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JULY 2014
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g-Force R1 S

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ST
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19 20

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17 18 19

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matte silver, black, gold
17 18

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17 18

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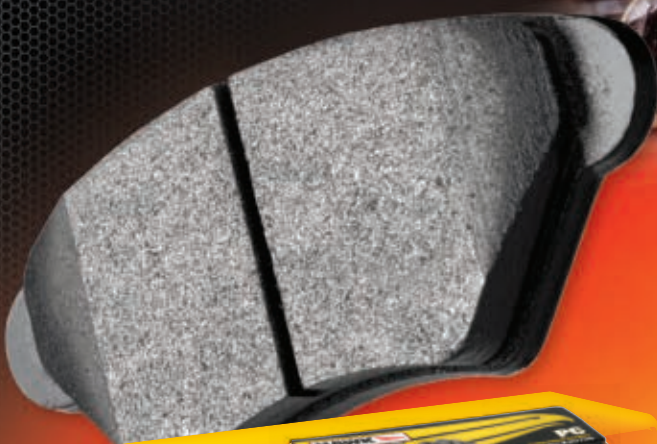
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ON THE COVER

Philip Royle was the shutter monkey who captured Randy Cook in his Formula 1000. The skilled post-production hands of Sean Rice, however, really brought the scene to see-through life.



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Formula 1000 packs technology, speed, and excitement



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More than 300 competitors took on the challenging Thunderhill Raceway Park circuit

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THE AUDIT BUREAU MEMBER
(ISSN 0300-6387-USPS #540410)

THIS MONTH IN FASTRACK NEWS >

The June issue of *Fastrack* news is now available for download from SCCA.com/fastrack. It is also available by mail via special subscription.

BOARD OF DIRECTORS

• Meeting minutes

CLUB RACING • Board minutes • Technical Bulletins

SOLO • Board minutes • Technical Bulletins

ROADRALLY • Board minutes

RALLYCROSS

• Board minutes



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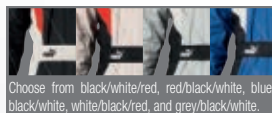
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FRONT

REAR

The new PUMA Avanti suit for 2011 utilizes revolutionary and proprietary advancements in material, form, function and design synthesizing the ultimate drivers environment for performance and endurance for the professional driver. Lightweight and breathable quilting of a unique 3-layer design consisting of an Aramidic outer layer, a Nomex waffle inner layer, and PUMA's new proprietary 'middle layer' offers an unmatched 33% weight reduction, an increase in permeability (breathability) by 55%, and a higher thermal protection by 11% over other manufacture's 3-layer lightweight designs. Anatomically correct pre-shaped body creating less bulk in the driving position, increased freedom of movement and agility, along with pre-shaped 'slim-fit' sleeves and pre-shaped legs reducing driver's fatigue of the arms and legs. PUMA's own proprietary EMS system of elasticized panels at the back of the arms, replacing soft knit gussets, reduces the weight and bulk in the shoulder area optimizing the acceptance of Hans head and shoulder restraints.



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After a cone erased his quickest run in class competition, relegating him to fourth place in STX, Randall Prince got a second chance in the Super Shootout, this time taking it all the way for the win.

DATE April 12, 2014

LOCATION Wilmington, Ohio

WHAT Randall Prince tips a cone during Street Touring Xtreme competition at round one of the Tire Rack Match Tour.

PHOTOGRAPHER Jeff Loewe





"I saw Danny Kao wave his hands and start going crazy, and I knew we took the win."

RANDALL PRINCE

1965 was a banner year for Chaparral Cars, thanks to the on-track efforts of founders Hap Sharp (left) and Jim Hall (right). Sharp recorded 10 wins that year, including the 12 Hours of Sebring, the 500-mile at Road America, and the season ending Nassau Trophy.

DATE October 31, 1965

LOCATION Riverside International Raceway

WHAT Hap Sharp and Jim Hall enjoy a post race victory celebration, after Sharp wins the 200-mile Times Grand Prix.

PHOTOGRAPHER SCCA archives



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AND ONLY BRAKE WHEN WE HAVE TO.

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CLUB LIFE



SOLO NATIONALS REGISTRATION

Registration for the 41st Tire Rack SCCA Solo National Championships opens June 2. The 2014 running hopes to see some 1,200 drivers descend on the concrete beach of the Lincoln Airpark in Lincoln, Neb. Visit www.scca.com/solo to enter.



FORMULA F FESTIVAL BOUND FOR BARBER

TRADITION

Festivals to celebrate FF are now tradition, with one of the first coming in 1989 at Willow Springs in southern California for the 20th anniversary (BOTTOM RIGHT).

Formula F is celebrating its 45th anniversary with a U.S. Majors Tour Festival at the picturesque Barber Motorsports Park in Birmingham, Ala., on Aug. 9-10, 2014. Few classes over the years have featured an alumni as accomplished as Formula F, from the first Runoffs Champion Skip Barber, who went on to taste racing success in around the world, to CART champ turned IndyCar team owner Jimmy Vasser. 1993 Formula F Champ Anthony Lazzaro has had the opportunity to bang corners with the best in IndyCar, NASCAR, and sports car racing, and recorded an SCCA Pro Racing Pirelli World Challenge GT win in 2014, also at Barber Motorsports Park.

At past Formula F gatherings, the action in the pits has been as exciting as on track, as the who's who of Formula F past, present, and future have been in attendance. When the 20th anniversary visited Willow Springs in 1989, SCCA legends Dave Weitzenhof, Bob Lobenberg, Eddie Miller, and Jeremy Shaw were on hand, as well as Barber and Vasser.

Highlights for this year's event include three classes of Formula F, offering on-track activates for everything from

modern day machines to the vintage treasures that started the revolution. Also enjoying races that weekend will be Spec Racer Ford, Spec Racer Ford GEN3, Formula Enterprises, and Formula 500, alongside their new 600cc counterparts.

Registration for the event opens in June, and a tentative schedule includes 125 minutes of total track time per group, with an expanded schedule on Sunday that includes six race groups. Saturday evening will make use of Barber Motorsports Park's expansive facility with an onsite banquet.

Additional exciting news will be released, possibly by the time you read this, including the potential for additional contingency programs. Visit www.scca.com for the latest news on the 45th anniversary festivities.



U.S. MAJORS TOUR FORMULA F FESTIVAL

Barber Motorsports Park | Birmingham, Ala.
Aug. 9-10, 2014 (tentative schedule)

SATURDAY

8:00am	20min practice, groups 1A & 1B
8:30am	20min practice, group 2
9:00am	20min practice, group 3
9:30am	20min practice, group 4
10:00am	20min practice, group 5
10:30am	20min qualifying, groups 1A & 1B
11:00am	20min qualifying, group 2
11:30am	20min qualifying, group 3
1:00pm	20min qualifying, group 4
1:30pm	20min qualifying, group 5
2:00pm	30min sprint race, groups 1A & 1B
2:45pm	30min sprint race, group 2
3:30pm	30min sprint race, group 3
4:15pm	30min sprint race, group 4
5:00pm	30min sprint race, group 5

SUNDAY

8:00am	10min warm-up, groups 1A & 1B
8:25am	10min warm-up, groups 2 & 4
8:50am	10min warm-up, groups 3 & 5
9:15am	50 mile/45min feature race, group 1A
10:15am	50 mile/45min feature race, group 2
12:00pm	50 mile/45min feature race, group 1B
1:00pm	50 mile/45min feature race, group 3
2:00pm	50 mile/45min feature race, group 4
3:00pm	50 mile/45min feature race, group 5

Group 1A = SRF
Group 1B = SRF3
Group 2 = FF
Group 3 = FE
Group 4 = CFF/VFF
Group 5 = F500/600

GUMBY GOES RACING

SCCA Pro Racing Mazda MX-5 Cup racer Kenton Koch not only decorated his racecar but also dressed the part at the May 1-3 MX-5 Cup race weekend at Mazda Raceway Laguna Seca. Koch's Gumby-inspired racing suit will be auctioned off by the Glendora, Calif., library to support the library.



PROJECT YELLOW LIGHT WINNERS

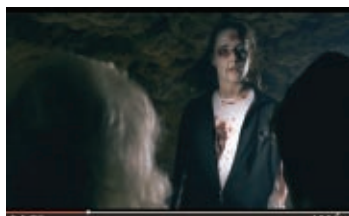
In May, the U.S. Department of Transportation (DOT), Mazda Motorsports, National Organizations for Youth Safety (NOYS), and the Ad Council announced the high school and college winners of the third annual Project Yellow Light college scholarship contest.

The contest calls on students to develop and produce a short video educating their peers on the dangers of using mobile devices while behind the wheel of a vehicle. First-place winners receive \$5,000 in college scholarship funding. The high school grand prize was awarded to Dylan Malburg of Grand Rapids, Mich. The college grand prize was awarded to teammates Paul Price and Josh Falkum, students at the Savannah College of Art & Design. The winning videos can be viewed at <http://goo.gl/xakrkq>.

Second- and third-place prizes were awarded to high school students Henry DaCosta and Yunmei Li.

Second- and third-place prizes were given to college students Andy Checketts and Bethany Faile. Second-place and third-place finishers will receive \$2,000 and \$1,000 in scholarships, respectively.

All of the winners will receive college scholarships, provided by Mazda Motorsports. Additionally, the first-place videos will be digitally distributed to air as public service advertisements by the Ad Council to their network of more than 1,600 TV stations nationwide.



DISTRACTED?
Project Yellow Light highlights driving dangers.



Courtesy Mazda Motorsports

HISTORY REPEATS ITSELF

In 1984, Mazda, BFGoodrich Tires, and Jim Busby Racing teamed up to score an historic class win at the 24 Hours of Le Mans. The car, a Lola T-616, was powered by a Mazda 13B rotary engine and shod with experimental BFGoodrich T/A Radial street tires. The drivers were John Morton, John O'Steen, and Yoshimi Katayama, and between them, they brought home a real David vs. Goliath win in the C-2 class.

To celebrate the 30th anniversary of the win, Mazda and BFGoodrich entered John Morton in a Skip Barber Racing School Mazda MX-5 Miata, wrapped in the same colors as the 1984 Lola T-616, in the SCCA Pro Racing Mazda MX-5 Cup Presented by BFGoodrich Tires at Mazda Raceway Laguna Seca for the May 2-4, 2014 round of the series.

USRRC JOINS FORCES WITH CTC



Jim Heine

The 2014 United States RoadRally Challenge (USRRC) will be different in many ways, but none so much as the fact that the event will run alongside the famed Coker Tire Challenge (CTC) on Sept. 19-23, in Chattanooga, Tenn. "This year, the USRRC will be a three-day long Tour rally," explains Cal Club Region's Jeanne English, who is helping organize this year's USRRC event. "The SCCA cars will run the same instructions [and] route as the Coker Tire Challenge cars, but be scored separately."

While details are still being sorted, a number of items have already been determined. For instance, USRRC

vehicles will comply with USRRC and CTC regulations, and in case of conflict, CTC regulations will supersede. USRRC vehicles will also run in SCCA classes (Equipped, Limited, Stock), but display CTC signage in addition to SCCA signage. All vehicles must also be on display on Saturday evening.

"This event has the potential to expand the entry field beyond the usual 20 cars that attend the USRRC, or any other National," says RoadRally Board Chair Rich Bireta. "The social aspects of the Coker event are outstanding, with ample opportunity to see classic cars and socialize with fellow car enthusiasts."

Entry fee for the USRRC is set at \$350. Also, those wishing to compete in the USRRC portion will be required to become SCCA members, but a weekend membership will be available at no cost.

Participants are free to stay where they please, although the Chattanooga Hotel is located adjacent to Coker Tire headquarters and will probably prove to be the most convenient location. For more information, go to www.scca.com/rally.

RMDIV OUTSIDE THE BOX

Continental Divide Region has moved its quad Regional at Pikes Peak Int'l from September to June 21-22. The change makes the weekend eligible to count toward qualifying competitors for the Runoffs via the RMDiv series.

Colorado Region will also add a race to the 2014 schedule by co-sanctioning a PPIR Regional race the weekend of July 26-27 in conjunction with Rocky Mountain NASA. The intent is to establish a precedent of cooperation with another sanctioning body. This could also be a quad Regional.

In addition, Front Range Motorsports has announced it will sponsor a four-race RMDiv series for Club Ford. The Front Range Club Ford Championship series will run within the RMDiv Championship series and is designed to entice Club Ford owners to the track. Front Range plans are to have cash payouts for the first five finishers in each designated race. Further details will appear on www.coloradoscca.org.

David Muramoto



Rupert Berrington

CLUB FORD SERIES

RMDiv is enticing older FFs to compete with potential cash prizes.



RALLYCROSS NATIONALS REGISTRATION

Early registration for the 2014 RallyCross National Championships opens June 1. During this time, past National Champs, TripleCross winners, and Divisional Champions will be able to register. General registration opens on June 16. Visit www.scca.com/rallycross.



CLUB VIEW

LISA NOBLE

PRESIDENT AND CEO OF SCCA INC.

Possibilities

Let me introduce you to "The Lab." Experiential Programs is our newest department in the Club. Around the office, we just call it The Lab. It is headed by Heyward Wagner, who has served the Club as Solo Communications Manager and in a variety of roles in both the Solo and Club Racing programs, along with support from longtime membership expert Rick Myers. The Lab is tasked with exploring and implementing strategies and plans that don't fit our usual mix of programs. In a nutshell: They are in charge of possibilities.

It has to be as simple as touching the 'enter' button to register, and then providing coaching in everything

The first challenge is finding the right mix of easy, fun, and inspiring Starting Line-branded programs for enthusiasts who might not yet be members of the Club. Next is coaching those people to take their first steps to engage in the sport - in what can sometimes be a rather intimidating SCCA culture. It has to be as simple as touching the "enter" button to register, and then providing coaching in everything from where to enter the event location, to necessary gear, to the in-car experience; then developing hands-on mentoring that our Regions can use to build on these events.

It is exciting to think about the possibilities for what the in-car

experience can be, and who it can be for. Solo, PDX, and rally events are the easy ones. What about an all in one weekend - a sampler, or mix of events? Who is the audience? Everyone from our membership and their connections to the casual enthusiast. No rule books, no bureaucracy, no hassles.

And as we are learning, the face-to-face social element is so important in tying a participant's experience to the bigger SCCA family. Having an interesting online place to talk about the excitement of what happened is vital as well. That means we are also looking at a ground-up build for a new Website. Not a mere refresh or reboot - a truly new online presence for the SCCA.

It's possible that we are starting to make a difference - at least, that is how it feels. It is wonderful that as some of our new initiatives begin to take hold, not only our members, but also our alumni in the bigger world of motorsports, are noticing. As these and other ideas gain traction, we should all be interested in what brews in The Lab. Who knows what's next! 📍



MEMBERSHIP DRIVE CONTEST

While membership always gets a spring boost, many of our regions are currently experiencing solid growth! Congratulations to the leaders and keep up the momentum. For complete details on the SCCA Membership Drive Contest, log in to ams.scca.com and look under "Forms."

REFERRAL LEADERS FOR APRIL 2014

NAME	RFRLS	REGION
Warren Leach	62	San Diego
Brian Ghidinelli	30	San Francisco
Sydney Davis	11	Houston
Karen McCoy	11	Oregon
Brian Melani	11	Tennessee
Allan Coy	9	Cal Club
Christine Snyder	8	S Texas Border
Chris Brake	7	Indianapolis
Cindi Clark	7	Las Vegas
Robert Crawford	7	Washington DC
Carol DeBorde	7	Reno

There are 1,155 additional members with at least one referral.

REGION LEADERS

Category based on 2013 year-end membership

REGION	GROWTH
Jumbo (800+):	
Oregon	9.4%
Washington DC	6.8%
Northwest	5.3%
Large (401-799):	
Buccaneer	9.6%
San Diego	8.9%
Indianapolis	8.4%
Medium (200-400):	
Las Vegas	25.0%
Tennessee	23.1%
Eastern Tennessee	22.4%
Small (<200):	
Montana	28.3%
Big Sky	23.4%
Columbus Sports Car Club	18.9%

HEYWARD WAGNER TO HEAD EXPERIENTIAL PROGRAMS DEPARTMENT

Heyward Wagner, a life-long SCCA member who was serving as the Solo Communications Manager, has joined SCCA to head the newly created Experiential Programs department. The new department's primary focus is in the development of entry-level programs geared to both new and existing members, and the enhancement of social aspects for those participating in all of SCCA's programs. The department will act as a research and development program for SCCA members, establishing programs that currently fall outside of the traditional markets served by Club Racing, Solo, or Rally. SCCA Region programs to activate membership at a local level will also fall under the new department. The department is tasked with the development of programs that are driven by experience, as opposed to pure competition.



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LAT / Leslie Ann Miller

THE LEGEND RETURNS

Ron Fellows returned to the Trans Am series that made him a legend for round four at CTMP, marking his 100th Trans Am race. "When Jim [Derhaag] asked me if I wanted to race again, I thought: my home track, why not?" says Fellows.



