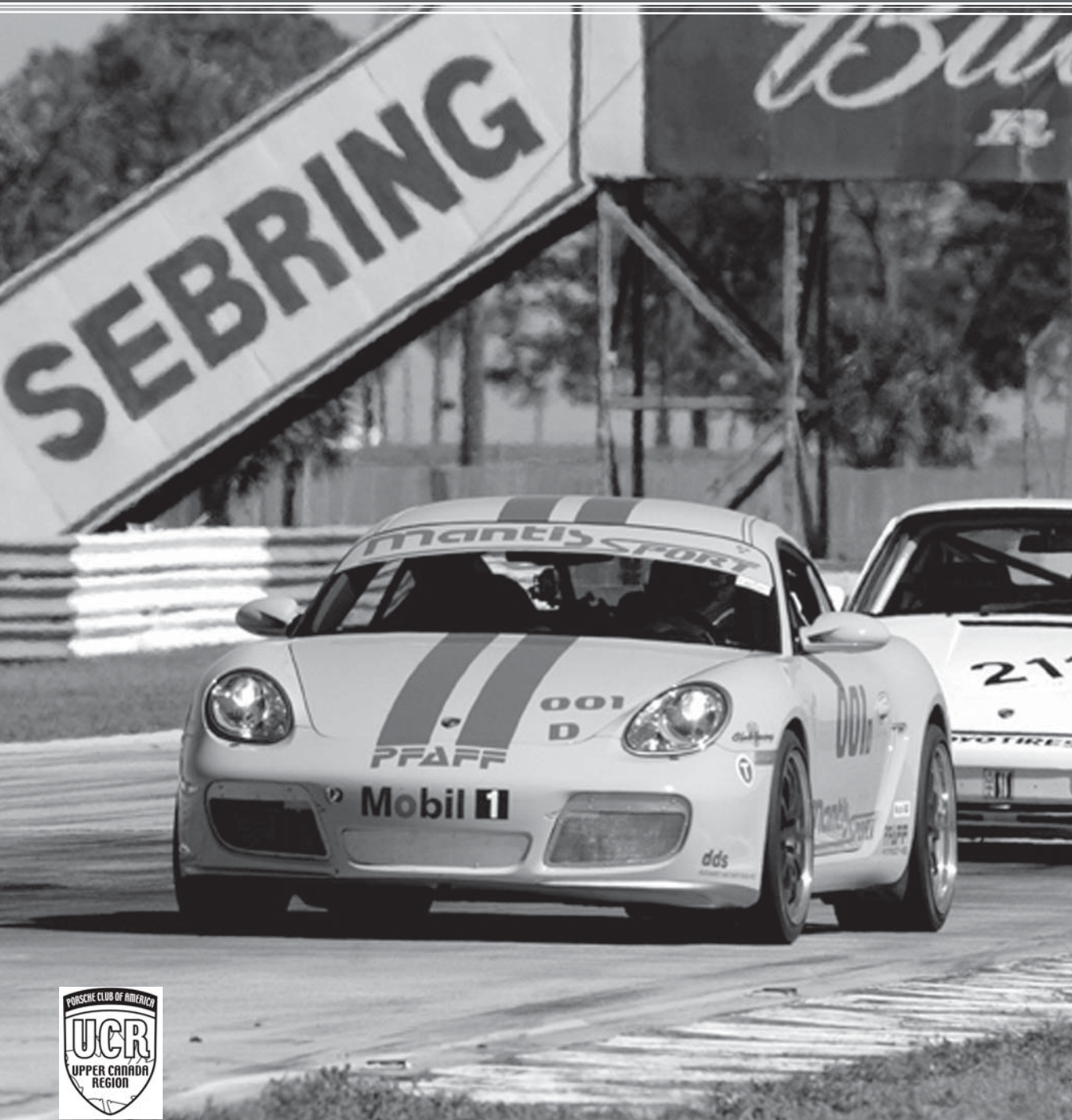


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The Journal of Upper Canada Region of the Porsche Club of America





