**	**Difference**	**Advantage**
12	6:41:030	1:51.361	4:43.669	#63
13	2:06.789	2:07.868	0:01.079	#69
14	1:55.637	3:12.641	0:17.004	#69
15	2:50.877	3:09.001	0:18.124	#69
TOTAL	13:34.333	10:20.871	3:13.462	#63

Table 1: Double Yellow Flag Lap Time Comparison

From **Table 1**, we learn the following:

- Lap 12, #69 makes a pit stop. #63 gains a 4:43 time advantage over #69.
- Lap 13, both cars (#69 and #63) are on the race track in pursuit of the pace car. Car #69 gains a 1 second advantage by entering the track behind the pack.
- Lap 14, #63 has caught up to the pace car and is traveling at pace car speed. However, #69 is still chasing the tail of the pack, and gains a 17 second advantage.
- Lap 15, the Green flag waves. Car #63, near the head of the pack has to follow at pace car speeds longer than #69, which is still chasing the end of the pack.
- Note the difference in lap times for laps 14 and 15, as #69 chases the end of the pack, while the pack travels at pace car speeds.

Overall, #63 has gained a 3:13.462 advantage over #69. However, #69 has completed the mandatory pit stop and #63 must still make a pit stop. Also recall that #69 had the benefit of serving about 2:35 of the pit stop under Double Yellow.

Now we must consider the laps of both #63 and #69 when #69 makes a Green flag pit stop. We are now interested in laps 19-22, the Green flag pit stop for #69. These laps and the associated lap times appear in **Table 2.**

Continued on Page 14...

Continued from Page 13...

Race Lap	Green Flag Lap Times			
	Car #69	**Car #63**	**Difference**	**Advantage**
19	1:52.216	1:49.604	2.612	#63
20	1:50.459	6:41:404	4:50.945	#69
21	1:49.660	1:57.941	8.281	#69
22	1:50.515	1:48.472	2.043	#63
TOTAL	7:22.850	12:17.421	4:54.571	#69

Table 2: Car #63 Green Flag Pit Stop Lap Time Comparison

From **Table 2**, we learn the following:

- Lap 19, when both #69 and #63 are on track together, #63 records the faster lap.
- Lap 20, #63 makes a Green Flag pit stop giving a 4:51 advantage to #69.
- Lap 21, #63 makes his "out lap" after the pit stop, giving an additional 8 second advantage to #69.

Lap 22, both #69 and #63 are on track at race speed, #63 records the faster lap.

Combining the information from Table 1 and Table 2, we see that #63 has lost all of the time advantage collected earlier over #69. The 3:13.462 time advantage #63 had over #69 during the #69 pit stop is erased by the #63 Green Flag pit stop. Now, #63 has lost 1:41.109 to the #69 (4:54.571 – 3:13.462 = 1:41.109) on the track. This 1:41 time difference is enough for the #69 to overtake the #63. The overtaking of #63 by #69 while #63 is on pit road is shown in Figure 2.

Figure 2 (MyLaps, lap chart for laps 15-29) shows #63 making a pit stop on lap 20, and goes one lap down to the leader #311. Both #69 and #63 are now on the same lap. #63 was in second place overall on lap 19 before the Green Flag pit stop, and #69 was ninth place overall. Lap 20 shows #69 crosses the Start/Finish line in fifth place ahead of #63, now in seventh place. Also note that #63 is exiting pit road on lap 20, after the pit stop (blue box around the car number). #69 is reaping the benefit of the 1:41.109 advantage gained over the Green Flag pit stop of #63.