JOHN WALSH

CHAIRMAN, SCCA BOARD OF DIRECTORS

THE CLUB BOARD

Stickiness

In our Club, Region activities and our personal race plans, taking the long-range view helps us make rational choices (using the phrase "rational choices" in the same sentence as a reference to motorsports - ha!). Knowing where we want to go helps plan the trip.

Recently, the Solo community made a significant change in route, creating a path for street tires in "stock" competition. It was well planned and well argued and, while the plan had its opponents, it was adopted as best for the long-term health of the sport. Similar efforts are under way in Club Racing. The U.S. Majors Tour is meant to strengthen our National Championship racing program by improving weekend activities (double races) and gathering competitors at those events.

Simply arguing for no long-term class changes denies evolution in racecars and...competitors"

The Board of Directors is also interested in strengthening the classes that participate in our National Championship events. Those discussions generate a lot of angst among competitors due to discussion about "class consolidation." If you're a competitor, what value is a long-range plan if the goalposts are likely to move? There is ample Club history of mobile goalposts. How do we address that? How do we make our long-range plans "sticky?"

Club leadership - the Board and the CRB - can commit to a plan that allows competitors to race the cars they want to race in National Championship competition, but subsequent

Club leadership can change that direction, to the frustration of competitors. Remember, Club leadership positions are a bit of a revolving door, and there is no Club governance mechanism to permanently fix a strategic direction. Now, it would be arrogant to think that our plans are untouchable works of art, but having a long-term path really benefits our competitors.

At the same time, let's all agree that classes evolve. Simply arguing for no long-term class changes denies evolution in racecars and evolution in the interests of competitors. And, of course, small course corrections will be necessary.

Formula 1 has had a series "Concorde Agreement" that commits to technical and business plans for the long term. Arguably, it has helped teams and series management deal with change and cost. Can we do something like that in SCCA Club Racing? If we had a long-range commitment between the Club and our competitors on cars and classes, wouldn't that give us confidence to develop current cars and build new cars for those classes? Knowing that, at the end of a decade, your class will be steady and fixed or, it'll be a slightly different - say, a faster - version would be valuable, right?

Six years from now, all the faces on the Board of Directors will be different, and likely there will be many different faces on the CRB, too. This Board of Directors, absent governance tools to make plans "sticky," wants to know how to institutionalize a commitment made to our competitors. We want to remove the uncertainty that goes along with class management, and we're open to your ideas. Write the Board of Directors at bod@scca.com and tell us your thoughts. ☺

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JENNIFER and RICHARD BALDWIN *(plus one)*

A MULTI-GENERATIONAL SCCA FAMILY

Jennifer and Richard Baldwin both come from racing families. Richard is a third-generation SCCA racer. His grandfather raced with SCCA in the 1950s, and Richard's father, John, will become a 50-year SCCA member this December. Jennifer's dad, Rick Kulach, has been a member since 1983, and she remembers spending most of her childhood birthdays at Hallett Motor Racing Circuit.

On Memorial Day weekend in 2008, Richard was at an SCCA National Club race at Memphis Motorsports Park when he met Jennifer Lee Kulach. At the time, she lived in Lawrence, Kan., and Richard resided in Covington, La. Their first date was in Baltimore; their second was at the Nashville IndyCar race. Five months later, at the 45th anniversary of the SCCA Runoffs, Richard asked Jennifer to marry him.

Racing has always been a family affair, starting Zorro Racing to include family and close friends. "We love how the Runoffs and races turn into a family get together," Jennifer says. "It makes for a very enjoyable weekend since everyone is living in different parts of the country."

When not racing herself, Jennifer is busy at the track crewing for her husband, father, father-in-law, brother, brother-in-law, and soon enough her daughter.

"When we found out we were pregnant, there was no better way to share the news than at the Road Atlanta U.S. Majors Tour this year," Jennifer says. "Richard put a windshield banner saying 'It's a Girl' on his T3 Nissan 350Z, and her name on the back of the car."

Unfortunately, the 350Z was totaled during the race, but Richard was still able to smile with the excitement of their future racer, Savannah Grace, due this summer on Jennifer's birthday in July.

"We will continue chasing our dreams of family, racing, and competing," says Richard, "and hopefully see our little girl win a few SCCA National Championships along the way."

MAIN IMAGE

Heidi Bower Photography

INSET IMAGES

Courtesy Baldwin family

ALL IN THE FAMILY

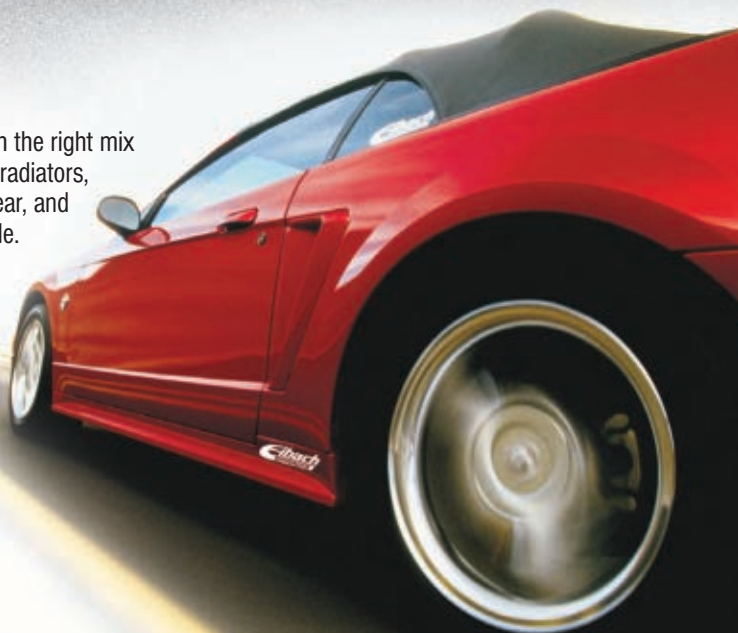
The Baldwin and Kulach families have a long, rich history in racing. Jennifer (BOTTOM RIGHT, age 11), Richard (CENTER), and Savannah Grace continue the family tradition that dates back some 50 years to Richard's grandfather Lawrence (TOP TIGHT, 1954).



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“Could you wait here, just a moment please?” the nice young man at the exit tunnel of the Circuit of the Americas asked. Well, OK, maybe a truck is pulling out or some darned thing – but Jennifer and I were hot, tired and hungry by 7 p.m., and just wanted some dinner and sleep. There was another SCCA Pro Racing Pirelli World Challenge GT race the next morning, with temperatures still forecast to be over a hundred.

“It’s late,” I said politely, “can we pull on out now?” “No, hang on, please, my boss wants to talk with you.” “Oh, OK. Does he want an autograph?” I reached for my briefcase. Hey, people, it happens a lot. “No, no, please, just pull over there.” “Really? Can’t we just go?” “No,” he said, a bit more firmly. “Just pull over *right there*.” Usually I am pretty patient, never much problem with authority, so I did, but frustration and confusion were building. What is going on here, anyway?

I pulled the sporty baby blue corporate Volvo off to the side and got out, not noticing that track vehicles were beginning to surround it, as a sheriff on an ATV came roaring up,

stepped off, looked at me, crossed his arms, and said authoritatively, “OK, what happened?”

I’m sure I was a true deer in the headlights. Not a clue, what the heck? So, I told him what happened. “Well, it was very hot out there, a tough race, starting sixth, but the all-wheel drive of my Volvo racecar helped on the slimy hot slicks, and I was able to pick up some positions near the end to finish fourth; not bad, all considered.”

“I’m sure I was a true deer in the headlights. Not a clue, what the heck? So, I told him what happened”

That didn’t do it.

The officer glared back impatiently.

“No, *what happened*.”

Dumbfounded, I flashed back to Cole in the *Days of Thunder* movie.

Ohhh, I get it. Looking around...

seriously, folks, I mean,

what else could it be?

Looking around for a hidden camera,

chuckling a bit, I said, “Did Cadillac put you up to this? Are we on camera?”

I was pretty sure Pilgrim and O’Connell would jump out any moment, howling with laughter.

The Law lowered his sunglasses, pointed at me with conviction and

POBST POSITION

RANDY POBST

4 TIME WORLD CHALLENGE CHAMP; 2 TIME RUNOFFS CHAMP; 2 TIME SOLO AND 4 TIME PROSOLO CHAMP; 2 TIME ROLEX 24 GT WINNER

A Case of Mistaken Identity



declared, "There was a felony hit and run, and the victim says it was *that car*." I turned and looked at my one-of-a-kind Volvo S60 R-Design Polestar company car for the weekend - probably not two in the whole country yet - and felt the blood run from my face, sunburn or not.

"Whaaa...?" Well I knew damn well it wasn't me, but I had given the key to my K-PAX team early that morning for use as a pace car, and I did not want to throw any of my guys under the bus. I mean, they could have used it to run for parts or food. Yikes, do I need a lawyer?

I told him I had not even seen the car since early morning, and truthfully that the keys had been with the team all day. He barely heard me, intent on telling his story. A person in *this car*, claiming to be a racer, late for the grid, having forgotten his pass, was desperate to get in, and the stalwart gate guard was not about to let him. A shouting match ensued, ending with the guard allegedly slugging the alleged racecar driver, with the driver leaping back into the car and surging away, right over the foot of the gatekeeper!

Oh, I thought, *that* kind of hit and run. And, by the way, the driver was tall and skinny, with brown hair, glasses, and a blue race team shirt.

I looked down at myself. Uh, oh. Bingo on all counts. He knew he had his perp. What do you do when you're branded, and you know you're a man? Look it up, TV Land people.

He took photos, side and straight on (mug shot?). My home and local hotel addresses, phone, etc. I gave an initial statement, and was given scary official crime forms to fill out. Do *not* leave town, I was told. Leave? When I have a race tomorrow? Never! My head was spinning. There was not another car even this color for hundreds of miles, I bet. I was very worried it was one of my K-PAX crew, though they would never behave that way - unless the race was at stake. Then they might; they are always

What do you do when you're branded, and you know you're a man? Look it up, TV Land people

deadly serious about the race. I probably would, too. Wild horses won't keep us away, right?

We got on the phone to Bob Raub and Holly, team owners, still needing food and sleep. I figured out the time of the incident was just after the driver's meeting, so I called race director Geoff Carter and a couple drivers I was with, lining up my alibi. Though not a criminal, at least for this

offense, I felt like one. 150 years ago, I might have been lynched. They were darned sure it was me. A good lesson in why we have courts and lawyers and judges. Thank you, USA.

Fortunately, guess who had the keys? John Maloney, CEO and President of Volvo Cars North America. He had my back, too. Gave his card and information to the cop, and said the keys had been in his possession all day, and confirmed that the bright blue Volvo had never left the track. To me, it felt like the cavalry charging over the hill to save me. Whew!

The tensions began to ease, and more information came to light, which the officer shared with us, beginning to realize he did *not* have his man - yet. Seems a witness came forward saying it might have been a black Mazda. Really? It certainly sounded like quite a traumatic event, so it is understandable that maybe the guard was a little rattled. That person had gone all through the parking lot, and decided unequivocally that it was the blue S60. Maybe it had not been such a great idea for the gatekeeper to punch out the driver, either, eh? What a scene.

With much of the drama subsiding pre race, we had a strong run to third, on the back of my engineer Will Moody, who put some older Pirellis on, a hot tip in the hot weather (125-degree Texas summer track temp). I was just glad to get out of there with a clean criminal record (I think). I hope this accusation does not ever come back to haunt me, like a bad Carfax. Hmmm. Should have had a BlackBox Guard dash cam! 📍

A NEW TONE

Now, *that's* an engine, I thought, at a VIR SCCA Regional in May. No, I actually said it, out loud! It was a little slice of F1 wail. A 15,000rpm scream. The quick little F500-class cars have always fought for respect with their kart-like roots and monotone exhaust note. Now, many are becoming F600s, using the cheap mechanical marvel engine and trans from sport bikes regularly wrecked by young squids. Minimal restrictors cap power and deter mods for factory reliability. This package makes sense for the sound alone!

TRACK JUSTICE

Last year's Pirelli World Challenge GT race at Circuit of the Americas nearly took place without Randy Pobst, thanks to a case of mistaken identity.



Philip Royce





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Eleven decades of technology have both shaped the modern automobile and been spurred by research into making cars better. Much of that to-and-fro of technology growth has been generated by and applied to motorsports. Lessons learned in racing have improved road cars; exercises in improving road car efficiency and safety have transferred to motorsport.

In the first 70 years of the automobile, racing was the pioneer. Racers wanting to go faster or do things better figured out a way to solve a problem. Often that solution was adopted by manufacturers for road cars. Rearview mirrors and disc brakes are two ideas famously generated in racing that became ubiquitous - and even required - on road-going vehicles.

In the last 40 years or so, however, much of the flow of ideas has gone the other way. As racing rules makers restricted the unfettered advance of technology to keep costs and speeds at reasonable levels, and automakers must continually find ways to improve efficiency and safety under ever-growing regulation of the industry, it has been manufacturers finding new solutions to old problems - solutions that are often adopted by motorsports.

As the technology flows back and forth within the automotive-motorsports matrix, so has motorsports taken technologies originating in other industries and applied them for its own

purposes. Carbon fiber, NACA ducts, and flexible, puncture-resistant fuel bladders all came from aerospace. Racing took aerodynamic principles that allow planes to fly and turned them on their head, using them to keep cars pushed to the ground.

Look at the Marmon Wasp that won the inaugural Indianapolis 500 in 1911 and compare it to the Kurtis and Watson roadsters of the 1950s, Jim Clark's 1965 Lotus and today's Dallaras; likewise, contrast the cars that sparked the formation of the SCCA in 1944 vs. the Corvettes, P2s, and A Modifieds of today. The progressions are a clear illustration of technology's unceasing march. While many different technologies have improved - or at least changed - racing, there are some that have had a much bigger impact than others.

It's just an incredible invention and those guys definitely moved the bar"
CHARLIE JAMES

SAFETY

The improvements that have made death or serious injury an increasingly rare occurrence in racing are not a single technology, but many. While technological improvements in other areas of motorsports have often been marked by major milestones, safety

improvements have been a slower progression with numerous spikes of brilliance along the way.

From leather helmets and goggles to full-face, carbon-fiber helmets, from Borax-dipped coveralls to Nomex fire suits, from being thrown clear to lap belts and roll bars to seven-point harnesses and engineered roll cages, the safety improvements are many. There are some that stand out as major milestones, however.

"If you have to put one item at the top of any safety technology conversation, it has to be the HANS device," says Charlie James, president of motorsports safety equipment retailer SafeRacer. "It's just an incredible invention and those guys definitely moved the bar."

The HANS device was the brainchild of racer Jim Downing and his brother-in-law, Dr. Bob Hubbard, who had done crash injury research at the University of Michigan and GM. After Downing's friend, Patrick Jacquemart, died of a basal skull fracture in a crash at Mid-Ohio, Downing turned to Hubbard to help solve the problem. The adoption of the HANS and other head restraints accelerated after Dale Earnhardt's death at Daytona in 2001.

"Right along with the HANS device was the introduction of the SAFER type of barriers, and the technology associated with that - the understanding of the dynamics when a wreck actually happens," James



THE MARCH OF TECHNOLOGY

Five great technological advances that altered the motorsports landscape | WORDS Richard S. James

continues. "Energy absorption has become such a big thing, and you can tie that in from SAFER Barriers to roll cage construction to roll bar padding. You can even tie that in to the helmet side. Just in the last 10 years, the additional impact protection they've built into the helmets, the energy absorption materials; they've made nice advancements in protection."

ADJUSTABLE SHOCK ABSORBERS

It's only been a bit over 50 years that the tubular shock absorber has been adopted. In that 50 years, though, the advancements made in its design and function have been immense. While four-or-more-way external reservoir dampers are ubiquitous at the top end of motorsports, they are quickly finding their way into Club Racing, even as F1 and World Endurance Championship cars start experimenting with inertia dampers and blow-offs.

Basic two-way adjustable shocks are *de rigueur* for Solo competition and any Club Racing class that allows them. Where competitors have the rules leeway and appropriate funds, more complex shocks are favored. The reason is simple: when adjustments and changes elsewhere are limited, changing shock compression and rebound allows for fine-tuning that would otherwise be impossible.

"In racing, we're looking for every last tenth, hundredth, or thousandth of a second," explains Koni's Lee Grimes.