## 30 days to sebring The MantisSport Cayman S Project

**By Ernie Jakubowski and Stan Carmichael**

*As promised last month, here is the first in a series of articles on how UCR Member Ernie Jakubowski became the first driver to race a Porsche Cayman S.*

### Part 1 - The Decision

It is the fall of 2005, the driving season has ended for another year and thoughts naturally turn to the next season. For Ernie Jakubowski, Scott Gerard, Bill Comat and I these discussions take place on Wednesday evenings at The Firehall, a restaurant and bar in Bronte that has hosted our weekly bench racing sessions for several years now. It was here less than one year ago that Scott's 944 race car was designed (on a napkin of course), plans for which race events to attend are made, who will crew and where we will stay and of course the never ending discussion. If money weren't an issue what would we do?

Both Ernie and Scott had just completed a very full and successful season, Scott with his 944 PCA "I" class car, which Bill co-drove to several victories and Ernie with his 911 PCA "G" class car. Ernie and Bill had added their second Targa Newfoundland Modern Class win in as many attempts; both cars were sorted and very competitive. I had served as crew chief for them at three events and was proud to have contributed to their success, so I was more than a little surprised when they both sold their race cars. Now what do we do?

Over the course of many conversations the prospect of racing the new Cayman S came up, our interest grew as we discussed what class the car would run in, what would be needed to be





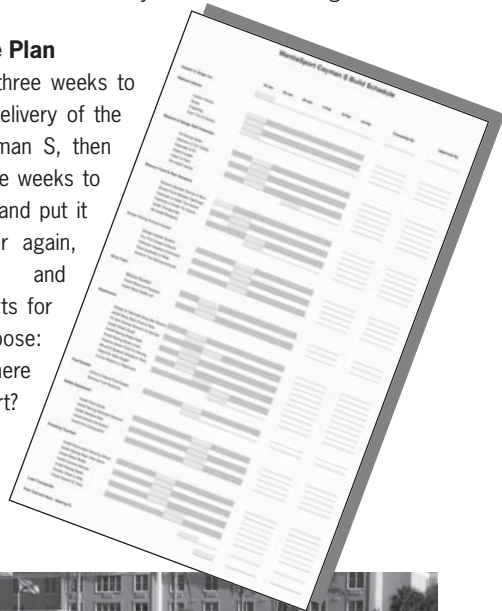
competitive and, of course, how much would it cost. With this in mind Scott and Ernie made some inquiries to Pfaff Porsche as to the availability of cars and the folks at Pfaff made an offer for a new Speed Yellow Cayman S due in on the first shipment, January 14th, 2006. By now it is mid December and that's when I got the phone call. "Hi Stan it's Ernie, bought a Cayman, Yellow, arriving January 14th, we are going to Sebring, bye." Yes three weeks for planning, one month of building, we would race the car at Sebring on February 10th.

Ernie made the decision based on a couple of factors, the first was he wanted a new challenge, one that he had not yet tackled, secondly, he had great interest in the Boxster platform that was the foundation of the new Cayman S and lastly, he would be the first to prepare and race Porsche's newest offering. So with no experience with the car, no data to reference and having never

driven one, he began to design the changes he thought were necessary to transform his new car into a competitive race car. He had three weeks until the car arrived. I had the honour of working with Scott last winter when he built the 944, working evenings and weekends we transformed an ordinary 86 944 into a beautiful and successful race car. This took five weeks to build and we had the advantage of Ernie's vast experience of preparing these cars, he had built many successful 944's and had serviced many more. It was an educational experience to say the least, working with the team at Mantis, Scott and I managed to finish the car in record time (so we thought). We learned a lot about how to approach a build, based mostly on the mistakes we made, which were plenty. With this experience in mind I suggested to the bench racing group that very few people actually understand what it takes to prepare a street car for racing, it might be a good idea to document this project and share it with our fellow UCR members, (as if we didn't have enough to do). Ernie thought this was a great idea, so buckle up as Ernie and I take you inside the shop as we prepare his new MantisSport/Pfaff Porsche Cayman S for its Sebring debut.

**Part 2 - The Plan**

We had just three weeks to prepare for delivery of the Porsche Cayman S, then just over three weeks to take it apart and put it back together again, substituting and modifying parts for its new purpose: racing. Where do you start?