Driver / Lap	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1 - RICK POLK (99)	96	96	96	96	96	311	311	311	69	69	99	99	99	99	99
2 - CHRIS WALLY (96)	92	92	92	92	63	436	43	43	99	99	69	69	69	69	69
3 - JERRY GREENE (92)	63	63	63	63	311	99	69	69	43	96	96	96	96	96	96
4 - DAVID BAKER (1)	311	311	311	311	436	43	99	99	96	43	63	63	63	63	63
5 - GRANT E PHIPPS (63)	436	436	436	436	051	69	96	96	311	63	43	92	92	92	43
6 - DAVID BANAZEK (73)	113	113	113	113	4	96	63	63	63	92	92	43	43	43	92
7 - BRIAN A AMOND (311)	4	4	4	4	99	63	92	92	92	311	311	311	311	311	311
8 - KEVIN SMITH (436)	051	051	051	051	43	92	113	113	113	113	113	113	113	113	
9 - JAMES R BREAKEY (89)	5	5	5	99	69	113	73	73	73	73	73	73	89	89	
10 - STEVE WASHBURN (69)	87	87	87	43	30	73	89	89	89	89	89	89	194	194	
11 - CARL AMOND (113)	39	39	39	69	113	89	841	841	841	194	194	194	841	841	
12 - DAVID P FARRELL (4)	30	30	99	30	92	841	194	194	194	841	841	841	436		
13 - SCOTT ROBERTSON (841)	99	99	43	73	73	194	5	5	5	5	5	436	5		
14 - MICHAEL HEMINGWAY (10)	43	43	69	89	89	5	051	051	436	436	436	5	051		
15 - CLINT J SAWINSKI (43)	69	69	30	841	841	051	436	436	051	051	051	051			

Figure 2: MyLaps.com Lap Chart Laps 15-29 (The Checkered Flag)

While #63 records quicker laps than #69, #63 is unable to overcome the 1:41.109 lost by making a Green Flag pit stop to #69. When the Checkered Flag flies to end the race on lap 29, #69 crosses the Start/Finish line 38.545 seconds ahead of #63. In the laps following the #63 Green Flag pit stop, #63 made up more than 1:00 of the 1:41 deficit last to #69. However, #63 ran out of both time and laps to fully recover from the deficit.

Another interesting point to note is the best lap time and average lap time of both #63 and #69, as shown in Table 3. Racers too often focus only on Best Lap time, and forget that the race is run over many laps. The end result finish order more frequently favors consistency and the racer with the overall best average lap times for the entire race. As Table 3 indicates, while #63 ran faster individual lap times, #69 had a lower average lap time for the entire race. The difference is attributed to the extended lap times #63 spent behind the pace car under the Double Yellow flag. Car #69 did not have any extended laps as a result of the Double Yellow flag since those laps were spent either on pit road during the #69 pit stop or in 'catch up' mode chasing down the back of the pack as the field approached the Green Flag.

	Overall Lap Time Comparison			
	Car #69	**Car #63**	**Difference**	**Advantage**
Best Lap	1:49.549	1:47.779	1.770	#63
Average Lap	2:06.950	2:08.322	1.372	#69

Table 3: Overall Lap Time Comparison

In conclusion, #63 ran two laps at lap times 3:12.641 and 3:09.001 while under Double Yellow flag conditions. Meanwhile, #69 sat on pit road making the mandatory pit stop. When #63 later made a Green Flag pit stop, the #69 circulated the track recording laps of 1:50.459 and 1:49.660. It is not difficult to see how much time the #69 gained as a result of the choice to make the pit stop early and the "racing luck" of having a Double Yellow flag come out after entering the pits. If you do not keep up with your race, you are not keeping up with your competition. And when you don't keep up with your competition, in the end you may find your competitor is now in front of you.

http://mylaps.com/results/newLapchart.jsp?id=507754 provides full color illustrations of the MyLaps lap charts.

Announcement from AMB

By: AMB

Dear Valued AMB Customer:

It has come to our attention that some customers are using abrasive detergents, high-pressure hoses, or even submersion in an effort to clean their transponders after use. Doing so can result in degradation of the transponder's circuitry and overall performance, and damage resulting from these practices will not be covered under warranty. AMB transponders are designed to perform at an extremely high level in typical motor sports environments. However, they are still susceptible to damage when handled improperly. AMB recommends gently washing your transponders with clean tap water and allowing them to fully dry before attempting to charge them.

If you have any questions or would like further clarification on the proper cleaning and treatment of your AMB transponders, please feel free to contact us by phone or via email, or visit AMB's support site for more information.

Contact Information: www.amb-it.com

AMB i.t.
3200 Highlands Pkwy, #104
Smyrna, GA 30082

877-426-2488 or 1-678-816-4000

From the Club Racing Office

By: Susan Shire, Club Racing Program Coordinator

Frequently Asked Questions about www.ClubRegistration.net

Can you help me! I think I registered correctly but it didn't come out right … I'm not on the roster ... I don't know what I'm registered for.