LAT

1961

Roll bars start appearing on F1 cars in earnest, although early hoops pale in comparison to today's standards



Philip Royce

1957

Electronic fuel makes its way to production cars; tuning changes

1954

The Mercedes-Benz W196 F1 car uses direct fuel injection

1954

SCCA requires the use of lap belts by all competitors

1954

Bell Auto Parts produces its first auto-racing helmet



LAT / Alastair Staley

1958

Adjustable tubular shock absorbers are first used in F1, leading to amazing things



LAT / Hal Sharp

1963

Chaparral leads racing into an aerodynamic revolution



LAT

1966

Bob Tullius was among the first to use a Nomex racing suit



LAT

1968

Dan Gurney wears a Bell full-face helmet in competition for the first time

1968

Reliable electronic fuel injection system introduced by Bosch

1964

British racer John Aley creates the roll bar for sedans

1957

The Snell Memorial Foundation is established

1953

Wilfred Sweeny invents Nomex while working for the DuPont corporation

1953

Disc brakes used for the first time in racing on a Jaguar C-Type at Le Mans

1966

Jim Hall used a high rear wing directly mounted to the suspension uprights on the Chaparral 2E Can-Am car. The car also featured a ducted nose and set the basis for many aerodynamic principles still in use today

"Little bits of time can be gained by splitting hairs. That's what tuning allows you to do. It allows you to not only refine your setup, it also helps to give the driver a consistent reliable platform that he can push to the edge."

Dampers have come a long way, even in the last 25 years since Penske Shocks was founded to produce four-way adjustable dampers. As other things get leveled out, the shocks become increasingly significant.

"It changed racing in the late '80s when the Penske dampers came out," says Steven Charsley, now manager of business development for Multimatic, Inc. (which owns Dynamic Suspensions), but has been everything from an F1 mechanic to the VP of Lola Cars USA. "[Before that] if a damper worked, didn't leak, and it was effective, that was enough. But it's never been enough. Now, in the lower formulas, it's become all-important. There's very little to work with on a car that has no wings. The only thing that's really adjustable is your geometry and your damper. So it all comes down to the damper."

ELECTRONIC FUEL INJECTION

If you've spent enough time in the racing paddock, chances are you've watched someone rush to change their carburetor jetting as a storm rolls in. If so, you understand the importance of electronic fuel injection that measures airflow and density, and adjusts the fuel accordingly.

That's one of many advantages. No fuel starvation in corners is another. But ultimately, as with adjustable shocks, it's all about extracting every last hundredth of a second.

"It gave more finite control over the tuning of your engine," says Lawson Mollica, director of Marketing and PR for AEM Performance Electronics. "No longer were you relying on a single entry point for fuel delivery. You've allowed for injection into each individual cylinder chamber, which allowed for increases in power and efficiency."

It changed racing in the late '80s when the Penske dampers came out"
STEVEN CHARSELEY

While injection itself was a big improvement, it was the accompanying electronics that really made the difference.

"With carburetors, you had to pull your plugs to determine if you were rich or lean and you didn't really know what effect your tune was having on your engine. The advent of wideband air-dual controllers, wideband UEGO [universal exhaust gas oxygen] sensors, and being able to utilize feedback from standalone engine management to compensate for any air-fuel ratios and make adjustments, it leads to not only a more powerful combination, but a more reliable one," he says.

That's just the beginning. Traction control, launch control, even having a completely different throttle response profile for wet or dry is possible with modern electronics and fuel injection. And it can all be accessible with the flick of a switch.

AERODYNAMICS

Although spoilers and air dams began to appear earlier, Jim Hall's Chaparral 2E Can-Am car of 1966 really began the aerodynamics revolution. It had a large rear wing mounted directly to the suspension uprights, the angle of which could be controlled by the driver. The wing has endured; the mounts and adjustable angle have since been banned in most forms of motorsports.

The angle of attack was adjustable because the wing, when providing down force, also created a lot of drag. Ground effects, though, which came into racing about a decade later, had a much smaller drag penalty.

"When they started developing ground effects tunnel floors, that was a humongous step," says Wayne Felch, owner of Stohr Cars and whose initials form the moniker of the company's WF-1 prototype car that he and Lee Stohr developed. "The early '80s, when the F1 cars were running sealed skirts and had tunnel floors, it was crazy - they gained seconds in one year."

When Stohr added tunnels to its Sports Racing car, Felch says the lap time around Portland International

1970
Flexible bladder fuel cells introduced

1976
Brabham brings reinforced carbon brake discs and pads to F1

1982
Bosch produces the first fully digital electronic fuel injection system

1985
HANS prototype built

1989
SFI Specification 17.1 for on board fire suppression systems is introduced

1971
The FIA begins mandating roll cages

1978
The Lotus 78 "wing car" had ground effects in the side pod, which helped the car to five F1 victories

1978
The SEMA Foundation, Inc., now known as the SFI Foundation, is formed to create specs for racing and safety equipment

1981
The McLaren MP4/1 is the first F1 car with a molded carbon fiber composite monocoque



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LAT



PROGRESS

Technology marches on, while other things stay the same. Formula cars were originally exclusively tube frame chassis construction. Now, the most advanced formula cars in professional and amateur motorsports use carbon fiber monocoques. However, tube frames are still widely used, as they are safe, affordable to manufacture, and are relatively easy to repair. While racing technology has come a long way, sometimes the concepts from yesteryear are still the best way to do things.

Raceway dropped by 2.5 seconds. At many tracks, the WF-1 in Prototype 2 form is as fast or faster than flat-bottomed Daytona Prototypes.

Of course, aero goes way beyond just higher cornering speeds. Being able to adjust wings allows the down force to be tuned, giving another area in which to adjust handling balance. NACA ducts, which use another aerodynamic principle, allow air to be brought in without putting the ducts in a high-pressure area where the ram-air effect applies. Like the other technologies, the advantages of aero are still being explored.

COMPOSITES

The composite revolution began when racers first started using fiberglass for body panels over heavier aluminum and steel. Now the composite of choice is carbon fiber, which is stronger than fiberglass. But where carbon-fiber panels are good for reducing weight, the real advantage begins to come in with advanced composites.

McLaren brought the idea of a full carbon-fiber monocoque to life with the MP4/1 F1 car in 1981. It's an idea that is still finding its way into Club Racing, beginning with the Ralt RT40 Formula Atlantic car. Most SCCA formula cars and prototypes still use some combination of steel tubes and aluminum honeycomb tubs. But the

advantage of advanced composites is clear, and it's going to become more prevalent, especially as OEMs embrace the technology more and more.

"It's a huge step because of the weight and strength," says Felch. "Wet layup stuff is one step and advanced composites is an absolutely different thing. Both of them are advances and both of them are good," he says, noting the difference between the processes that create things like carbon sheets or some body panels vs. the autoclave-cooked molded pieces that create racecar tubs. He notes that the entire bodywork of the WF-1 weighs around 40lbs.; produced with a wet layup process, it would weigh about 150 percent more.

Now racers have easy access to carbon-fiber wings, body parts, dash panels, ducts, and more. As the technology becomes more pervasive, driving costs down, it will only lead to more and more pieces being produced in carbon, continuing to make racecars lighter and stronger.


PROGRESS ON THE MARCH

There are many arguments to be made for other technologies having great effect on motorsports. There is no doubt data, video and the combination of the two are greatly aiding in improving driver skill and car setup. Tires have come a long way

since Shelby first decided wider is better and put some of the fattest rubber ever seen on a road racing car under the Cobra. Sequential transmissions are becoming more and more prevalent; some young racers will spend their entire career never shifting with a traditional manual.

“When they started developing ground effects tunnel floors, that was a humongous step”
WAYNE FELCH

Progress marches on. Sometimes it brings higher costs. Sometimes technological advances make things cheaper in the long run. And, sometimes, it seems like progress occurs for nothing more than the sake of progress. Is an MG-TC much simpler than a Subaru BRZ, Mazda MX-5, or C7 Corvette? Yes, just as a Stohr WF-1 is immensely more complex than a Cooper Monaco.

One might argue that the MG and Cooper are more fun to drive. However, there is no challenging the great speed difference between these classics and their successors. As long as racers seek lower lap times through greater power, lighter weight, and more traction, technology will continue to provide solutions. Some will endure, others won't; but progress marches on. 

1990
Dr. Bob Hubbard and Jim Downing put the HANS Device on the market

1992
Williams dominates Formula 1 with active suspension, which was banned for the following season

2002
GM introduces magneto-rheological shock absorbers

2003
F1 mandates the use of the HANS Device

1992
The Ralt RT40 becomes the first carbon fiber tub racecar eligible for SCCA competition

2001
NASCAR mandates HANS Device or Hutchens device

2002
The first SAFER Barrier was installed at Indianapolis Motor Speedway



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SPEED DEMON

Formula 1000 builds an impressive package of technology, speed, and excitement into a class with exceptional value | WORDS Jason Isley IMAGES Philip Royle

Motorcycle-powered racecars are nothing new, but the Formula 1000 Club Racing class takes that concept and doubles it with an affordable, high-speed package, tossing in a hefty dose of technological excitement along the way. The Formula 1000 class (or FB, as its Club Racing designation reads) first appeared on the scene as a Regional class in 2006. Arguably, the highpoint of that maiden season was the 13-car field at the American Road Race of Champions, where Justin Prichard drove a Piper to the win. In the early days, many of these cars were repurposed Formula Continentals or Formula F chassis fitted with 1,000cc motorcycle drivetrains, but due to the popularity of motorcycle-based open-wheel cars in Europe, it did not take long for purpose-built chassis to show up Stateside.

By the time the 2010 SCCA National Championship Runoffs came around, the class was competing for a championship title. Brandon Dixon, piloting a Suzuki-powered Citation, put his name first in the history books.

Today, the class is growing strong

with many existing Formula or Sports Racing competitors looking for a new challenge - and it doesn't hurt that the operational costs of an FB can be significantly lower than similarly speedy "wings and things" cars.

"I went from the DSR and CSR to the F1000," says three-time Sports Racing National Champion J.R. Osborne. "I've driven Atlantics, I've driven Continentals, I've driven

Atlantics' [1,600cc engines], and the cost of running those engines," says Cook. "I had my [FA] Reynard since 1999, and it was very familiar [to me]. But with carburetors and an H-pattern gearbox, it was in some ways old fashioned. The F1000 has its own built-in anachronisms in the steel tube-frame requirement and prohibition of carbon fiber in most parts, but with fuel injection and the benefits of sequential, no lift upshifts, auto-blip downshifting, and an engine sound that is unrivaled in motorsports, it is a very fun car to drive."

There are two clear paths to joining the F1000 fray: convert an existing car, or start with a purpose-built unit. The rule set has done a pretty good job of keeping costs in check here, as the chassis are steel tube, and the engines essentially stock.

A skilled racer and engineer can take the conversion path. "If you're running a Van Diemen, NovaRace Cars has a great conversion kit," says Osborne, noting that it takes more than just a kit to make these conversions work. "These [F1000] cars are stinking fast - we're not

W We have had several customers state that they have [converted] their cars for...\$20,000"

JAY NOVAK

Mazdas, and there's just nothing I would rather drive than a bike engine car. They are as close to an F1-type experience as you can get."

Randy Cook is a recent convert, having picked up the JDR FB car that Lawrence Loshak drove to victory at the 2013 Runoffs. "Two main motivators for the move [from Formula Atlantic to FB] were the dearth of competition from 'real



CUTTING EDGE
Formula 1000 offers a great deal of design freedom, but keeps cost in check via steel tube chassis and stock motorcycle engines.

EFFICIENCY

Tight quarters require efficient use of space when it comes to packaging the front (RIGHT) and rear (BELOW) springs and shocks. The entire suspension system on the JDR-012 was designed from a blank sheet of paper.



INNOVATIONS

Don Conner worked with his partner Jerry Hodges on everything from packaging the drivetrain (ABOVE), to the unique front spindle design (RIGHT) found on the JDR-012.

far off Atlantic times in basically a glorified kart. To get to that performance with modest horsepower takes good engineering."

"We have built nine of the Van Diemen conversions from FC cars to F1000 cars," says Jay Novak of NovaRace Cars. "Our kits are for 1998 or newer Van Diemen chassis; either FC or FF chassis will work. Of course, the cost to build a Nova-Diemen varies, and is a function of how much your Van Diemen donor car costs and how much work you do yourself. We have had several customers state that they have built their cars for right at \$20,000."

One of the features that helps makes this conversion achievable, and keeps costs in check, is that most of the components are readily available and carry over from the previous trim level. "The kits use all of the stock suspension bits and pieces so that you can simply sell the [old] engine and trans parts and then directly bolt the Van Diemen suspension parts, axles, CV joints, [and] wings right up and

have a roller assembled in just a few days," says Novak.

If you find yourself in the market for a purpose-built racecar, there are lots of choices and, depending on your budget, you can order a nearly complete car, requiring only your donor motorcycle engine.

JDR Motorsports is a relative new kid on the block, with only a handful of cars competing, but many people have taken note of their abilities, which include the recent Runoffs title. "The first car was complete midway through 2012," says Don Conner of JDR. "J.R. [Osborne] was the first guy that we had in the car. We had J.R. get in it at a Double Region before the 2012 Runoffs at Road America; the results convinced him that he wanted to go ahead and take it to the Runoffs with us. We went there and had a hose failure and silly stuff take us out, unfortunately."

JDR utilized years of experience in other formula classes to develop the JDR-012. "I was inspired by the McLaren F1 side-pod design from three or four years ago, where they had a little bit of a dip alongside the cockpit area," says Conner. "I've got a CFD machine, so I can run computational fluid dynamics. I did a bunch of that, and tried different stuff to see what would be good. I tried some side pods that were detached

MOTIVATION

While sport bikes are nothing new, the majority of Formula 1000s rely on power from a 2007-'08 Suzuki GSXR1000 engine. These engines can be purchased used for around \$4,000 and are a popular choice because Suzuki makes the wiring diagrams and other essential information available. According to some competitors, the other motor brands simply don't provide enough power, or are challenging to incorporate into a racing environment.

"[Suzuki] changed the engine architecture in 2009; the oiling rings are a little bit different, the cases are different, and the motor mounts are totally different, so a 2009 [Suzuki motor] will not fit where a 2007 is," says J.R. Osborne.

Aside from fitment, there is also the question of ECU tuning on the available 1,000cc motorcycle motors. "Hopefully, [the CRB] will open up the ECU rules and allow a standalone ECU - that would solve a lot of problems," continues Osborne. "The newer engines coming out have more emphasis on electronics [to make the bike easier to ride], which makes it harder for us to make it run in a car."

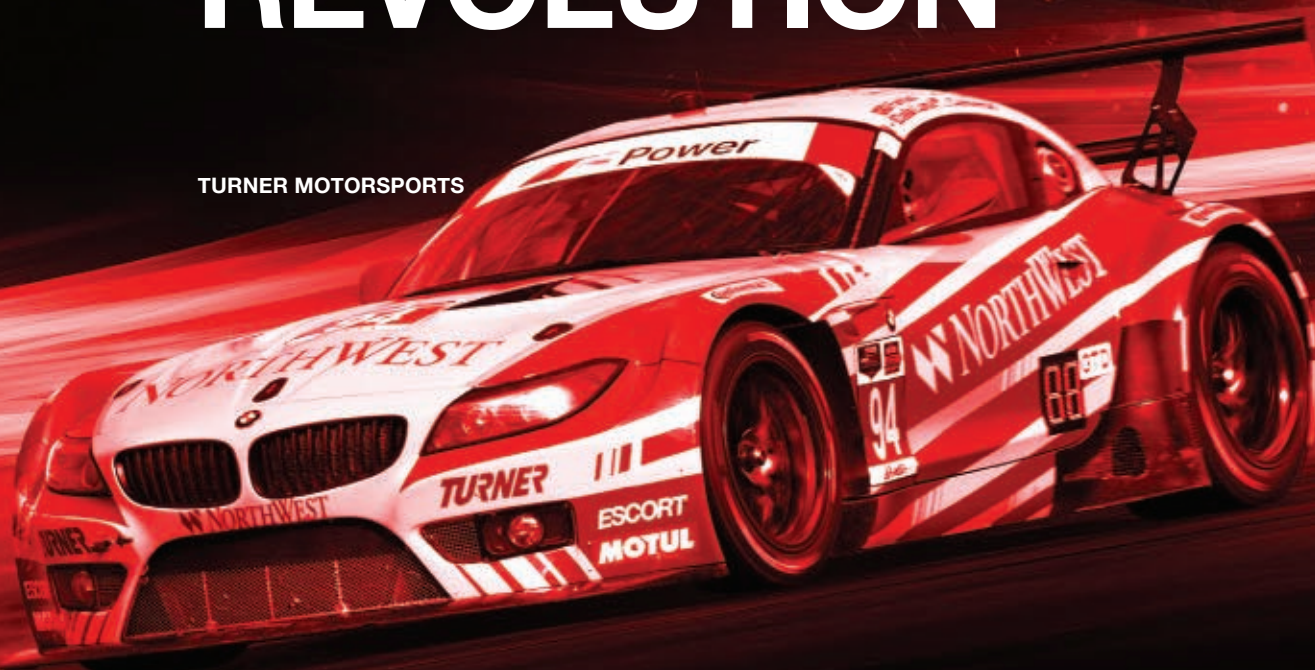
The results convinced him that he wanted to go ahead and take it to the Runoffs with us"

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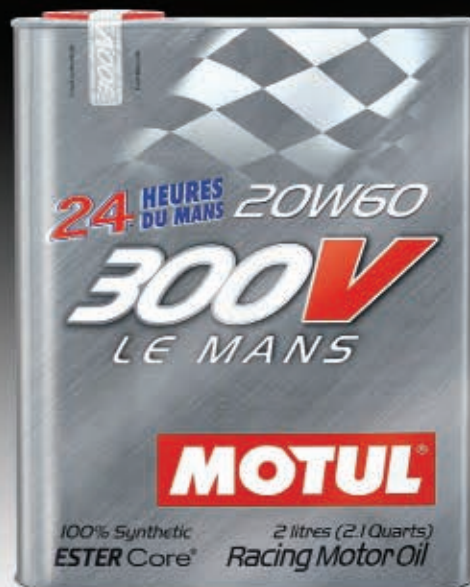


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THE ILLUSIONIST

From the side, the JDR-012 resembles most other side-pod wearing formula cars (ABOVE), but another angle reveals one of its drag-reducing secrets (RIGHT).