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One lesson Scott and I learned last year was that the car comes apart much easier than it goes back together. It is kind of Murphy's Law for automobiles, you always have bits left over and can never find the last fastener you know was there when you disassembled the thing. With such a short time frame and no idea what we were going to have to do, we decided that when we disassemble the car we would "bag and tag" every part and the appropriate fasteners for easier identification on re-assembly. This is a process most restorers use and can save an amazing amount of time at the end of the build.

We also needed a master plan and a schedule to guide us through the project. Ernie was busy sourcing parts and designing changes so we sat him down one evening and listed everything he thought we needed to do, then what was the priority, when would we have the parts ready to do it and how long would it take. We then took all of this and created a chart that listed the tasks in order of when they needed to be done and the start and finish time for each one. We also included a space on the chart for to sign off on completed tasks and, next to this, a space for another person to sign that they had checked this and it was done properly. There would be no time for errors on this build. This chart was hung on the wall in the Mantis lunchroom and became the centre point of our activities, each day as we prepared to leave we would sign off the tasks completed or partially completed, add new ones we had discovered and prepare for the next sessions work. Everyone involved could follow the progress and clearly see what was next and what was late. It became our savior. It was called "Project Sebring" the last item on the list was dated February 10, 2006, "Test and Race – Sebring FL".

While Stan was busy organizing the plan and schedule Ernie was focusing on the technical details. Here is his account of the planning stage. With very little time to measure and review the technical aspects of the build I was faced with some unique decisions. Designing a roll cage for a car I have not seen, what will I do with the suspension, wheels, tires and the exhaust system? These are usually much simpler



questions but I hadn't seen the new Cayman S. Was this car a Boxster S with a hardtop or did Porsche make changes? Rick Bye from Porsche brought the press car to my shop one evening, it was the only Cayman S on the road in Canada and it gave me an opportunity to measure wheel spacing and have my first look at the suspension in detail. It was also helpful to discuss our plans with Rick as he has a great deal of experience racing Porsches.

From Rick's visit and after consulting with Bill and our suppliers I decided to order the race wheels from Forgeline. We had put Forgeline wheels on Bill's Turbo S and found them to be of good quality, Forgeline is also a PCA Club Racing sponsor. I decided on 9" x 18" fronts and 10.5" x 18" rears and ordered two sets; we would run Hoosier dry's 245's on the front and 285's on the rear, wheels and tires done. Next we need to look at the



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> suspension.

I wanted to have a fairly stiff car. With the earlier 911 models you are limited by the size of torsion bars available. The Cayman S utilized coil-over springs and shocks so we have much greater choices of spring rates available we can also change them quite easily. Three areas need to be addressed when considering the suspension, springs, shock absorbers (damper system) and sway bars. These three components need to work together in order for the car to perform, too stiff and it won't absorb the bumps, too soft and we will have too much weight transfer and lose the ability to transition the car quickly. Too stiff on the rear and the car will suffer from too much over-steer (tail happy) too stiff on the front and it will under-steer (won't turn). We have to find the balance that works. Since Sebring is a very bumpy racetrack I decided to ere on the softer side of stiff.

I choose LEDA for the main suspension parts; they are adjustable for compression (bound) and rebound and have gained a good reputation with the club racers I talked with. We used them for Scott's 944 and they worked well. Their North American agent assured me that they could manufacture a set on time. They would be shipped directly to Mantis from the factory in England by the end of January.

I have had good success with Smart Racing Products sway bars on my 911's; they are very well designed and manufactured. When Rick Bye brought the car by I had a look at the suspension and mounting points, it would take some fabricating but I thought these bars, which are designed for a 911, could work. The decision on suspension parts done I turned my attention to the engine.

One thing I have noticed with the Boxsters we service is that

the exhaust headers are fairly small. Under PCA Club Racing rules we cannot modify the engine, with the exception of balancing, from the intake to the exhaust manifolds. This allows us to modify the headers and with better breathing an engine makes more power. I ordered some stainless steel tubing, pre-bent, and planned to make my own headers, as there are few commercially available performance parts on the market for the 3.4 litre engine as yet.