NOTE: From MY HOME PAGE you can register for an event, add a vehicle or correct your vehicle information, see photos, etc. By clicking the sub button MEDICAL & I.C.E. (In Case of Emergency) you can complete/update your Medical or Emergency Contact Information.

NOTE: You must select the appropriate car (from the drop down box) for each Test & Tune/Sprint/Enduro desired … failure to do so will result in your registration approval being delayed.

NOTE: You cannot register someone else on your registration. Each racer must have his/her own profile and event registration.

NOTE: Once you begin the registration process for an event (click REGISTER FOR EVENT button), you are registered. If you mess up your registration you have 4 ways to fix it.

- Select CANCEL to cancel your registration, and start over.
- Select SKIP TO PAYMENT where you can fix your error with the REVIEW OPTIONS button.
- Log out. Log back in, select My Home Page, and then select PAYMENT SCREEN where you can fix your error with the REVIEW OPTIONS button.
- Log out. Send me an e-mail and I'll help you correct your registration. This *fix* is only available once to each racer.

NOTE: On the PAYMENT SCREEN there is the ability to delete a selected option.

There are the 5 driver categories and definitions used on ClubRegistration.net: Please review the definitions for each racer registration to determine what is included with the registration.

SPRINT PRIMARY DRIVER (aka YOU driving YOUR car in the Sprint Race) *Please use this option if you are the primary driver and will be driving in the correct Sprint Race class.*

SPRINT CO-DRIVER (aka YOU driving/sharing SOMEONE ELSE'S car in the Sprint Race. That racer is also registered in his car. The car # for both of you will be the same.) *Please use this option if you are the 2nd driver in shared Sprint Race car and will drive out of class.*

ENDURO PRIMARY DRIVER (aka YOU driving YOUR car in the Enduro Race) *Please use this option if you are the primary driver in the Enduro Race.*

ENDURO CO-DRIVER (aka YOU are registered for the Sprint Race in your car but will co-drive/share SOMEONE ELSE'S car in the Enduro Race.) *Please use this option ONLY if you are the 2nd driver in shared Enduro Race car. You MUST also be registered for the Sprint Race in your own car.*

ENDURO ONLY CO-DRIVER (aka YOU are not registered for the Sprint Race but will co-drive/share SOMEONE ELSE'S car in the Enduro Race.) *Please use this option only if you are the 2nd driver in shared Enduro Race car AND you are NOT registered for the Sprint Race in your own car.*

Sponsorship Update

By: Steve Rashbaum, Sponsor Coordinator

Welcome to our newest sponsor:

The Complete Garage is proud to be a national sponsor of PCA Club Racing. At the Complete Garage, we believe the garage should be an extension of your home.?

We offer the widest selection of durable garage products, including innovative storage solutions, custom cabinets, flooring options, accessories and Griot's Car Care products. Visit one of our sixteen showrooms nationally. Garage Specialists are always on hand to assess a customer's specific needs and to help make the garage a more functional space that can be tailored to your lifestyle. Our comprehensive offering of quality products and services positions The Complete Garage as the leader in the garage enhancement business.

The Complete Garage can also be found at www.completegarage.com

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Forgeline introduces new wheel

The new MD3P is unlike previous Forgeline designs. An intensive machining process culminates into a jewel of a wheel, the MD3P is the ultimate in forged mesh wheels. The wheels feature a unique machining along the outer edge. The beveled outer edge highlights this mesh design. Each spoke features Forgeline's unique chamfer treatment. Half of the fasteners are hidden so that each spoke extends to the outside edge of the center. For the person that likes the timeless design of a mesh wheel, this design is perfectly suited for them.

Each wheel is built with forged 6061 T6 centers, 6061 T6 spun rim halves, stainless steel aircraft-grade fasteners, and feature a painted or chromed finish with a polished or chromed lip. The SP3P is available in sizes from 18x7.5 to 20x13. Since each wheel built to order, Forgeline can offer special features like custom offsets and a choice of center finishes.

Tire Care Tips for Hoosier R6 Tires

Tire Break-In Procedure

Proper break-in will not affect initial performance but will increase the competitive life of the tire.

The procedure can be broken down into phases.