Our lap times are way faster than a Continental even though they look almost identical
J.R. OSBORNE

from the chassis, and it looked like something worth pursuing, so it evolved from there."

Prices on the purpose-built chassis can vary a bit, but considering the high-performance envelope, they seem fairly reasonable. "To build a Sports Racer properly is going to cost you \$90,000, or maybe \$100,000 if you are going to do carbon brakes," says Osborne. "You can buy a JDR [FB] and get it race-ready for probably \$65,000. So it's a lot less money to get into it than a [P1 or P2 car], and the performance is very similar."

The operating cost is also much more attractive for some racers, as the stock-based motorcycle engine has a decent lifespan if treated well, and reasonable service costs. "You have a stock motor," says Osborne. "The best part of the class is also the worst part of the class: the engines make and break it. They sound awesome, they are so engaging with the high rpm and the shifting, [but] the engines are very fragile now - if you don't have everything just right it doesn't take much for them to break. Because you're running high rpm, they're just not durable.


FLAT FUN

The motorcycle-based drivetrain of Formula 1000 begs to bang through the gears. In this class, modern electronics can aid the driver, whether they choose to select gears by hand or by fingertip.

"It costs me \$2,000 to freshen up the engine," continues Osborne. "If I have to put new valves in, it's going to cost another \$1,200 because they are titanium valves. When they are revving to 13,000rpm, things get beat up pretty good." But Osborne contrasts that to his old DSR setup. "As soon as I had an engine go, [in DSR], that's \$10,000. You have the same running costs, but the [Sports Racing] engine costs twice as much and is half as reliable."

These machines scream around the track, posting laps times not far off the top Formula and Sports Racing classes, thanks to a combination of light weight, aero, and power. "We make quite a bit more ground effect because we have a wider diffuser than a Continental, and our car is 200lbs lighter," says Osborne, "so because of that, our lap times are way faster than a Continental even though they look almost identical."

On top of that, Cook notes that the Formula 1000s have other advantages over the larger cars. "The JDR F1000 is much easier to drive than the Reynard FA," says Cook. "Control forces [steering and brakes] are two-thirds that of the FA but, more importantly, the JDR is a very forgiving chassis and is ridiculously tolerant of minor slides and over driving that would put the FA off into the weeds.

"Somehow, the JDR delivers FA performance without the necessity of big downforce, and the critical aerodynamic characteristics of a 20-year-old FA," Cook continues. "I've always been a fan of efficiency in cars, and the F1000 class delivers great performance with a lot fewer resources. Although I miss the security of a solid carbon tub and the ability to downshift from fifth to first gear, the JDR F1000's features and performance make it a better value for my time on track. Did I mention the sound of no-lift shifting at 12,800rpm is super cool?" 

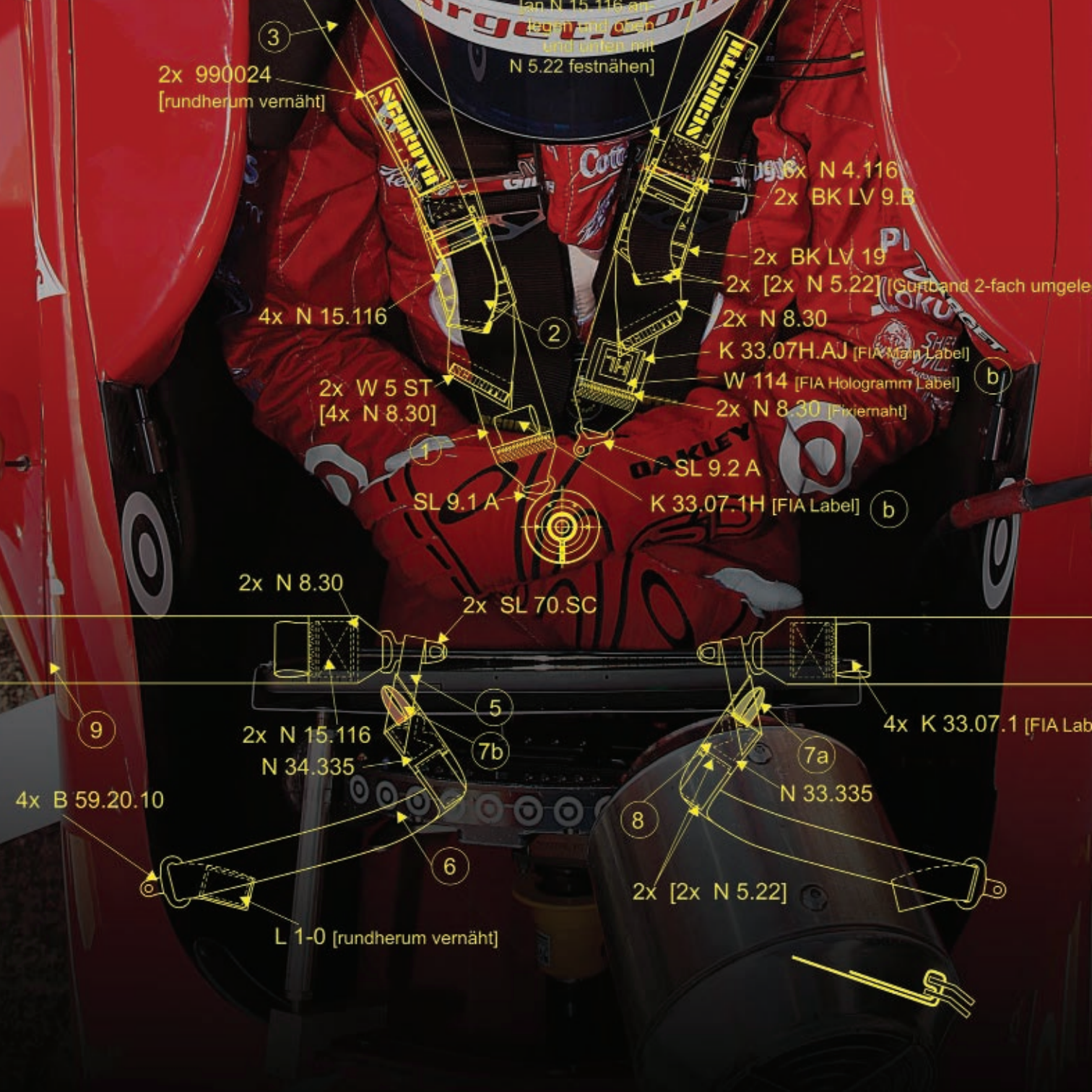


SHIFTING GEARS

One of the things everyone seems to love about Formula 1000 is jamming through the gears, be it by hand or by electronics. The rules allow competitors either option and, of course, there is some debate about which method is superior.

The JDR that Lawrence Loshak drove to the 2013 Runoffs title was fitted with a manual shifter for a reason. "We wanted to run the car in the form that we sell it, so for \$55,000 plus your donor engine you have a Runoffs-winning car - not \$55,000, plus \$20,000 on top for electronics," says Don Conner of JDR. "We want to prove to people that not all the little stuff is really necessary, and that maybe it doesn't help as much as people think it does. I'm sure it's nice to drive with, but as far as outright performance, a driver shifting properly can do quite well without it. It's down to the driver to do everything right rather than tuning the electronics."

On the other side is J.R. Osborne, who recently made the switch to the popular - and pricy - Geartronics pneumatic shifter. "It's much more precise on the downshift, and that's the biggest thing about the cars. Any car can upshift fine; it's the downshifts that make it or break it as far as the shifting system goes," says Osborne. "[The Geartronics system is] very consistent, and that's so critical on a car like this because it allows you to brake consistently and downshift without having the engine bind up the transmission. It's not going from sixth, to fifth, to fourth - that's easy, we can do that manually. It's when you have to go from sixth all the way to second - that's where it gets very difficult to do it manually, consistently."



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**FOURTH
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Through the use of overlapping spheres from four or more satellites, GPS receivers can calculate accurate location that also incorporates elevation.



GLOBAL POSITIONING

We know GPS is awesome, but how does global positioning in your data system – and your tow vehicle – actually work? | WORDS Philip Royle

GPS is perhaps the most pervasive technology in a racer's life. Many use this technology the moment they step into their tow vehicle, and then in their racecar during competition, and once more on the drive home. It steers you right without fail, and allows you to find fuel and fast food along the way. It must be magic.

GPS is a side effect of the U.S. military, as all of this is made possible through their network of satellites. "There are about 31 satellites floating around in space in six orbital planes, so they're crisscrossing the Earth at about 7,000mph of ground speed," says Roger Caddell, National Training Manager for AiM Sports. Caddell explains that those satellites are orbiting at around 10,988 miles above the Earth, making a full rotation of the planet in 11 hours, 58 minutes. So, while the constellation of satellites above us is constantly changing, "the whole system is designed to have about nine satellites visible at one time, although sometimes it's more, sometimes less," he says.

As you'd expect, using satellites to calculate location is just geometry – in this case, called trilateration. With stationary reference points, "we normally measure the angle of items and a couple of distances," says Caddell, "but with GPS, we don't know the angle of things because everything's changing every millisecond."

To obtain a reference point, GPS receivers use a signal from GPS satellites. "Satellites are always transmitting a signal that begins at a very precise time, based on their onboard atomic clocks," explains Tim

Anderson, General Manager at Racepak. Rather than all GPS receivers also having an atomic clock, they simply use the information from a data stream sent by each GPS satellite, essentially getting atom clock accuracy for free. "All the receiver has to do is compare when the signal should have started from each satellite, then take note of when the signal is actually received," continues Anderson. "If the signal travels at 186,000 miles per second, then a simple calculation shows the distance."

"Satellites are always transmitting a signal that begins at a very precise time"

TIM ANDERSON

Incredibly, that signal may be broadcast from a transmitter as weak as 25 watts.

"It's all based on the time from when the signal left the satellite and hit the GPS antenna," says Caddell. "We don't know any of the angles, so it's all based on the length of that line."

"By drawing a 'sphere' of the time signal location of four satellites, the receiver can calculate a point in space with the time data for all four satellites," says Anderson. Technically, three satellites allow GPS receivers to calculate location through the use of two-dimensional circles based on intersection points; the fourth satellite allows the use of three-dimensional spheres, with those intersection points allowing elevation to be determined.

To aid GPS receivers locking on to

MORE IS NOT ALWAYS BETTER

The accuracy of GPS is completely dependent on line of sight visibility of a network of GPS satellites that circle the Earth some 11,000 miles up. From there, it's a calculation of time (when the signal was sent from the GPS satellite compared to when it reached the GPS receiver) using multiple satellites as location points. That data is then processed using some very serious looking equations.

For racecar GPS, you generally need four visible satellites to log usable data. So, if four is good, wouldn't eight, 10, or 12 be better? Not necessarily. "If you only have five satellites overhead, that could be better than eight that are all in the corner of the sky," says Roger Caddell from AiM Sports. Ideally, you want to receive signals from well spread satellites that span the sky – but since you really have no control over this, you take what you can get.



WHAT'S THE FREQUENCY?

(ABOVE) GPS satellites constantly emit signals that contain the atomic time, a map of satellites overhead, and the exact time the signal was sent.

satellites quickly, GPS satellites also send a data file containing the current constellation of satellites, telling the GPS receiver where it can find all of the visible satellites. "As soon as a receiver powers up, it looks for at least four satellites," says Anderson. And, as you would expect, while four is the minimum, the more satellites a GPS receiver can see, the more accurate the reading.

POSITIONAL VS. RELATIVE ACCURACY We've heard that GPS is accurate only to a limited degree - so how can it be

that it's good enough to use when comparing racecar data? "There's a difference between relative accuracy and positional accuracy," says Caddell. "Because the satellites are constantly moving, your positional accuracy can be five, 10, or 15 meters off. If you stand in the same spot in the morning, afternoon, and evening, you'll get a different coordinate. That is the inaccuracies of how the system works. Relative accuracy is why GPS works with our Garmin, in our racecars, and everywhere else.

"Because satellites haven't changed their relative position much in the last 10th of a second, every 10th of a second we're grabbing that data and we can do the math of how our location has changed, and we can really accurately calculate everything we need," Caddell continues. "The accuracy relative to the last point is very, very accurate, but our positional accuracy over the course of hours is very different."

Both Caddell and Anderson agree that cloud coverage, while delaying the satellite signal, doesn't interfere much with relative accuracy. "The signal gets slowed down," Caddell

can get, like on the roof or cowl [of the racecar]. If you put the antenna inside the car on the package tray, the roof itself, and maybe the driver, actually drops the satellite signal for a second or two, because the signal needs to be line of sight.

"There's also the problem of the bouncing of signals," he continues. "If the antenna is in the car, the signal can bounce off the door before hitting the antenna, and that can really degrade the positional accuracy because the signal took a lot longer to get to the antenna. It's really, really important to get the antenna high up so the data doesn't bounce before hitting the antenna.

So, in a word, when asked how GPS works, the answer is "trilateration." More specifically, a network of satellites beam information every moment of the day, which is picked up by your GPS receiver. In that signal, the GPS receiver obtains a satellite map, the time, and the time the signal was sent from the satellite. Insane math takes place, and *voila*, you can now find out which braking point worked best on the track, or locate the nearest McDonald's. 📍



Photo: Royce

CLEAR VIEW

GPS receivers used in SCCA competition vary, with some containing the GPS antenna within the unit (ABOVE) while others use a more traditional remote antenna (RIGHT). Regardless, the antenna should have a clear view of the sky so it can receive a bounce-free satellite signal.



Photo: Royce

77 If the antenna is in the car, the signal can bounce off the door before hitting the antenna"

ROGER CADDELL

explains, "but the signals get slowed down the same from all satellites. Your relative accuracy to the last 10th of a second stays the same, but the positional accuracy may have shifted by several feet."

Hard surfaces, however, completely block the signal - but it's not as big a deal as you'd think. "Given there are at least 24 satellites in orbit at any given time, and at least 12 are typically in view at any given time, bridges and overpasses do not typically cause a problem," says Anderson. "If there was a long outage, our software uses dead reckoning to keep up with where the vehicle is located based on accelerometer data."

Caddell notes a bigger concern in accuracy over clouds or track objects is location of the antenna for the GPS receiver. "GPS is 100 percent line of sight," Caddell says. "The antenna needs as clear a view of the sky as you

SHIFTY BUSINESS

GPS systems offer relative accuracy, not necessarily positional accuracy. Consider the fact that a racecar is traveling 100mph in one direction, while GPS satellites used to track its location are traveling 7,000mph in other directions. GPS tracking can determine if a driver changed his or her turn-in point during the same session, but compare that to data captured eight hours later and you may find the entire track map is shifted. "There's a vector that's off, it's always in a certain direction," says Roger Caddell from AiM Sports. Luckily, the data all shifts in one direction as the satellites move and the Earth spins. "If our GPS-determined latitude and longitude marked start/finish was to drift two feet, all the driving line data would drift with it," says Racepak's Tim Anderson. Consequently, shifting the map is a relatively simple task, making comparisons from multiple sessions useful again.

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THE ART AND SCIENCE OF TIRES

Daily driver, tow rig, or dedicated racecar, it won't go far without a set of tires

WORDS Jason Isley MAIN IMAGE Courtesy BFGoodrich Tires

There is nothing more important on a car than the tires. Likewise, the research, development, and testing that goes into creating tires can be mind blowing. Small tweaks to compound or construction can make a significant difference in a tire's performance, and the consumer's resulting experience. "Tires have so many different things they're asked to do," says 30-year SCCA member Ken Payne, whose day job is Technical Director for Michelin North America, parent company to BFGoodrich Tires. "It's a really complex situation to try and balance all the tradeoffs you have to do."

Payne says that building a dedicated competition tire often requires fewer resources than those produced for a passenger vehicle. "To some extent, a DOT race tire are perhaps a little easier to deal with than, say, a tire we might be developing for a Honda Accord or a Ford Taurus, because there you have to worry about rolling resistance, snow traction, wet traction, and a longer wear life," says Payne. "So, from an overall tire design standpoint, when we move into a domain such as racing it takes some of the complicated performance balances off the table. But then there's the other side where we have high-cornering loads and vast variations of tracks, vehicle alignment setups. It's always a series of compromises; we have to look at them and decide how we are going to optimize solutions."

