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WEDNESDAY, JUNE 23, 2010

Team Member Spotlight: Neil Roberts

Neil Roberts

Neil is one of our Senior Engineers and has been with Swift since 1996. Neil recently wrote a racing technology book, please [click here to check it out!](#)



Caption: Here it is: the beginning of the beginning for me in 1983. You have to own two Triumphs to make one of them run. Every time I actually got to where I was going, I felt like jumping out of the car, raising my arms up, and yelling "Yes! I made it!"

What got you started in racing?

I was one of those kids who could take the old bomb-proof steel Tonka toys apart, so I have always been a nuts-and-bolts kind of guy. The fact that my dad is an aircraft mechanic and always has a machinery project of some sort going made it easy to learn. In order to get me out of his hair, he bought a junkyard car for me when I was 9, so I learned how to round off bolt heads, crossthead them, and recover from it on that car. I remember spending hours turning the crankshaft around with a big breakover bar and trying to sort out how the engine worked by watching the valves go up and down.

ABOUT SWIFT

SWIFT ENGINEERING

Swift was founded in 1983 as a designer and manufacturer of world class open wheel race cars. Swift has produced a wide range of cars from amateur category racing cars, like its Formula Ford, to professional, world class racing cars like its Formula Atlantic chassis and the race winning 250 mph CART Champ Car, which won its first race in 1997. In total, Swift has produced over 500 cars and won over 40 national and international racing championships.

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Caption: Here he is folks, the happiest kid in the world! It's a \$1500 race car! It's also the best handling car I have ever driven. I wish I still had it. It's a Caldwell D9, the first American made Formula Ford.



Caption: \$1500 race cars need a little TLC.

How many years in racing now?

I have always found throttles and steering wheels to be highly entertaining, but my first autocross was in 1983. I still remember that run now, 27 years later. That was a big step into a new world. In addition to zillions of autocrosses and track days, I have run a few seasons of SCCA club racing. In my last Formula Ford fling, I started 12 races and won 4 of them.

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Swift Engineering Another Team Member Spotlight feature! This time, hear from one of our Senior Engineers, Neil Roberts!

Swift Engineering: Team Member Spotlight: Neil Roberts
swiftengineering.blogspot.com

Yesterday at 6:07pm

Swift Engineering All of us here at Swift Engineering congratulates Tony Kanaan for his win at the Iowa Corn 250!

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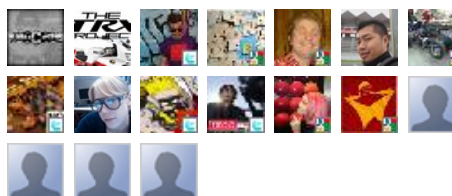
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Caption: Dodging the rattlesnakes at Big Spring, TX during my first SCCA road racing driver's school.

I liked racing so much that I wanted to make a career of it, so I dove head-first into aerospace engineering, specifically to become a race car engineer. I had an absolute blast in the Texas A&M Sports Car Club, and was the president of the club for a year. Jim Hall gave me a massive break by hiring me for his start-up Indycar team right out of college, and boy did I ever learn a lot in a hurry!



Caption: Another day, another SCCA road racing driver's school. Charlie Harris crewed for me that day, and has gone on to engineering engines at Ilmor.



Caption: Drive it, Man!

- ▶ April (3)
- ▶ March (2)

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Year started at Swift?

I started in August of 1996, so the 007.i Indycar design was well under way for debut in early 1997. Despite the fact that I was the last engineer hired of 15 who worked on that car, I designed 28% of its parts! I have worked with a lot of great people, but I'm still the fastest engineer I know.



Caption: Leading the grid ... at another driver's school.



Caption: The return of the happiest kid in the world! I had just lapped the field at Abilene.



Caption: Some days, the bear eats you.

Drivers you've worked with?