1st phase: The initial run

2nd phase: The length of the time the tire is allowed to "cure"

The Initial Run Heat Cycle

The first laps for the tire are critical for setting up the durability and competitive life. The first session should consist of no more than 10-15 minutes of running. The early part of the session should be run at an easy pace, with the speed gradually increased until the end of the session. The final lap should be run at the fastest possible speed. The intent is to achieve maximum tire temp on the last lap. At this point the car should be brought in and the tires allowed to cool at a normal rate.

During the initial run-in process, the inflation pressure should be 3-5 psi higher than you would normally use. The best progression would have the driver taking 4-7 laps to accomplish this break-in. Each lap should be approximately 7-10 seconds a lap faster than the previous lap. The goal is to have the tire temp as high as possible on the last lap without "shocking" the tire during the warm up laps. In essence, no wheelspin, late braking, or sliding. The last lap should be at, or very close, the maximum possible.

After completing the initial run phase, the length of time the tire is allowed to set is possibly more important. The barest minimum for this process to be beneficial is 24 hours. (Not "the next day"). Any less than this is a waste of time. The best situation would allow a week before using the tire again.

Tire Temperature Recommendations

For best performance the expected temperature range will vary from track to track. Generally, optimum traction will be generated when the pit lane temps show 180-200 degrees for the R6 in Roadrace applications.

Chassis Setup Recommendations

For optimum performance the Hoosier P-Metric radial tires require about 3 degrees of camber. There will be a trade off in maximum performance to maximize wear. Generally, 1/2 degrees less than optimum will result in the best compromise for wear and speed. Less than 2.5 degrees can result in excessive wear on the shoulder junction.

The Hoosier tires typically offer better performance with spring/shock rates higher than previous brands you may have run.

Vehicle size	Recommended Hot Pressure	Cold Pressure
1800-2200 lbs.	34-37+	26-31
2200-2600 lbs.	35-38+	27-32
2600-3000 lbs.	37-41+	27-32
over 3000 lbs.	38-43+	27-33

Tire Pressure Recommendations For Competition

Traditionally, Hoosier tires have often required higher pressures than other brands.

Higher pressures will improve the performance capability but will require a more sensitive feel to take advantage of the increase.

One characteristic of the tires is the tendency to "skate" initially (when inflation pressures are correct). It is important to resist lowering the pressure to attempt to eliminate this feeling. Dropping the pressure too far may improve the "feel" of the tire however it will also lower the performance and increase the wear rate.

Independent rear suspension

With IRS and proper geometry up front, tire pressures can be reduced from the recommendations listed above. When there is adequate camber gain and good roll control, the Hoosier radial tire will perform very well at the reduced air pressure. This results in a bigger "sweet spot" and easier control at the limit.

When tuning at reduced pressures use the following formula to determine the minimum safe pressure: Divide the total vehicle weight, including fuel and driver, by 100 to arrive at the minimum safe pressure. Example: Your car weighs 2750 lbs. as raced. The minimum safe (cold) pressure is 27.5 psi.

Extreme care should be taken when tuning at reduced pressure. Tire damage can occur that is not visible to external inspection.

Vehicles equipped with independent rear suspension (IRS) have a distinct advantage over non-IRS cars when using radial tires. This is true for two reasons. First, it is possible to setup some amount of static negative camber on IRS suspensions, if needed. Second, the IRS geometry can provide the proper camber gain to achieve the dynamic camber needed for a radial tire. This is a great benefit because it then becomes possible to better address front tire grip when the rear of the car can be optimized closer to the tire's potential.

THINGS TO CONSIDER

Due to extremely light construction, Hoosier tires have a much lower polar moment than other radial tires. This translates to a very low rotational mass, which is a good thing for performance applications. The down side to this feature is that the tires do not resist "spikes" in braking force as well as a heavier tire might. As a result, there is a tendency for drivers to "flatspot" a tire the first time really getting to the limit. Vehicles equipped with ABS will benefit from its use. If you do not use ABS it is recommended that you make an effort to minimize

Continued on Page 20..

Continued from Page 19...

stabbing the brakes until you have some experience with the feel of the tire under hard braking.

The light construction also provides less protection from impact damage and punctures. Off course excursions or running over debris on the track will likely result in tire damage.

The tires are not directional. Once some wear has occurred it may be desirable to flip the tire on the wheel in order to even out the wear and maximize tire life.