When looking at a modern radial tire, be it for the street or track, there are, as you would expect, many similarities. "Fundamentally, the basic components of the tire, whether it's one of our ultra-high-performance street tires or something like our BFGoodrich Tires g-Force R1 race tire, would be the same," says Payne. "You

have a radial ply carcass, or body of the tire, you have what we would call a bead area or lower sidewall zone, which is the rim interface, and then the summit package, which for street tires is a couple of belts and a nylon cap, and the tread rubber on top. For a road tire, you might have a softer material there, which dampens the steering response a little bit but, at the same time, affords better road isolation for noise and comfort purposes, or perhaps for fuel economy and rolling resistance purposes."

"It's a really complex situation to try and balance all the tradeoffs you have to do"
KEN PAYNE

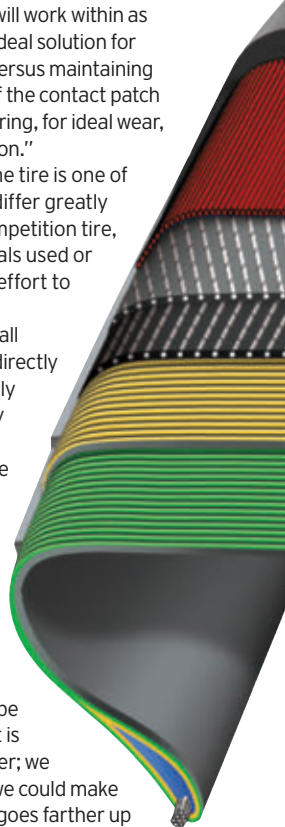
Depending on the end purpose of the tire, these basic components can be utilized in different ways, or materials substituted to net a different performance characteristic. "When you get into the subtleties of making the performance differences, sometimes the materials, such as the belts, might in fact be the same, but it could be as simple as changing the belt width in the tire or the angle of the belts themselves," he says. "The belt angle is a turning tool that impacts the steering response [and] cornering power, as is the belt width. We will sometimes vary those to optimize the balance of performance."

Tire companies also look at things like the hardness of rubber that is coating the steel belts. "We might go with a little firmer rubber coating on the belt package, which, again, firms up the summit, giving it a little quicker steering response."

A small adjustment in the belt angles can make a huge difference between a tire that is responsive on turn-in and one that excels at longitudinal traction, making it an excellent tuning tool for tire engineers. "There typically is a range of belt angles that we will work within," Payne explains. "It may be a fairly wide range, [like] a spread between a minimum and maximum of 15 degrees to 18 degrees. But within that wide range, there's a smaller bandwidth that we will work within as we try and find the ideal solution for steering response versus maintaining the correct shape of the contact patch for maximum cornering, for ideal wear, and stress distribution."

The sidewall of the tire is one of the areas that can differ greatly from a street to competition tire, either in the materials used or the layout, all in an effort to increase stiffness.

"The lower sidewall where it interfaces directly with the rim generally doesn't change very much," says Payne. "But, in that area, we have the bead filler, it's essentially a stiffer in the lower sidewall of the tire, and again that's a tuning tool where we can firm the lateral stiffness of the tire up. I may be using a product that is slightly harder rubber; we could thicken it, or we could make it slightly taller so it goes farther up into the sidewall area. That's a pretty common tuning tool moving from street to the road racing product."



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Sidewall inserts BFGoodrich uses to resist deflection.

DIFFERENT, BUT THE SAME

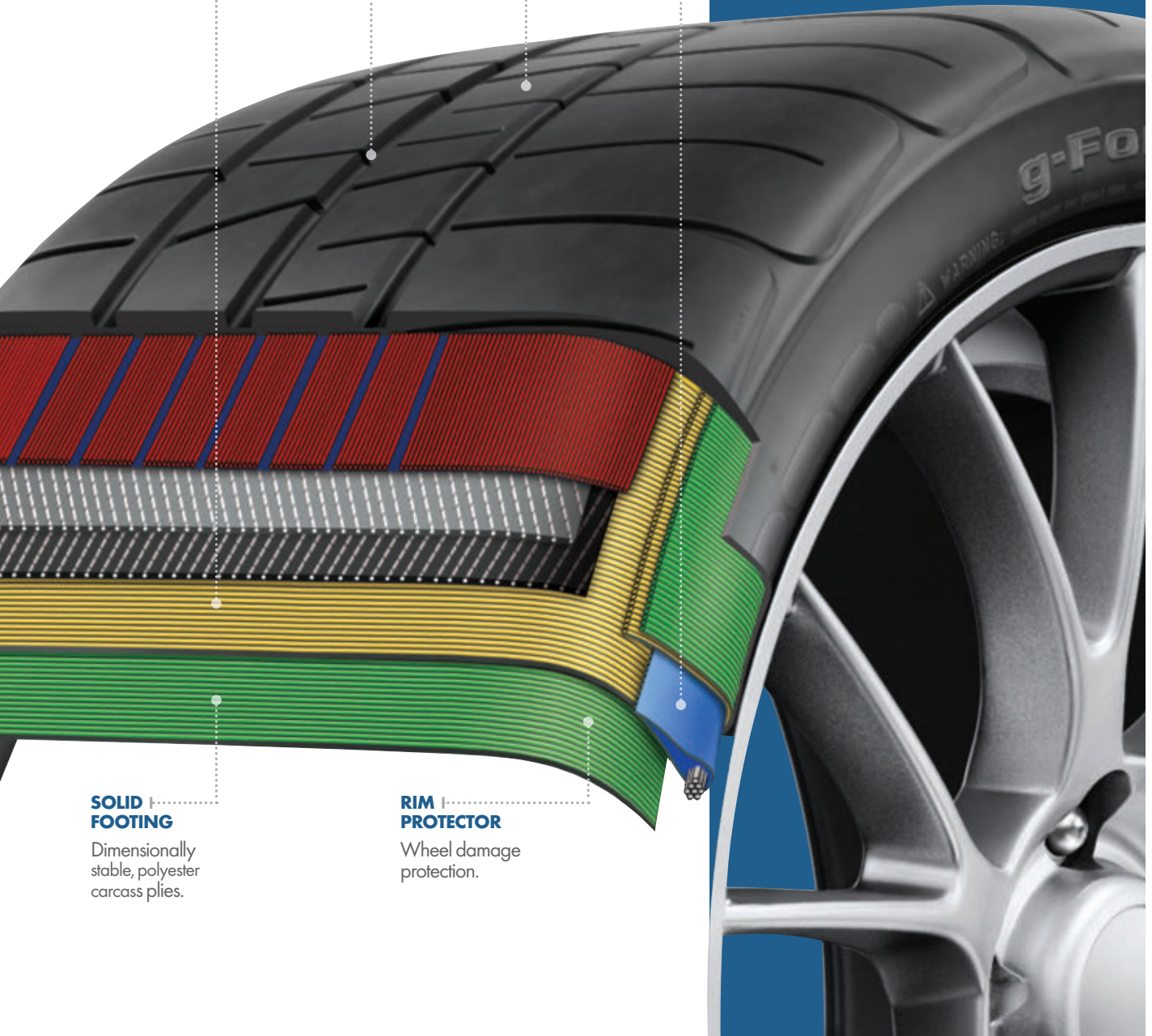
Recent ultra-high-performance street tires are beginning to take on many of the physical traits of their competition brethren, as tread void areas get smaller in the quest for grip and durability. "For tires such as the BFGoodrich Tires g-Force Rival, we have a lot more tread sculpture features in that tire [than on a typical competition-based DOT tire]," says Technical Director for Michelin North America Ken Payne. "But a lot of effort is made to optimize their placement and optimize the shape of the tread blocks compared to a typical road tire, so you still have relatively high contact surface ratio but also you have extremely high block rigidity."

SOLID FOOTING

Dimensionally stable, polyester carcass plies.

RIM PROTECTOR

Wheel damage protection.





Greg Reno

typically take a backseat to the tread compound in a competitor's eyes – likely because competitors can feel, and even measure, the rubber hardness on the outside of the tire, while the magic going on inside the carcass is a complete mystery.

"The other key area for a track-oriented version of a DOT tire is picking the right tread compound formulation," says Payne. "We look at the formulations that tend to have a higher hysteresis; they give better grip and [performance] characteristics. We sometimes start looking at compound

"We trade off a little bit of long life, but get a slightly higher level of performance"

KEN PAYNE

STREET TOURING

Street tires have proven more than capable in the hands of skilled Street Touring category drivers like Craig Wilcox. With the evolution of the new Street category, which will replace Stock in the coming year, we should see even more drivers competing on the tires they drove to the event on.

Perhaps one of the most influential and flexible pieces of a tire's construction is the summit area. An engineer can work magic here, as there are many tools at their disposal. "The summit is such a crucial area for the performance of the tire," Payne says. "The nylon reinforcement of the cap ply that goes over the belt package is very much a tuning tool. You can change the type of material, whether it's a pure nylon, a hybrid material, or an aramid; and whether it's laid as individual cable, as bands, as a wider strip. What the density across the tire is; you might have tunings where we have a little space between bands, you might have a tuning where they overlap. Sometimes we might apply multiple layers.

"We can work with the tension of that material so we can optimize not just in conjunction with the belt package in its angles, but with the profile of the mold and the reinforcement package to get the right dynamic footprint characteristics that yield the best overall performance."

As you start to look at a multiuse product, like an ultra-high-

performance street tire that may be used for both Solo and PDX events, you can see more of the race tire features crossing over. "Occasionally in some of our ultra-high-performance tires, whether they're the road application or a race application, we may use another product in the sidewall; that could be either textile or steel," says Payne. "Essentially, you could think of it almost as a very tiny belt that's laid in the sidewall that provides some additional reinforcement to improve the reactivity of the entire tire as you impart some steering into it."

Over the years, tread design in DOT competition tires morphed to the point that they can be mistaken for a full slick racing tire. "You might have what we would call a contact surface ratio in a typical road tire of 65 percent, and in something like an [BFGoodrich] R1, that's above 90 percent," Payne explains. "On the tread area, which is one of the bigger areas for tuning between the road tire and the race tire, we do a number of things. Obviously, on something like the R1, it has minimum tread; you have a couple of longitudinal grooves prominent. Eliminating as many grooves as possible does two things for you: It increases at the rigidity of the sculpture, and it reduces the void so you increase the amount of rubber that sees contact with the road."

While numerous unseen features worked into a tire's construction are essential to its performance, they

formulations that have a little higher grip and a little shorter warm-up time, such as the [BFGoodrich] R1-S versus the R1; we trade off a little bit of long life, but get a slightly higher level of performance. A bigger scope applies when going from the BFGoodrich g-Force Rival to R1, or from a normal summer tire to the DOT race tires."

Fortunately, as a competitor, you don't have to think too much about the construction of your tire, or even the tire model, as the category and class you compete in will typically narrow your competitive choices. At the same time, it's nice to know that SCCA members like Ken Payne are the ones at the drawing board, and are working to ensure we all have good footing during competition. 🚗

FINE TUNING

A tire's construction may be altered not only for its intended use, but also based on its size and the position it will most likely be utilized on a car. "In the different [tire] dimensions, we look at everything from a standpoint across a tire line," Michelin's Ken Payne says. "We know that certain dimensions are more likely to be played almost exclusively on rear-wheel-drive cars, for instance, and other dimensions may be more predominantly applied on a front-wheel-drive car. So we may make some differences in the tuning of the tire, be it the sidewall area or the summit, to provide a little different overall balance of performance."

FINDING GRIP

Tire engineers have the ability to design a product that will provide a confidence inspiring level of grip, even in the wet.



Ken Brown

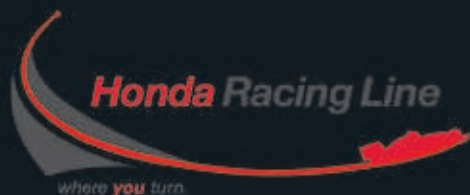
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The West Coast Represents
at the Thunderhill Raceway Park Stop
of the BFGoodrich Tires Super Tour, April 12-13, 2014

WORDS Jeff Zurschmeide MAIN IMAGE Philip Royle

THUNDERHILL SUPER

This year's BFGoodrich Tires Super Tour makes only one stop in the western United States. Round four of the tour took place in mid April at Thunderhill Raceway Park in Willows, Calif. As the geographically closest Super Tour to the 2014 National Championship Runoffs (which takes place at Mazda Raceway Laguna Seca in Monterey, Calif., in October), and San Francisco Region's only U.S. Majors Tour this year, the turnout was predictably high, pulling a record 309 cars to the Region-owned track for the weekend.

Joe Huffaker is a legend in West Coast racing, and he showed up to run both F Production in his trademark black Huffaker Engineering MG Midget, and his Mini Cooper in GT-Lite. Longtime San Francisco Region competitor Bruce Ackerman was also there in his McGee Motors Sports Volvo P1800, along with Brian Linn in the Hoosier/RedLine/Carbotech Lotus Super Seven. Only Jess Heitman's Maz-Toy Auto Recycling/Competition Autoworks Mazda Miata kept the

front of the F Production field from looking like a race out of the 1980s.

Linn took the checker on Saturday's race after a last-lap error put Ackerman second, followed by Huffaker and Heitman. But Sunday was a different story, with Huffaker finding the go pedal and cruising to a solid win.

"The cars are so different. There's a 2-liter Volvo that's in F Production now, and a Lotus Super 7 with Brian Linn behind the wheel, Huffaker says. "Hands down, if you want to pick a car that should win, that Lotus would be it.



RUSH HOUR
With more than 300 cars taking to the track over the course of the weekend, traffic was tight, and the racing even tighter.

TOUR

"It's fun to square off and get back in the saddle," he muses.

At the back end of that same run group, two drivers from Oregon Region fought a pitched battle for the B-Spec victory. Kyle Keenan has SCCA Pro Racing Pirelli World Challenge

It was the closest race I have ever had at the finish after 30 minutes of wheel to wheel"
DERRICK AMBROSE

experience from last year in his Kia Motors/Dick Hannah Dealers Kia Rio, while Derrick Ambrose has been developing his CorkSport Mazda Performance Mazda2 for a couple of years, including an appearance at last year's Runoffs. In Saturday's contest, Keenan won the race by inches.

"I got a bad start and Derrick got ahead," Keenan says. "I used a faster F Prod car to find an opening, and slowly pulled a gap. But with two laps to go, Derrick was on the back of my car like glue, and I did all I could to hold him



behind. I had him by maybe a bumper, but if we had one more lap, I'm sure he'd have gotten by."

"It was the closest race I have ever had at the finish after 30 minutes of wheel to wheel," says Ambrose. Sunday's B-Spec race saw Saturday's finishing positions reversed, with Keenan balked by lapped traffic and Ambrose driving to the checker alone.

"Long story short, it was epic," says Keenan. "Derrick is a great driver and one of the hardest, cleanest racers I've ever driven with. I honestly think Derrick and I both have a great shot at a Runoffs title."

West Coast Regions always have a great Spec Miata turnout and, for this event, 41 cars took the green flag on Saturday, with six cars within striking distance of the win. At the end of Saturday's race, an error by leaders Charlie Hayes in the TFB/AIM Tires/RM Autosports Miata and Tyler Vance in the TMG/RM Autosports/Sparco Miata allowed third-position Brian Ghidinelli and his RaceHero.io/MotorsportReg.com



WINNING
(LEFT) B-Spec racers Kyle Keenan (middle) and Derrick Ambrose (right) split the weekend, each taking a turn on the top step of the podium. (BELOW) Brian Linn drove his Lotus Super Seven to the F Production win in Saturday's sprint race. (BOTTOM) Joe Huffaker (77) took a pair of GTL wins with his Mini.





Chuck Koehler

FAST PACED

The action in SRF (ABOVE) was intense, as Todd Harris (24) emerged the victor both days. Post race tech (RIGHT) was packed to the gills, but the studious San Francisco Region crew worked tirelessly to get everyone through. (RIGHT) Spec Miata is always full of thrills and spills, and Thunderhill would be no different. Brian Ghidinelli (12) claimed the Saturday sprint race win.



Philip Royce

Miata and Joey Jordan in the Minxnails.com/Protomotive Miata to move into the 1-2 spots. Ghidinelli crossed the line with less than a single-car-length lead.

"I had a great weekend. I was definitely lucky, but I've been on the other end before so I'll take it," Ghidinelli says.

In Sunday's Spec Miata race, the lead train started out with an astonishing 16 cars. By the halfway point, four cars at the front had broken out and created a gap, but behind them 10 more cars held together in a tight field ready to capitalize on any mistakes. Polesitter and Saturday's near-winner Charlie Hayes and Elliott Skeer, in his Rush Motorsports Miata, held the lead draft at the end of the race, made no mistakes, and closed the deal with Ken Sutherland's MiataCage.com/Wyatt Fire Protection Miata in third.