Another area of concern with the new generation of Porsche engines, 986, 996 and 997 is that they are of a "semi-dry sump" design. They are built with a crankcase housing inside a main housing which collects the engine oil. This has proven to be fine for street use but on track they have a tendency to suffer from oil starvation, not particularly good for an engine at higher revs. I designed a sump extension that would accommodate and extra 1.5 litres of oil and, as soon as we had the car, would have the machinist measure the exact proportions for this part.

The last item on my pre-design list was the roll over protection. This would be my very first new Porsche and I wanted the interior to be as unblemished as possible, I might want to drive the car on the street occasionally. I have built many roll bars and cages in the past and realized that I would have to wait for the car to be stripped before I made a final plan for the cage.

It is now early January, Stan has the schedule done, I have ordered all of the parts I can. Now where is my new car?

### Part 3 - We Prepare to Start

On January 10th I gave a short talk about our plans to prepare the new Cayman S for Club Racing at the monthly UCR social meeting. Rick Bye brought the press car to the meeting and parked it outside the Port Credit Yacht Club. Our plan to build the car for Sebring was now public knowledge. Pfaff had called me that afternoon; Porsche had slated Saturday January 14th as the first delivery day for the new Cayman S. They would deliver mine on Thursday January 12th. Time to break in the engine and try out the new car, weather permitting. We would begin the build process on Saturday January 14th. >



> January 12th was a mild winter day; I picked up the new car that afternoon and drove it back to my shop in Oakville, about a forty-minute drive in traffic. Stan met me at my house after dinner and we departed on the first and last test drive we would have before beginning our work on Saturday morning. My sister, Angie Herring and her husband Mark, live about thirty minutes north of Oakville in the country, we took about two hours to make the trip. Tight bendy roads and a brand new Porsche, I drove the car and it responded, it responded very well. We were both impressed with the torque curve and the gearing, the car pulled like a motorcycle, hit the next gear and it just kept going, right through sixth gear. The suspension gave near perfect balance; I would take this car to Targa just like it was. Stan summed up our impressions by announcing to the group of family and friends that visited Angie's house to see my new car that evening "Saturday we are going to tear apart a perfectly beautiful new Porsche" he announced, after waiting for everyone to finish suggesting I was crazy he added, "but we are going to build it into gorgeous new racecar". Stan had more than a little interest in how the car would look; he designed the graphics package for the new car. I like Viper Green. My Viper Green 911SC might have been the second

most successful car I have raced, the first being the Mantis Spyder off-road car I built and raced to six National Championships. It was green too. The new Cayman S would be Speed Yellow, I wanted Viper Green but to get that colour meant custom ordering the car. Not only would this cost six or seven thousand dollars more but would have delayed delivery to early summer. I would miss most of the season. Stan loved the idea that the car was yellow; he could use the Mantis red without outlining (he hates outlines). We all thought the car should have fancy graphics. Stan ignored us (as usual) and prepared a simple look, red stripes, red MantisSport logos on the windshield and the doors. He said the car was a modern classic and we should treat it that way. When we were preparing the ad for Provinz, Stan wanted to show the new racecar for the January issue, it would be published just as we got the car. He used a stock picture of a Cayman S and had mocked up the new graphics on this picture. He asked me what number to use, he didn't want to use my old #911 for the new car, as it wasn't a 911. "001", I said. "Why 001"? I just pointed to a picture of the Mantis Spyder. I won't have a Viper Green racecar or fancy graphics but I got my old number back.

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> Ernie Jakubowski is the owner of Mantis Automotive in Oakville, Ontario. Ernie has 6 National Off-Road Championships, 2 Targa Newfoundland Modern Class Championships and many PCA Club Racing victories to his credit. Ernie is a Director of Upper Canada Region and a UCR Instructor.

Stan Carmichael has served as the MantisSport crew chief for the last 4 years. Stan is a former Director of Upper Canada Region, serves as the Co-Chair of our Driver Education Programme and a UCR Instructor.

In part 2, next month, we will join the build team as they begin the daunting task of converting the Cayman S into a PCA Club Racing racecar.

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