Wheel Widths

Wheel width dramatically affects wear and performance of the Hoosier P-Metric radial tires.

There is about a one inch window of optimum width. The trick is to figure out that window. A good rule of thumb to use for determining proper width is to use the tread width of the tire. Measure the tread width. Plus or minus 1/2 inch from the tread dimension will indicate the proper rim sizing. It is possible to use narrower wheels, but at a sacrifice to shoulder wear and cornering power.

"Measured" rim vs. "Recommended" rim

In our printed product catalog and on our website tire specifications you will see two columns of information regarding rim dimensions. In most cases, the "measured rim" and the "recommended rim" will be the same. However in the case of DOT tires, the information may appear contradictory.

The reason for the differences lies in the Department of Transportation requirements for publishing tire dimensions on any tire that carries a DOT certification. Each tire size has a specific rim that must be used when taking measurements for tire comparison. This is intended to allow consumers a consistent way to compare tire sizes between brands.

With respect to the Hoosier P-Metric line, the recommended rim size will typically be wider than the DOT standardized wheel.

The fact that a tire will "fit" on a rim is not an indication that it will work effectively in that condition. Radial tires are extremely sensitive to wheel widths. The performance characteristics of the tire can change significantly within the recommended range of application. Mounting a tire on a rim that is outside of the recommendation is not a good idea.

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2008 Club Racing Calendar

Date	Event	Region	Contact
Feb 8/9/10	**Sebring International Raceway***	**Gold/Sun Coast**	Nick Hrycaj 941.697.4621 sebringclubrace@yahoo.com
Mar 14-16	**Texas World Speedway***	**Lone Star/Hill County**	Jim Troxel 713.529.7050 geotrox@aol.com
Mar 28-30	**Road Atlanta***	**Peachstate**	Ian Scott 404.932.3156 clubrace08@peachstatepca.org
April 4-6	**CA Speedway***	**Zone Eight**	Ron Mistak 951.314.3600 mistakcal@earthlink.net
Apr 19/20	**Heartland Park Topeka***	**Kansas City**	Sean Reardon 785.766.7585 sean@reardonunlimited.com
May 3/4	**Las Vegas***	**Las Vegas**	Bob Mohan 702.306.4338 robert.mohan@suddenlink.net
May 30-June 1	**Watkins Glen International***	**Zone One**	Botho Von Bose 416.509.6661 bvonbose@lomltd.com
June 20/22	**Barber Motorsports Park***	**Alabama**	Bill Mitchell 205.251.9263 eas930@bellsouth.net
July 5/6	**Gingerman Raceway***	**SE Michigan**	Gary Ambrus 734.558.7810 gla924sem@juno.com
July 19/20	**Putnam Park Road Course***	**OhioValley**	Rich Rosenberg 513.530.9090 RJROL@aol.com
July 26/27	**Brainerd International***	**Nord Stern**	Roger Johnson 763.557.9578 Rsamerica93@comcast.net
Aug 1-3	**Mosport International Raceway***	**Upper Canada**	
Aug 8-10	**VIR***	**Zone 2**	Tom Bobbitt 757.259.7823 tom.pca@cox.net
Aug 30-Sep 1	**Road America***	**Chicago**	Keith Clark 630.690.3381 kc_design@sbcglobal.net
Sept 12/14	**Thunderbolt Raceway**	**Schattenbaum**	Dan Petchel 609.298.2277 carsinc@comcast.net
Sep 27/28	**Miller Motorsports Park***	**InterMountain**	Mark Boschert 801.596.8245 mboschert1@comcast.net
Oct 31/Nov 2	**Carolina Motorsports Park***	**Carolinas**	John Alpaugh 803.736.3950 jpa914@aol.com

- Indicates an enduro event

Photo by Tom Catania

The Classifieds

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, CorbeauMonza seats with 5-pt harnesses, custom window net (removable), FikseFM10 wheels. $32,000 Bert Cossaboon lbcossaboon@mtmail.biz for pics.