"We started off with a full course yellow on lap one, Hayes says. "Ken Sutherland passed me on the restart, and I followed him for 10 laps. I was pressuring him a lot. I waited for one tiny mistake, and he went a little deep in Turn 2. I snuck by on the inside and got my teammate Elliot through, too." Perennial Runoffs contender Todd

Harris swept the weekend in SRF with his Pro Drive Racing/HMS car. Harris kept past National Champions John Black, and Mike Miserendino in the MBI Racing SRF, in his rearview mirror through both races. Jonathon Allen finished second on Saturday in the Off Constantly Racing SRF, with Black and Miserendino in third and fourth, respectively. On Sunday, Black and Miserendino each moved up a rung to complete the podium with Harris.

"Todd Harris and John Black will be tough to beat [at the Runoffs], but that isn't anything new to me - they have been great drivers for a long time," Miserendino says.

"I had a great weekend. I was definitely lucky, but I've been on the other end before so I'll take it"
BRIAN GHIDINELLI



Chuck Koehler



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Chuck Koehler

EYES ON THE PRIZE

Lance Stewart (3) kept his focus and drove his T4 Mustang to the sprint race win on Saturday.

For his part, Harris is already looking to the fall and the championship that has thus far eluded him. "I still have work to do," Harris says. "The thing I'm really looking forward to is that Mazda Raceway Laguna Seca will prove who the best driver is. It won't just be the guy who brought the fastest car and has great drafting skills. We're going to crown a true champion - period."

Just two rounds remain for this

It won't just be the guy who brought the fastest car

TODD HARRIS

year's Super Tour. The tour next travels to Mid-Ohio Sports Car Course at the end of May, and then to Watkins Glen International for the Independence Day weekend. 📍

2. Dave Zurlinden (Piper); 3. Alexander Kirby (Piper); **FV:** (22 starters) 1. Terran Swanson (Mysterian) 2:06.245; 2. Jake Pipal (Caracal); 3. Ron Wake (Mysterian); **F5:** (3 starters) 1. Lance Spiering (KBS) 2:02.502; 2. Joe Rozelle (Novacar); 3. Jeff Jorgenson (Invader).

SUNDAY

GT1: (3 starters) 1. Rob Davis (Chevrolet) 1:53.824; 2. Jason Fiorito (Ford); 3. John Blizzard (Camaro); **GT2:** (13 starters) 1. William Brinkop (Chevrolet) 1:52.255; 2. Spencer Trener (Porsche); 3. Matt Crandall (Porsche); **GT3:** (7 starters) 1. Collin Jackson (Nissan) 1:54.995; 2. Dave Humphrey (Nissan); 3. Jose Rodriguez (Mazda); **GTL:** (8 starters) 1. Joe Huffaker (Mini) 2:02.402; 2. Troy Ermish (Datsun); 3. Noel Hayward (MG); **AS:** (5 starters) 1. Dylan Olsen (Ford) 2:02.827; 2. Aaron Bailey (Chevrolet); 3. Christopher Qualls; **EP:** (5 starters) 1. Aaron Downey (Mazda) 2:01.969; 2. Tony Jimerson (Mazda); 3. Philip Royle (Mazda); **FP:** (6 starters) 1. Joe Huffaker (MG) 2:02.548; 2. Bruce Ackerman (Volvo); 3. Brian Linn (Lotus); **HP:** (7 starters) 1. Jason Isley (Toyota) 2:07.847; 2. Gordon Jones (BMW); 3. Tom Tuttle (MG);

STU: (5 starters) 1. Rylan Hazelton (Honda) 2:03.515; 2. Will Clark (Honda); 3. Bruce Trener (Acura); **STL:** (17 starters) 1. Spencer Trener (Acura) 2:05.300; 2. Thomas Lepper (Acura); Elliot Skeep (Mazda); **T1:** (10 starters) 1. William Brinkop (Chevrolet) 1:56.127; 2. March Hoover (Mazda); 3. Oli Thordarson (Chevrolet); **T2:** (5 starters) 1. Don Van Nortwick (Ford) 2:03.008; 2. David Ray (Ford); 3. Russ Peterson (Ford); **T3:** (5 starters) 1. Scotty B White (Ford) 2:02.586; 2. Tom Wikersham (BMW); 3. John Baker (Nissan); **T4:** (7 starters) 1. Lee Niffenegger (Honda) 2:10.003; 2. Lance Stewart (Ford); 3. Matthew Staal (Honda); **SM:** (42 starters) 1. Charlie Hayes 2:07.848; 2. Elliot Skeer; 3. Ken Sutherland; **BS:** (3 starters) 1. Derrick Ambrose (Mazda) 2:18.486; 2. Kyle Keenan (Kia); 3. Heinz Hammes (Mazda);

PI: (5 starters) 1. Jim Devenport (Norma) 1:41.062; 2. Lee Alexander (Stohr); 3. John Shine (Stohr); **P2:** (6 starters) 1. Fabin Okonski (Stohr) 1:46.428; 2. Paul Decker (Decker); 3. David Arken (AMAC); **SRF:** (37 starters) 1. Todd Harris 2:04.349; 2. John Black; 3. Mike Miserendino;

FA: (4 starters) 1. Vince Gaddini (Mazda) 1:40.989; 2. Renny Damon (Swift); 3. Frank Cusack (FS); **FB:** (7 starters) 1. J.R. Osborne (Citation) 1:40.546; 2. Randy Cook (JDR); 3. Gary Hickman (Phoenix); **FC:** (12 starters) 1. Bob Negron (Van Diemen) 1:44.959; 2. Robert Armington (Van Diemen); 3. Yufeng Luo (Van Diemen); **FE:** (2 starters) 1. Jeff Read 1:54.641; 2. Brandon Aleckson; **FM:** (12 starters) 1. Mel Kemper 1:48.556; 2. Dutch Schultz; 3. Brad Drew; **FF:** (11 starters) 1. Ethan Shippert (Swift) 1:52.923; 2. Thomas Merrill (Piper); 3. Chuck Hom (Swift); **FV:** (22 starters) 1. Quinn Posner (Protoform) 2:05.712; 2. Skip Streets (Mysterian); 3. Don Pepperdene (Slick); **F5:** (3 starters) 1. Lance Spiering (KBS) 2:07.053; 2. Jeff Jorgenson (Invader); 3. Joe Rozelle (Novacar).

RESULTS

U.S. Majors Tour and BFGoodrich Tires Super Tour Thunderhill Raceway Park | Willows, Calif. | April 12-13, 2014

SATURDAY

GT1: (3 starters) 1. Rob Davis (Chevrolet) 1:54.470; 2. Jason Fiorito (Ford); 3. John Blizzard (Camaro); **GT2:** (12 starters) 1. Spencer Trener (Porsche) 1:53.675; 2. William Brinkop (Chevrolet); 3. Matt Crandall (Porsche); **GT3:** (9 starters) 1. Collin Jackson (Nissan) 1:55.761; 2. Dave Humphrey (Nissan); 3. Jose Rodriguez (Mazda); **GTL:** (8 starters) 1. Joe Huffaker (Mini) 2:04.003; 2. James Hargrove (Honda); 3. Noel Hayward (MG);

AS: (5 starters) 1. Aaron Bailey (Chevrolet) 2:03.828; 2. Dylan Olsen (Ford); 3. Kevin Smith (Pontiac); **EP:** (5 starters) 1. Tony Jimerson (Mazda) 2:02.325; 2. Josh Carroll (Mazda); 3. Philip Royle (Mazda); **FP:** (8 starters) 1. Brian Linn (Lotus) 2:02.935; 2. Bruce Ackerman (Volvo); 3. Joe Huffaker (MG); **HP:** (7 starters) 1. Jason Isley (Toyota) 2:07.174; 2. Gordon Jones (BMW); 3. Neil Verity (MG);

STU: (6 starters) 1. Rylan Hazelton (Honda) 2:03.598; 2. Cameron Rogers (Mini); 3. Will Clark (Honda); **STL:** (19 starters) 1. Spencer Trener (Acura) 2:05.262; 2. Clement Lee (Mazda); 3. Elliot Skeer (Mazda); **T1:** (9 starters) 1. William Brinkop (Chevrolet) 1:56.358; 2.

Ken Davis (Chevrolet); 3. Igor Lyustin (Acura); **T2:** (5 starters) 1. David Ray (Ford) 2:02.558; 2. Don Van Nortwick (Ford); 3. Nicole Jacque (Ford); **T3:** (5 starters) 1. Tom Wickersham (BMW) 2:03.886; 2. Scotty B White (Ford); 3. John Baker (Nissan); **T4:** (7 starters) 1. Lance Stewart (Ford) 2:10.710; 2. Lee Niffenegger (Honda); 3. Ali Naimi (Ford); **SM:** (41 starters) 1. Brian Ghidinelli 2:07.834; 2. Joey Jordan; 3. Tyler Vance; **BS:** (3 starters) 1. Kyle Keenan (Kia) 2:19.064; 2. Derrick Ambrose (Mazda); 3. Heinz Hammes (Mazda);

PI: (7 starters) 1. Chris Farrell (Stohr) 1:40.572; 2. Jim Devenport (Norma); 3. Miles Jackson (Stohr); **P2:** (6 starters) 1. David Ferguson (Stohr) 1:48.973; 2. David Arken (AMAC); 3. Paul Decker (Decker); **SRF:** (37 starters) 1. Todd Harris 2:04.954; 2. Jonathan Allen; 3. John Black.

FA: (3 starters) 1. Vince Gaddini (Mazda) 1:43.000; 2. Ken Davis (Rait); 3. Frank Cusack (FS); **FB:** (7 starters) 1. J.R. Osborne (Citation) 1:41.887; 2. Larry Vollum (Stohr); 3. Randy Cook (JDR); **FC:** (13 starters) 1. Yufeng Luo (Van Diemen) 1:47.201; 2. Bob Negron (Van Diemen); 3. Michael Manning (Van Diemen); **FE:** (3 starters) 1. Brandon Aleckson 1:47.672; 2. John Yeatman; 3. Jeff Read; **FM:** (12 starters) 1. Mel Kemper 1:49.819; 2. Dutch Schultz; 3. Kevin Rogers; **FF:** (14 starters) 1. Thomas Merrill (Piper) 1:53.799;



Philip Royle

KEEPING BUSY

With a record turnout at the San Francisco Region owned track, the workers were kept hopping all weekend. And with a massive track expansion under way, which will nearly double the track length, bigger and better things are no doubt on the horizon for this amazing facility.

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BRIAN GHIDINELLI

CEO, MOTORSPORTREG.COM
SCCA MEMBER SINCE 2005
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The first morning I drove to high school, I was pulled over doing 48mph in a 25. I was lucky the cop literally had to drop his doughnut and pick up his radar gun while I slammed on the brakes, or that might have been the only day I ever drove.

"My need for speed took a backseat until a track day at what is now Sonoma Raceway. I was hooked after the first session. My addiction quickly exceeded my budget, so I volunteered on the organizing team and created what most people know me for today: MotorsportReg.com."

"When Spec Miata exploded, I joined San Francisco Region and found highly organized, professionally run, and seriously competitive racing. These were my people! But getting involved as a competitor was only the start. I began attending the SCCA National Convention with MotorsportReg exposing me to the dedicated leadership that makes our fun possible, and a few years later I found myself giving back on the board for San Francisco Region and Thunderhill Raceway."

"No matter how much I put into the Club and the sport, I can't help feeling guilty that I'm getting far more back. It's my friendships, my competitive outlet, and my livelihood. My recent volunteering taught me all about Timing and Scoring and inspired my latest project, a new app for live timing, official race results, schedules, and entry lists, called RaceHero."

"Today, I know the SCCA like few others. MotorsportReg supports 94 SCCA Regions, Divisions, and the SCCA National Office in organizing more than 1,000 events annually, including all of the championship events. It is 'work,' but long hours fly by helping passionate members make the Club great. I've been pretty lucky since that first speeding ticket. Fingers crossed, the luck will last through the National Championship Runoffs at Laguna Seca!"

LIVING IT

For Brian Ghidinelli, a passion for cars and speed has turned into a career and a desire to give back to the Club.

MAIN IMAGE Michael Duval



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RACING ROOM

CHANGES ON THE HORIZON

WORDS Jim Wheeler, Chairman,
Club Racing Board

MAIN IMAGE LAT / Walt Kuhn

There are about 50 letters on the CRB agenda for our next meeting. The Advisory Committees have another 250 or so. Many of the letters are in response to several "What Do You Think" requests that went out for American Sedan and Formula Vee. By the time you read this, those items will have been taken care of. The rest of the letters are requests for weight and restrictor changes, and for changes to car classifications and what modifications may be made.

This change, if approved by the [Board of Directors], will allow for post-race protests in the same 30-minute window"

Touring alone has about 50 items that range from requests for cat removal to headers, different coil springs, etc. B-Spec seems to be heating up as more of these cars are hitting the track. There are 25 requests for competition adjustments and for changes to swaybars, springs, door panel removal, and other items. However, since the "rules season" is well under way, the only thing that the CRB can change before the 2015 season will be the weights and restrictor plates, plus a few other minor items.

I am also happy to report that we are receiving fewer letters with multiple requests. Racers with several issues are now sending in individual letters for each request. This helps the Advisory Committees move the requests through the system.


A couple of items recommended by the CRB and submitted to the Board of Directors will have been voted on at the May BoD meeting in Topeka. The first item, if approved, will give competitors the chance to file mechanical protests in impound following an on-track session.



GET THE MESSAGE

As essentially the last holdout to recognize a waved white flag as the "one lap to go" indicator, a rule change could be on the horizon that puts SCCA in line with most other major race sanctioning bodies.

This is not supposed to be a "gotcha" type of deal. Rather, it's a solution to a very real problem. One of the biggest complaints the CRB hears is that by the time you notice that someone's car is non-compliant (like in impound); it's too late to file a mechanical protest. This change, if approved by the BoD, will allow for post-race protests in the same 30-minute window now allowed for a protest of on-track incidents.

The second recommendation is to allow for a waving white flag to be displayed at the finish line to signal the start of the final lap. Since we are just about the only outfit in motorsports that does not currently do this, we don't think there will be any confusion about what it means. It came about, in part, because we are now putting on many more timed races, rather than lap-count races. This makes it difficult for crewless drivers (and clueless drivers) to know when it is the last lap. A standing white at the finish line will still signify a slow-moving vehicle, and a waving yellow can also be used, if appropriate. That should be simple enough. 

MIDSEASON PARTICIPATION

Early participation numbers are in for the U.S. Majors Tours. The Majors program is seeing an average of about 212 entrants per event (through the end of April, that is). May, however, is the big month, with five race weekends. Then there are two in June, including the June Sprints, four in July, and three in August, ending with Heartland Park Topeka on Labor Day weekend. Participation, by class, shows the usual classes at the top. The top 10, in order, are: SRF, SM, STL, FF, FV, GT2, FA, FM, FC, and EP.



Ken Brown

BIG NUMBERS

(RIGHT) SRF leads the way in class participation for the U.S. Majors Tours. Will your class make the top 10 by the end of the year?

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PRO FORMULA **CAR** REVOLUTION

WORDS Monty Mathisen

IMAGES Dennis Valet

In the middle of April, there were 75 professional open-wheel cars sitting in the paddock at Road Atlanta. Spread between the new Atlantic Championship Series and the F2000 and F1600 Championship Series, this was the start of a seven-weekend 2014 season for Formula Race Promotions's three SCCA Pro Racing Championships.

The entry list reads like a who's who of North America's formula car prep shops – they were all there, with cars among all of the three series – which offer a natural progression for drivers to move from F1600 to F2000 and then on to Atlantic. As for the drivers, Atlantic, F2000, and F1600 all pitted a mix of the best veterans in the country against newcomers, barely old enough to drive.

The entry list reads like a who's who of North America's formula car prep shops – they were all there"

ATLANTA HEAT

In the comeback for the Atlantic Championship Series, 19-year-old Canadian Daniel Burkett triumphed for K-Hill Motorsports, sweeping the weekend in a Swift 016/Mazda. 2014 marks the resurgence of the professional Atlantic formula, with series organizers running SCCA rules and seeing close competition among various car and engine types ranging from Ralt RT-41 Toyotas to newer, Swift 016/Mazdas.

For the 32-car F2000 field, Tim Minor took Sunday honors, defending his 2013 crown, but it was his new teammate, Skylar Robinson, who stole the win from Minor on Saturday. The 18-year-old is in a similarly prepared Citation/Zetec under the guidance of engineer Eric Langbein. In addition, a new F2000 car from Australia-chassis



FORMULA FOR BIG SUCCESS

The organizing group, Formula Race Promotions, has found its niche in the motorsport world following its debut with F2000 in 2006. The equation mates track time with great racetracks east of the Mississippi, while offering single-class groups and a dedicated, competitor-friendly staff on all double race weekends.