Myself, of course! It was an amazing thrill to work with the racing legend Jim Hall. I worked with John Andretti and Teo Fabi every day for 2 years each while I was at Hall. At Swift, I've worked with Michael Andretti, Christian Fittipaldi, Roberto Moreno, Richie Hearn, and Robbie Gordon. I have also worked with many of the best and brightest race car engineers.



Caption: Late arrival at a special event.



Caption: The trophy collection from my time in the Texas A&M Sports Car Club. It's all about priorities: 13" TV, 40 tires stacked up in the closet.

What Swift racecars have you worked on?

007.i, 008.a, 009.c, 010.c, 011.c, 014.a, 015.fc, 016.a, 017.n, and hopefully several more! Also, I was the chief engineer for the design and construction of the Eclipse Concept Jet and 2 generations of Swift Killer Bee UAVs.



Caption: Feeling oh-so-regal at Indy.

Favorite aspect of working at Swift?

I get to learn a lot from great people, and the amazingly cool go-machines that I get to design are transformed into real hardware by superb craftsmen.



Caption: Feeling totally geeky and scientific in New Hampshire.

Personal Interests?

My wife and two young boys keep me very busy! I use the commute to and from work as my daily driving entertainment fix, I'm an aviation enthusiast, and I'm promoting a racing technology book that I wrote: [Click here to check it out!](#)



Caption: Feeling a pattern developing here.

Tell us about that book!

It's called *Think Fast – The Racer's Why-To Guide to Winning*. In the process of playing with cars, I have learned a lot of things that are not in any of the books I have read. So, I had a good-sized buildup of original ideas floating around in my head. Also, most racing technology books are primarily about the technology, and not so much about why to use or avoid any of the many types of racing technology out there. So, that gave me a unique path to follow for the theme of *Think Fast*. Additionally, a lot of the aspects of driver skill development that I consider to be critical have not been presented in print before, so the book gave me an opportunity to describe my

approach. Finally, it is an opportunity for me to present my thoughts on a few of the big-picture, philosophical notions of why we do what we do, and what we can get out of it.

There are a lot of active motorsports competitors who really enjoy the thrill of competition on wheels and have a real hunger for sensible, practical advice on how to develop themselves and their equipment into a winning program. Think *Fast* does that, but in a different way than any other book that I know of. It is focused on *why* to do some things and *why not* to do other things in order to win. To sum it up, Think *Fast* teaches racers how to develop a complete strategy for success, and how to realize that success.



Caption: Where's Fireballs? 1991



Caption: Where's Fireballs? 1992



Caption: Where's Fireballs? 1993



Caption: Where's Fireballs? 1994

Advice for students interested in a racing career?

Choose your college based on the strength of their Formula SAE/Hybrid/First program. You will be leading it in a few years. If you intend to be a professional driver, you will spend most of your time pursuing sponsors. Being a racing mechanic requires catastrophic devotion and does not pay well per hour, but talented racing engineers are highly sought after. High end race cars and airplanes are much more similar than the airplane guys are willing to admit, so I recommend aerospace engineering as the right major for future race engineers and race car designers. You have to *really* want it to earn an aerospace degree, so take those math courses seriously. Once you make it into a race team, maneuver your way up to chief engineer quickly.



Caption: Awesome engineers, awesome car.

Thoughts on Swift's current Indycar concepts?

They just keep getting better! The numerous concepts and their wide variety reflects the fact that Swift *really* wants this business! The first set of concepts was revealed at nearly the same time that the IRL released its list of desirable attributes for the next Indycar, so our first concepts went in a different direction. The next set of concepts incorporated guidance from both the IRL and the fans who made suggestions on many of the racing blogs. The current concept is a further refinement and smoother integration of the many inputs, and it is sure to evolve more in the near future. Our concept can be built by Swift right now, since Swift is the only bidder who does not need a start-up manufacturing operation to build real American-made Indycars!



Caption: The happiest kid in the world is the chief engineer of the coolest airplane ever!

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