1977 EURO 930 Turbo Coupe. PCA CR Prepared Stock Class D or DE and street legal! Podium 2:36 at TRAC, 2,650 lbs., no sunroof. FABSON AG engine overhaul 6 hours. Safety Device cage, fuel cell, Quaife, crank-fire, larger '85 turbo brakes, carbon fiber adjustable low drag rear wing. Kevlar and carbon fiber high down force front end with twin oil coolers and 4 brake cooling tubes. Recaro FIA seat, lateral head support. $29,750. dmatre@wi.rr.com 414-774-2264

1987 930 Turbo Racecar: POC & PCA race ready. Very fast, very clean. 3.4 liter turbo built by 911 Design; Motec M48 engine management; JRZ suspension set up by GAS Motorsport; 2 sets of17" BBS wheels; 27 gal Fuel safe cell; gears, cams, headers; full cage; $49,000 firm; Contact Jeff Melnik: 805-895-7000 or email: summbeach@aol.com

2004 GT3 CUP, Silver, fresh Porsche Motorsports engine. Ready and LEGAL for PCA GTC3, SCCA GT2, New 996 GT3 cup POC/ PCA series, new USERA enduro series, colectors, or future vintage racing (has Supercup history). See http://www.analogman.com/911/gt3 for more info. Can be seen in Danbury, CT. Asking $125K, new 997 cup car coming in December. Mike (203) 778-6658

1988 944 Turbo S Race Car: Big Reds, Charlie Arms and caster blocks, new top end, hoses, seals and airlines replaced, 17in Fikse FM/10's, 944S2 ring and pinion, suspension points are Delray bushings, Porsche Motorsport suspension, camber adjustments, rear coil overs, additional oil cooler, helmet cooling system, fiberglass intercooler intake and rear European style bumper and much more. 35K Todd 407-342-0259 or tfosnow@cfl.rr.com

1970 911 Race Car GT4R, w/935 Glass, Fresh 2.7L, 290HP, 901 Trans w/Quaife, Coil Over, Fuel Cell, 10s & 12s, Complete Restoration w/New Roll Cage, w/20' Enclosed Trailer. IMSA, PCA, POC. $35K Dennis Tholen at dltholen@charter.net 775-972-3257

1969, 911T-Porsche, Full fiberglass 1974 RSR body. PCA-GT4, CVAR, SCCA GT2 orig. logbook from '79, New white/blue paint, 2.8L engine w/only10hrs, w/linebore/shuffle pin, permatune, rev-limiter, carrillo, 46 webers, 930 brakes, coilovers, ATL, aero-quip, fire sys, full cage tied to suspension, 2030 lbs, '74 fiberglass, $19k David Beauregard, 15622 Sunfish Dr., Willis, TX. 77318, 936-890-8470 (wk),
david@professionalbakeware.com

2002 911 GT3 Cup. Competitive ex Farnbarcher/ Infineon cup car. Race the car that Marco Werner drove to victory in worldwide Michelin Cup races in 2002. Fast, dependable & hot looking in original race trim. Car is updated to 2003/2004 specs with adjustable shocks, new gearbox & clutch, new exhaust, cool suit, race video, brake cooling ducts, etc. Motor is strong. It is a Porsche sealed Cup engine new in 2002 AFTER the series ended. No races on engine. sets wheels, rains, wand, transport hubs incl. $92,000 obo. Jeffrey Freeman 206.419.7037
bmh993@porschenet.com

1987 944 Turbo Cup racecar. Built by Porsche Motorsports in Weissach for Escort series racing use. Maintained and updated by Steinel's Autowerks in Twinsburg, Ohio. Many safety and performance mods. Many race wins in SCCA-ITE and PCA-GT3. Safety, reliability, performance, and collectibility – this car is the real thing. SCCA and PCA logbooks. 2 sets Fikse wheels, 1 set BBS wheels. $31,900. Don Velcio 440-886-1660.

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, Quaife,full cage, C/F wing, spares, logbooks & open trailer. Photos avail. $38,000. Gary McNair, Napa, CA . 707 252 2363. gmtrackman@sbcglobal.net

1973 911 with GT-2 wide body kit and wing. 2.7L 250 HP engine; elgin mod S cams; dual carburetors; turbo brakes; 2.7 lt case with time certs and race head studs, Carrera suspension; bilstein shocks; adjustable sway bars, full cage, G-50 combination transmission; front mounted oil cooler. Weighs approximately 2100 lbs. Built and maintained by RPM. Minimal hours driven. Please contact Mark for more information: msilverman@steptoe.com, 202-429-6450.