A mandated spec tire from Hoosier and tire allotment rules once qualifying starts keeps cost in check. New for 2014 is a visit to Pittsburgh International Race Complex in August and the new Thomson Speedway road course on Labor Day weekend. The new venues join series mainstays such as Road Atlanta, VIR, Watkins Glen, and Mid-Ohio.

builder Spectrum made its debut, earning a podium finish.

The F1600 doubleheader got the audience on their feet as a 10-car group broke away in race one, trading the lead back and forth in dramatic fashion as the laps wound down. It was Franklin Futrelle in a Spectrum/Honda for Raceworks that prevailed, sneaking by Jim Goughary on a late race restart. Futrelle is no lightweight behind the wheel, as he spends his time between races as a professional instructor for Skip Baber.

A day later, Goughary nailed down the win in his Van Diemen/Honda for Ski Motorsports, and marked the first Masters Class driver to win a race outright since 2011. Goughary went side by side with Garth Rickards into Turn 10, with the 21-year old spinning on the final lap.



ACTION-PACKED


The F1600, F2000, and Atlantic fields are growing, and the action on track is heating up.

With the action offered throughout the field at Road Atlanta, and more aspiring racers than ever before driving for new major teams like Pelfrey, Chastain, and Swan, the season is shaping up to offer an action-packed 14 races, as the series expands from the 12-race schedule in 2013.

SECOND GENERATION

With a win in his series debut, Skylar Robinson is a driver to keep an eye on this year in the F2000 Series. The 18-year-old has progressed up the open-wheel racing ladder very quickly, starting in the Skip Barber racing series in the winter of 2012. The high school honor student claimed five wins in 12 races, earning him third in the Winter Series as well as the Rookie of the Year Award.

Robinson then moved up to the British Racing and Sports Car Club Formula Ford National Championship for the summer. While in the U.K., the American claimed second in the championship in addition to four wins and numerous podiums. Skylar also won the BRSCC Formula Ford Triple Crown Championship.

It's all in the family for Skylar as his father, Chip, was also a racer, with a resume including starts in IndyCar and wins at the 12 Hours of Sebring and 24 Hours of Daytona. 



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FRONT LINE

BRENT McNAUL IS SOUTHWEST DIVISION'S F&C WORKER OF THE YEAR

WORDS James Kearney

IMAGE Courtesy Brent Mcnaul

Brent McNaul says he stumbled upon the SCCA. He was running his 1996 Impala SS at a track day at Gateway International and “he wanted more.” “I was having a great time and I wanted to know how I could get more track time in Texas. Someone told me to get on the Website for the SCCA. When I went there I found out they were looking for volunteers to work an event at the Texas Motor Speedway, and I said, ‘Whoa!’”

He’d never been there, but had always wanted to go. “Now I could go for free.” He helped out in Timing and Scoring and ran around and got to meet a lot of folks. But he was attracted from the very beginning to working the corners.

I was having a great time and I wanted to know how I could get more track time”

BRENT McNAUL



and I was physically and mentally worn out. I’d felt like I’d accomplished something.”

Now that he is the flag chief, he doesn’t get to spend the same amount of time on the corners. He is supervising more than flagging, but he likes that he gets to interact with just about all of the volunteers. “My friends let me come and work on their stations so I can keep sharp.” His favorite track to travel to is Road Atlanta. “This will be the fourth year, and this year we’ll do all four days of the Petit Le Mans.” His season involves about 10 weekends a year.

He worked the National Championship Runoffs in 2008 and 2009, but he wasn’t present when he won the BFGoodrich Tires Worker of the Year Award at the 2013 Runoffs. He learned that he had won by looking at the SCCA Facebook page. “I thought, really?” It was a wonderful surprise, and then a number of friends contacted him to offer their congratulations. ☺

“I’d always felt that it was a privileged position to be close to the action. It felt a bit dangerous, certainly eye opening, and it got your adrenaline to rise.” He says, “A good flagger has to be able to focus, and discipline themselves to mind their assigned zone. It can be hard at first but you have to keep your eyes on the section of track to which you have been assigned. A lot can be happening nearby, but you need a set of eyes on all areas of responsibility when they have cars in them. You can’t all focus on the accident or whatever trouble has occurred.”

He says new workers usually get the hang of this fairly quickly. If they get distracted with the racing and start turning their heads to watch things in other areas, the captain should remind them when they still have a car in their assigned zone.

Brent’s true love is working the blue flag, warning drivers that a faster car is coming through. “It is hard work. You need to keep track of a large portion of the field. It requires you to memorize car numbers and be aware of what those cars look like when they are coming straight toward you. It is harder to do than it appears.”

At the 2007 Houston Grand Prix, he worked blue flag for both Champ Cars and ALMS. He was on the outside of a fast turn where the cars would, for a moment, come straight at him. He was flagging through an opening in the fence but he positioned himself for a quick escape, if need be. The Champ Car race was won by Sebastien Bourdais. “It was exciting and scary, but it was a perfect day. By the end of it, my face was black from rubber bits. The sector chief had complimented me

CLOSE TO THE ACTION

Brent McNaul likes being in the mix. Even though he now serves as a flag chief, he takes every opportunity to get back in the trenches.

THE SCCA AS A CHEAP DATE

Brent McNaul went to his initial SCCA weekend with the gal who was to become his wife. “It was a great party atmosphere,” he says. “People were jovial and made us feel very welcome, which can be hard among strangers. It was an awesome facility and it was great to see the cars up close and talk with the drivers.” It was their first big date and out-of-town trip together. “The fax was broken, so we ran the T&S results to the driver’s lounge all weekend via a golf cart.” His wife Sandy worked grid until their son William was born, but she still loves to go with him on races weekends.

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BRANDON KENNEDY GOES FAST NO MATTER WHAT THE SURFACE

WORDS R.A. McCormack

IMAGES Rick Corwine

What do racing exotic Grand Prix hydroplanes in the American Canadian Hydroplane Association series and driving a winged formula car in SCCA have in common? That would be 21-year-old Brandon Kennedy from Delaware, who has his feet firmly planted in both worlds; so successful in each he doesn't plan on giving up either anytime soon.

"I started dirt bike racing when I was about 8-years old and enjoyed doing that," says Brandon, "but my family has been involved in the sport of hydroplane racing for over 40 years. That, in fact, is how my parents, Sandy and George, met. At the age of 14, I became the fourth generation of Kennedys to get behind the wheel of a hydroplane and won the Summer National Championship on my third race weekend."

Absorbing the art of hydroplane racing by watching his father compete for many years - "He gave me the touch on how to make a boat go fast," says Brandon - this precocious Kennedy hasn't stopped setting records and winning ever since, including twice being inducted into the American Power Boat Association's Hall of Champions.

Last year he captured the Grand Prix class (the largest group of competitors) at the prestigious Valleyfield event held in Quebec each July. This is the hydroplane version of the Daytona 500 and reportedly sees more than 100,000 spectators lining the course. On the podium in front of the crowd after winning the H-350 class, the lead-up to the main event, Brandon proceeded to get down on one knee and propose to his girlfriend, Karson King. Happily, she accepted and they plan to marry next April.

A few months later there was this equally prestigious event called the National Championship Runoffs, held at Road America. And there was the self-same Brandon Kennedy battling for



Rick Corwine

I became the fourth generation of Kennedys to get behind the wheel of a hydroplane"

BRANDON KENNEDY

a silver medal in Formula Enterprises, only to lose second place by just 0.6sec to Reece Everard on a last-lap pass.

It seems that in 2008, when Brandon turned 16, he mentioned an interest in road racing. With the support of his grandfather, Wally Osinga, a longtime SCCA racer based in Florida who finished 11th in Formula Enterprises at the 2009 Runoffs, Brandon enrolled in a Skip Barber driving school and discovered he liked racing on pavement just as much as on water.

"He first had to borrow a car with a manual transmission, as he had not driven one," remembers Wally. "He

BUSINESS MINDED


There are many sides to Brandon Kennedy, and one is entrepreneurial. Developed by Kennedy and his partner, Billy Sewell, the Sharematic mobile app addresses the time-consuming task of uploading photos from your phone one picture at a time. Sharematic enables individuals to automatically receive all your photos from a specific event.

Download the app, name an event album, and set the dates for the event in question. List the e-mail addresses of friends who want to receive the event photos. All the shots taken between the chosen dates are now automatically uploaded to your friends. Users will also be able to upload photos to Facebook, Twitter, and Instagram. For information, go to sharematic.net

then shared weekends driving an F500 with his parents, but after Brandon graduated high school we made a deal that I would let him run a few races in my Formula Enterprises car. As little time as he had in racing cars, I was quite impressed at how he was immediately fast. And even more impressed with the feedback he was able to give to me on the handling of the car with so little experience. This prompted me last year to enter him in the SCCA U.S. Majors Tour."

Brandon is clear that he probably would not be racing were it not for his grandfather. "I was so focused on boat racing that I never really looked outside of it," says Brandon. "He has given me the opportunity to realize I have talent in a racecar. I can't express how much fun it is to go to an SCCA race with my grandpa."

Asked about the difference between "flying" a hydroplane and driving on pavement, Brandon says it all comes down to turns. In hydroplanes, the course is usually a one-mile oval, "but at Sebring there are 17 turns and you've got to hit all of them just right," he says.

Following high school, Brandon considered becoming a marine mechanic, but after attending a trade school for a year, decided he much preferred working in the machine shop his father owns and operates. He is now able to perform all the basic skills his dad requires, except for programming the CNC machines. Which is not to say Brandon is any stranger to programming, as he is bringing a mobile phone application called "Sharematic" to market, which he hopes is going to pay big dividends. 



Courtesy Kennedy family

BY LAND AND BY SEA

Brandon Kennedy has proven his metal on the track and on the water.



Rick Corwine



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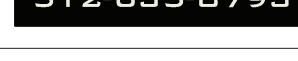
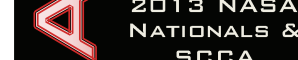
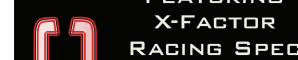
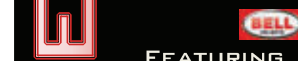
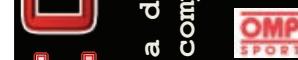
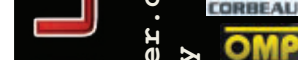
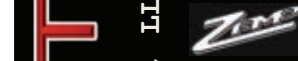
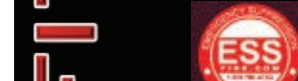


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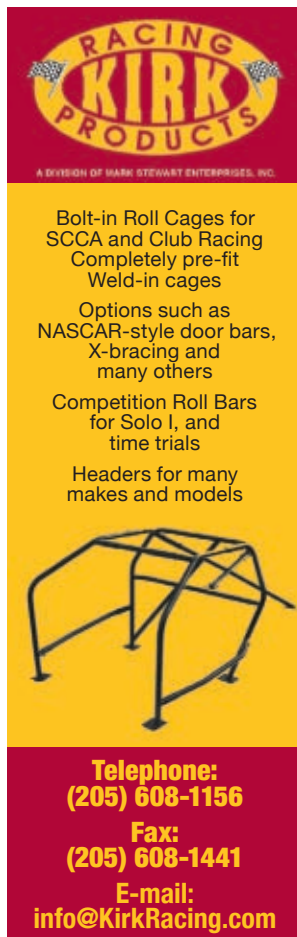
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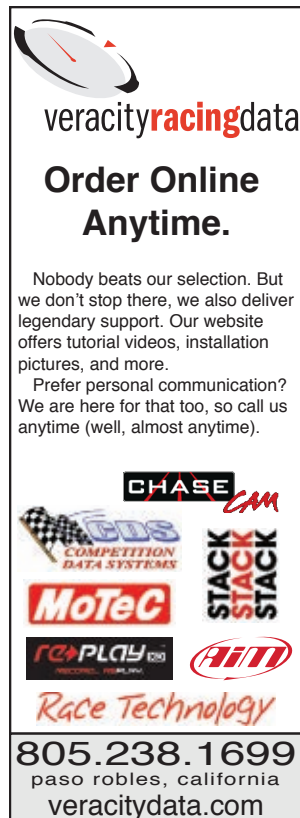
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Apr 25-27 Barber Motorsports, Ala.
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TC, TC-A, TCB single)
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May 16-18 Canadian Tire Motorsports Park, Canada (TC, TC-A, TCB triple)
May 30-Jun 1 Detroit Belle Isle, Mich.
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May 30-Jun 1 New Jersey Motorsports Park, N.J. (TC, TC-A, TCB double)
Jun 19-21 Road America, Wis.
(GT, GT-A, GTS, TC, TC-A, TCB double)
Jul 18-20 Streets of Toronto, Can.
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Aug 1-3 Mid-Ohio Sports Car Course, Ohio
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Aug 22-24 Sonoma Raceway, Calif.
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Aug 30-31 Brainerd Int'l Rcw, Minn.
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May 17 Canadian Tire Motorsport Park, Canada
Jun 1 New Jersey Motorsport Park, N.J.
Jun 21 Road America, Wis.
Aug 16 Mid-Ohio Sports Car Course, Ohio
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Jul 26-27 Road America, Elkhart Lake, Wis.
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Oct. 6-12, 2014 Mazda Raceway Laguna Seca, Monterey, Calif.

DIVISIONAL/REGIONAL

NORTHEAST nediv.com

Jun 14-15 * Pitt Race/Steel Cities
Jun 21-22 Summit Point/Wash. DC
Jun 20-21 Lime Rock/New England
Jun 21-22 * Nelson Ledges/Finger Lakes
Jun 28-29 Ro* NJMP/Jersey Racing Board
Jul 11-13 * Thompson Speedway Motorsports Park/New England
Jul 12-13 Summit Point/Wash. DC
Jul 19-20 Watkins Glen/Glen
Jul 26-27 Ro* Nelson Ledges/Mahoning Valley
Aug 9-10 * New Hampshire Motor Speedway/New England
Aug 9-10 Ro* Pocono/Tri-Region Race Group
Aug 15-17 * NJMP/Jersey Racing Board
Aug 28-29 * Thompson Speedway/Jersey Racing Board
Aug 30-Sep 1 * Summit Point/Washington DC
Sep 6-7 Ro* New Hampshire Motor Speedway/New England
Sep 13-14 Ro* Watkins Glen/Finger Lakes
Sep 26-27 Ro* Lime Rock/New York
Sep 27-28 * Nelson Ledges/Mahoning Valley
Oct 3-5 * Thompson Speedway Motorsports Park/New England
Oct 5-6 * Watkins Glen/Glen
Oct 4-5 Summit Point/Wash. DC
Oct 17-18 * NJMP/Jersey Racing Board
Finger Lakes (Nelson) (315) 597-9637
Finger Lakes (Glen) (585) 328-2617
Glen (607) 425-4339
Jersey Racing Board (609) 784-5316
Mahoning Valley (330) 418-3328
New England (508) 561-2188
New York (518) 789-3762
Steel Cities (412) 831-0361
Tri-Region Race Group (609) 352-1757
Washington DC (301) 572-7444

SOUTHEAST sedivacing.org

Jun 14-15 Ro*# Homestead/Florida
Jun 28-29 Ro*# Roebeling Road/Buccaneer
Jul 12-13 *# Road Atlanta/Atlanta
Jul 19-20 # Sebring/Central Florida
Aug 9-10 * Daytona/Central Florida
Aug 16-17 Ro*# Charlotte Motor Speedway/Central Carolinas
Aug 30-31 Ro* Barber Motorsports Park/Alabama, Tennessee Valley
Aug 30-31 # Sebring/Central Florida
Sep 13-14 *# Homestead/Florida
Sep 27-28 # Daytona/Central Florida
Oct 18-19 *# VIR/North Carolina
Oct 18-19 Sebring/Central Florida
Oct 24-25 # VIR/North Carolina
Oct 30-Nov 2 # Road Atlanta/Atlanta
Nov 1-2 # PBIR/Florida
Nov 29-30 Sebring/Central Florida
Alabama, TVR (256) 426-0672
Atlanta (770) 472-0460
Buccaneer (704) 575-5960
Central Carolinas (828) 684-2696
Central Florida (407) 568-6902
Florida (561) 318-1383
North Carolina (800) 342-7390
South Carolina (704) 575-5960

GREAT LAKES greatlakes-scca.org

Jun 28-29 * Grattan/Western Michigan
Aug 9-10 * Mid Ohio/Cincinnati
Aug 30-31 * Mid Ohio/Ohio Valley
Oct 11-12 * Mid Ohio/Ohio Valley
Oct 18-19 * Pittsburg/Neohio
Cincinnati (513) 528-9217
Ohio Valley (Aug) (330) 460-6706
Neohio (216) 390-2856
Ohio Valley (Oct) (513) 528-9217
Western Michigan (269) 217-2489

CENTRAL cendiv-scca.org

Jun 28-29 Ro* Blackhawk Farms/Blackhawk Valley, Milwaukee
Jul 5-6 D Brainerd Int'l/Land O' Lakes
Aug 30-31 Ro* Brainerd Int'l/Land O' Lakes
Sep 20-21 Ro* Road America/Chicago
Oct 18-19 Ro* Blackhawk Farms/Chicago
Blackhawk Valley TBD
Chicago/Milwaukee TBD
Land O' Lakes TBD