1974 RSR Replica built on '86 chassis 2.8L, 915 transaxle, ready to race or be shown. Many new parts including; fuel pump, Wevo shift, 27 gal. FuelSafe, Dual Fluidyne coolers, Aeroquip fuel/oil lines, wheel bearings/ hubs, fire system, serviceable dash, pull cable throttle, composite body panels, (2) sets BBS wheels/Yoko slicks, detachable steering wheel, dual mastercyl, cockpit adj. brake bias, Recaro Hans seat, Willans belts, dyno'd 8100 Penskes, quality wiring harness, $90,000.00 USDContact: Chris Musante 860-291-9415 **chris@musantemotorsports.com**

Porsche Factory 993 Cup RSR Race Car Original 993 Cup 3.8l RSR; WPOZZZ99ZRS398073; Fresh 3.8 engine 400HP; GT2 EVO2 body; 2,350 lbs; MOTEC; G50 6; Big red; 2 sets BBS; central bolts; Endurance cell; Many parts. US$69,000 (CAD$79,000). jgailleur@hotmail.com 514-578-3601 http://993cupforsale.googlepages.com

1990 944 S2 Firehawk Race Car Penzoil car from Canadian series. Yellow w/ black. Complete vehicle rebuild by Precision Motorsports (over $20k spent). PCA Club Racing E Class legal at 2,900 lbs w/driver! Asking $29,500 race ready. Will 908.310.4858 NJ.

1989 Porsche 944 Turbo S Red. Powerhaus Turbo, Motec M4 Pro engine management (data logging, add'l memory, lambda sensor upgrade), 475 hp, 50 hrs; new clutch, brake bias, adjustable 968 RS wing; Recaro SRD seat; welded roll cage w/window net; 2 sets of 18" wheels w/Hoosiers, composite fenders, hood, doors, nose, splitter; Lexan windows. Will 908.310.4858 NJ.

1999 996 Cup Car brand new transmission & clutch 2 sets of wheels, 40+ hrs great leak down #s. Never been in a accident cleanest 1999 out there! 2006 GTC3 class wins at Midamerica, Autobhann, Topeka (track record). $65,000.00 obo Contact Bill Berard (952) 921- 4955 ex1 mmabill@aol.com

1984 911 CARRERA, PCA GT-3S, low hour race 3.4, fresh 915, short ratios, L/S, Sachs; engine and tranny coolers, 20 gal. Fuel Safe, Koolshirt, Sparco seats, 6 pt. cage, carbon fiber doors, fenders, hood, dash; weighs 2100 lbs., twin-turbo brakes (new front rotors & pads), 3 sets 993 wheels & tires, new Hoosiers, 3.8 RS wing, coil-overs, monoball, fresh paint, current log book, much more. Fast, reliable, low maintenance race car, beautifully built by "Foreign Affairs" in Florida for 5 times the cost. Ultimate cheap thrills for $32,000. Quality trades considered. Greg Gosar,719 852-5950, Monte Vista, Colorado, 81144. gosar@amigo.net

1984 911 Carrera Targa Race Car: E Class with chip or F Stock w/o chip. Same owner since 1989, raced in PCA and HSR since 1994. FRESH 3.2 Ltr. with $7K rebuild. Full custom cage, ATL, Mocal, fresh 915 with Swepco 201, 23/31 torsion bars, Steve Wong chip, FIRE BOTTLE, MUCH MORE. RACE READY $35,500.00 TAMPA, FL. LARRY HOFFMAN 813-288-9117.

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1967 911S Viper Green Numbers Matching 2.0L # **308377S** GT 5 S Full Roll Cage, Corbeau Monza Seats, and 5 Piece Race belts. 2 Sets Wheels & Tires,15 Gal Fuel Cell, Turbatrol Oil Cooler, Weber Carbs, MSD Ignition, Short Gears – CFLOS, Lexan Rear Window, 2153 Lbs. Fully sorted and ready to compete.PCA Club Race and Rocky Mountain Vintage Racing Log Books.Pictures at : thesourceintl.com/67s **Email** Dale Thero speedster1@thesourceintl.com

1973 911 GT4 , 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, Quaife,full cage, C/F wing, spares, logbooks & open trailer. Photos avail. $36,500. Gary McNair, 707 252 2363. gmtrackman@sbcglobal.net

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