MIDWEST midiv.org

Jun 7-8 Ro* Iowa/Des Moines Valley
Jul 11-13 Ro* Memphis/Mid South
Jul 26-27 Ro* Motorsports Park Hastings/Nebraska
Aug 2-3 Ro* Gateway/St Louis
Sep 20-21 * Iowa/Des Moines Valley
Oct 25-26 Gateway/St Louis

SOUTHWEST sowdivscca.org

Aug 23-24 Ro* MSR Houston/Houston
Nov 8-9 Ro* Texas World Speedway/Texas
Dec 6-7 Ro* MSR Houston/Houston
Houston (281) 373-3960
Lone Star TBD
Texas TBD

ROCKY MOUNTAIN coloradoscca.org

Jun 21-22 D* Pikes Peak International/Continental Divide
Jul 5-6 Ro* High Plains Rcw/Colorado
Jul 26-27 Ro* Pikes Peak International/Colorado
Aug 30-31 Ro* High Plains Rcw/Colorado
Colorado
Colorado anniedew@msn.com
Cont. Divide anniedew@msn.com

NORTHERN PACIFIC norpac-scca.org

Jun 6-8 Ro* Mazda Raceway/San Francisco
Jun 13-15 Ro* Portland Int'l Raceway/Oregon
Jun 21-22 Ro* Thunderhill/San Francisco
Jul 5-6 Ro* Sonoma Raceway/San Francisco
Jun 12-13 Ro* The Ridge Motorsports Park/Northwest
Aug 9-10 Ro* The Ridge Motorsports Park/Northwest
Aug 22-24 Ro (triple) Portland Int'l Raceway/Oregon
Sep 12-14 Ro* Mazda Raceway/San Francisco
Northwest (360) 479-6082
Oregon (503) 224-9469
San Francisco (530) 934-4455

All dates/events subject to change

* = Double Event # = Enduro
Ro = Runoffs qualifier r = Restricted
HC = Hill Climb v = Vintage
CT = Club Trial TT = Track Trial
PDX = Performance Driving Experience
GTA = Game, Tour, Adventure Rally
GRC = Great Race Class NT = National Tour
NC = National Course RT = Regional Tour
CR = Course Rally SR = Social Rally

E-mail addresses for registrars and event organizers are available at www.scca.com

FOR CHANGES

Club Racing: (785) 232-7229
Solo, Road Rally: (785) 232-7656
Rally Cross: (785) 357-7259

CLUB RACING

WHAT Majors and Super Tour
WHEN July 4-6, 2014
WHERE Watkins Glen Int'l
The penultimate round of the Eastern Conference U.S. Majors Tour, in addition to the final round of the BFGoodrich Tires Super Tour, hits the Glen in July.



Ken Brown

SOUTHERN PACIFIC scca-sopac.org
Jun 7-8 Ro* Auto Club Speedway/Cal Club
Sep 13-14 * Buttonwillow/Cal Club
Oct 11-12 * Inde/Arizona
Oct 25-26 * Buttonwillow/Cal Club
Arizona (480) 832-1327
Cal Club (661) 304-3468
San Diego TBD

STREET SURVIVAL SCHOOLS

NORTHEAST nediv.com
Aug 16 Stratford Army Engine Plant/New England
New England soloseveng@gmail.com

GREAT LAKES greatlakes-scca.org
Jun 21 Tire Rack/South Bend
Aug 16 Tire Rack/South Bend
South Bend (616) 610-0042

CENTRAL cendiv-scca.org
Jun 8 Iowa Speedway/Des Moines Valley
Des Moines Valley (515) 570-7441

ROCKY MOUNTAIN coloradoscca.org
Aug 10 Pikes Peak International Raceway/Continental Divide
Oct 19 Eagle County Regional Airport/Continental Divide
Continental Divide (719) 310-8281

NORTHERN PACIFIC norpac-scca.org
Oct 12 Portland Int'l Raceway/Oregon
Nov 22 Pacific Raceways/Northwest
Northwest (360) 479-6082
Oregon (503) 327-8990

DRIVERS SCHOOLS

NORTHEAST nediv.com
Oct 3 Watkins Glen/Glen
Glen (607) 425-4339

SOUTHEAST sediv-racing.org
Jul 19-20 Sebring/Central Florida
Central Florida (407) 568-6902

SCCA ACCREDITED SCHOOLS

REGIONAL AND NATIONAL
Bertil Roos Racing School
(800) 722-3669 racenow.com

Bob Bondurant School
(800) 842-7223 bondurant.com
Bridgestone Racing Academy
(905) 983-1114 race2000.com

The Jim Russell Racing Schools
(707) 939-7600 jimrussellusa.com

Pettiford's Go 4 It Racing Schools
(303) 666-4113 go4itservices.com

Skip Barber Racing School
(860) 435-1300 skipbarber.com

REGIONAL ONLY

Allen Berg Racing School
(888) 722-3220
allenberggracingschools.com

MSR Houston
(281) 369-0677 msrhouston.com

Porsche Sport Driving School
(888) 204-7474 porschedriving.com

Spring Mountain Advanced Driving School
(888) VET-4FUN
springmountainmotorsports.com

DRIVERS SCHOOLS

BIR Performance Driving School
(866) 511-7606 birperformance.com

FAAST Performance Driving School
EAST: (877) 266-4429,
WEST: (719) 761-1372 faast.com

Danny McKeever's Fast Lane Racing School
(888) 948-4888 raceschool.com

Pro Drive Racing School
(503) 285-4449 prodriive.net

Proformance Racing School
(253) 630-5130
proformanceracingschool.com

Sports Car Driving Experience
(800) 453-5506
corvettetracingschool.com

Waterford Hills Road Racing Inc.
(248) 623-0070 waterfordhills.com

TIME TRIALS

NORTHEAST nediv.com
Jun 14-15 HC Weatherly, Pa./NE Penn.
Jun 28-29 HC Reading, Pa./Blue Mountain
Jul 12-13 HC Laurel Run, Pa./NE Penn.
Jul 19-20 PDX/CT Summit Point/Wash. DC
Jul 26-27 PDX/CT Nelson Ledges/Mahoning Valley
Aug 2-3 HC Flintstone, Md./Steel Cities
Aug 16-17 HC Reading, Pa./Blue Mountain
Aug 30-31 HC Summit Motorsports/Steel Cities
Sep 13-14 HC Weatherly, Pa./NE Penn.
Sep 20-21 PDX/CT Summit Point/Wash. DC
Sep 27-28 PDX/CT Nelson Ledges/Mahoning Valley
Oct 3 (Club Racing Experience) Watkins Glen/Glen
Blue Mountain (610) 804-9047
Glen (607) 425-4339
Mahoning Valley (330) 418-3328
NE Pennsylvania (610) 863-4709
Steel Cities (Flintstone) (301) 729-2407
Steel Cities (Summit) (301) 729-2407

SOUTHEAST sediv-racing.org
Jul 12-13 HC TBD/Central Carolinas
Jul 12-13 PDX Road Atlanta/Atlanta
Jul 19-20 PDX Sebring/Central Florida
Aug 15 PDX Charlotte Motor Speedway/Central Carolinas
Aug 30-31 TT Barber/Alabama, Tennessee Valley
Aug 30-31 PDX Sebring/Central Florida
Sep 13-14 HC Robbinsville, N.C./Central Carolinas
Oct 4-5 TT/PDX Talladega/Alabama, Tennessee Valley
Oct 30-Nov 2 PDX Road Atlanta/Atlanta
Nov 15-16 TT Roebing Road/Buccaneer Alabama, Tennessee Valley
(205) 422-1417 (TVR)
Atlanta (770) 472-0460
Central Carolinas (828) 684-2696
Central Florida (407) 568-6902

GREAT LAKES greatlakes-scca.org
Aug 8 Mid Ohio/Cincinnati
Oct 10 Mid Ohio/Ohio Valley
Cincinnati (513) 528-9217
Ohio Valley (614) 846-1228

SOUTHWEST sowdiv-scca.org
Aug 23-24 PDX/CT MSR Houston/Houston
Houston (281) 373-3961

SOLO

TIRE RACK® SCCA PROSOLO

Mar 22-23 Arkansas Aeroplex, Ark.
David Whitener; Kim Whitener
Apr 12-13 El Toro Base, Calif.
Greg McCance; Christine Grace
Apr 26-27 FedEx Field, Washington DC
James Feinberg; Shelly Monfort
May 3-4 Mineral Wells Airport, Texas
May 23-24 Lincoln Airpark, Neb.
Jun 7-8 Crows Landing, Calif.
Jun 28-29 Toledo Express Airport, Ohio
Jul 12-13 Hampton Mills, Wash.
Jul 26-27 Wilmington Airpark, Ohio

TIRE RACK® SCCA PROSOLO FINALE

Aug 30-31 2014 Lincoln, Neb.

TIRE RACK® SCCA SOLO CHAMPIONSHIP TOUR

Jun 14-15 Crows Landing Air Facility, Calif.
Jul 5-6 Hampton Mills Lumber Plant, Wash.
Aug. 2-3 Wilmington Airpark, Ohio
Sep 27-28 Arkansas Aeroplex, Ark.

TIRE RACK® SCCA SOLO NATIONAL CHAMPIONSHIPS

Sep 2-5, 2014 Lincoln Airpark, Lincoln, Neb.

TIRE RACK® MATCH TOUR

Jun 7-8 Devens Airfield, Mass.
Jun 14-15 Pike Peak Int'l Raceway, Colo.
Jul 5-6 Grissom Airpark, Ind.
Aug 16-17 Miller Park, Wis.
Oct 18-19 St. George Airport, Utah

REGIONAL

Date Track/Region
Phone numbers are for Region registrars

NORTHEAST

nediv.com
Jun 1 Farm Show/Susquehanna
Jun 1 Pitt Race/Steel Cities
Jun 7 Meadowlands Stadium/Northern New Jersey
Jun 7-8 Moore Airfield/New England
Jun 8 FedEx Field/Washington DC
Jun 8 Pitt Race/Steel Cities
Jun 13-15 Jennerstown Speedway/Allegheny Highlands
Jun 15 Meadowlands Stadium/Northern New Jersey
Jun 22 Pitt Race/Steel Cities
Jun 22 Moore Airfield/New England
Jun 22 FedEx Field/Washington DC
Jun 29 Central Pennsylvania Institute/Central Pennsylvania
Jul 6 Schuylkill Mall/NE Pennsylvania
Jul 12-13 Mid-States Regional Airport/Central Pennsylvania
Jul 12-13 Wyotech Campus/Allegheny Highlands
Jul 12-13 Moore Airfield/New England
Jul 17 FedEx Field/Washington DC
Jul 19-20 Warminster Community Park/Philadelphia
Jul 20 Pitt Race/Steel Cities
Jul 20 Farm Show Complex/Susquehanna
Jul 20 Moore Airfield/New England
Aug 2-3 Mid-States Regional Airport/Central Pennsylvania
Aug 3 Farm Show Complex/Susquehanna
Aug 10 FedEx Field/Washington DC
Aug 15-17 Jennerstown Speedway/Allegheny Highlands
Aug 17 Moore Airfield/New England
Aug 23 Regency Furniture Stadium/Washington DC
Aug 24 Pitt Race/Steel Cities
Aug 24 Central Pennsylvania Institute/Central Pennsylvania
Aug 31 Farm Show Complex/Susquehanna



OFFICERS

Chairman JOHN WALSH
Vice Chairman DICK PATULLO
Secretary TODD BUTLER
Treasurer MICHAEL LEWIS

NATIONAL STAFF

President & CEO LISA NOBLE
VP Member Services COLAN ARNOLD
VP Program Development HOWARD DUNCAN
VP Finance RICHARD EHRET
VP Club Racing TERRY OZMENT
VP Marketing/Communications ERIC PRILL

PRO RACING STAFF

President TOM CAMPBELL

SCCA ENTERPRISES STAFF

President ERIK SKIRMANTS

NATIONAL OFFICE

Sports Car Club of America, Inc.
P.O. Box 19400, Topeka, KS 66619-0400

NATIONAL OFFICE INFO. HOURS

Mon-Fri, 8 a.m. to 5 p.m. Central time

NATIONAL PHONE NUMBERS

Toll-Free (800) 770-2055
Main (785) 357-SCCA [7222]
Pro Racing (785) 357-7223
Club Racing (785) 232-7229
Solo (785) 232-7656
Rally (785) 357-7259
Licensing (800) 770-2055 or
(785) 357-7222, x357
Club Racing Technical Assistance
(785) 379-8324
SCCA Enterprises (303) 693-2111

COMMUNICATION ACCESS

FAX: (785) 232-7228; scca.com
Pro Racing info/results: sccapro.com

SCCA DIRECTORS

Area 1: Dick Patullo
370 Chapin Road, Hampden, MA 01036
(413) 566-3643; dpatullo@scca.com
Area 2: Terry Hanushek
22 St. Johns Lane, Mullica Hills, NJ 08062
(856) 223-0807; thanushek@scca.com

Area 3: Robin Langlotz
3116 Indian Drive, Orlando, FL 32812
(407) 851-2232; rlanglotz@scca.com

Area 4: Stephen Harris
1619 Chartwell Dr., Dayton, OH 45459
(937) 438-3005; sharris@scca.com

Area 5: Bruce Lindstrand
532 Stiles Ct., Darien, WI 53114
(262) 724-3346; blindstrand@scca.com

Area 6: Peter Zekert
24 Edgeworth Ave.,
Maryland Heights, MO 63043
(314) 724-7098; pzekert@scca.com

Area 7: Dan Helman
343 Lago Trace Dr.,
Huffman, TX 77336
(281) 324-6664; dhelman@scca.com

Area 8: Bill Kephart
4375 Centennial Blvd.,
Colorado Springs, CO 80919
(719) 632-8000; bkephart@scca.com

Area 9: Brian McCarthy
1048 Millet Way, Sacramento, CA 95834
(916) 712-5742; bmccarthy@scca.com

Area 10: John Walsh
244 Mendon Center Rd., Honeoye Falls, NY
(585) 624-9289 (h); jwalsh@scca.com

Area 11: Michael Lewis
18781 Heritage Drive, Poyay, CA 92064
(760) 291-1261; mlewiss@scca.com

Area 12: Tere Pulliam
10 Northwood Springs Dr.
Oxford, GA 30054
(678) 697-9755; tpulliam@scca.com

Area 13: Todd Butler
P.O. Box 607, Yamhill, OR 97148
(503) 754-0988; tbutler@scca.com

Sep 13-14 Wyotech Campus/Allegheny Highlands
Sep 14 Moore Airfield/New England
Sep 21 Pitt Race/Steel Cities
Sep 21 Warminster Community Park/Philadelphia
Sep 21 FedEx Field/Washington DC
Sep 28 Central Pennsylvania Institute/Central Pennsylvania
Oct 4-5 Brodard Company/NE Pennsylvania
Oct 5 Jennerstown Speedway/Allegheny Highlands
Oct 5 Mid-States Regional Airport/Central Pennsylvania
Oct 5 Moore Airfield/New England
Oct 11-12 Pitt Race/Steel Cities
Oct 12 Warminster Community Park/Philadelphia
Oct 12 FedEx Field/Washington DC
Oct 19 Regency Furniture Stadium/Washington DC
Oct 25-26 Hershey Park/Susquehanna
Oct 26 Moore Airfield/New England
Allegheny Highlands
 primal2112@gmail.com
Central Pennsylvania (814) 883-0388
NE Pennsylvania (570) 881-0474
New England (203) 687-8589
Northern New Jersey
 ea455@optonline.net
Philadelphia (484) 949-4100
Steel Cities (412) 860-8084
Susquehanna (717) 367-7853
Washington DC (410) 529-2338
WDC AutoX Inc (240) 508-5335

SOUTHEAST sedivrac.org
Jun 8 Eastgate Towne Center/Tennessee
Jun 15 Oak Mountain Amphitheater/Alabama
Jul 12 Oak Mountain Amphitheater/Alabama
Jul 13 Eastgate Towne Center/Tennessee
Jul 27 Oak Mountain Amphitheater/Alabama
Aug 10 Eastgate Towne Center/Tennessee
Aug 17 Oak Mountain Amphitheater/Alabama
Sep 7 Eastgate Towne Center/Tennessee
Sep 7 Oak Mountain Amphitheater/Alabama
Oct 5 Eastgate Towne Center/Tennessee
Oct 19 Oak Mountain Amphitheater/Alabama
Nov 2 Eastgate Towne Center/Tennessee
Nov 30 Oak Mountain Amphitheater/Alabama
Dec 7 Eastgate Towne Center/Tennessee
Alabama (334) 444-0699
Chattanooga (423) 400-3686

GREAT LAKES greatlakes-scca.org
May 31-Jun 1 UPS/Kentucky
May 31-Jun 1 Grissom Aeroplex/South Bend
Jun 7 Majestic Star Casino/Indiana Northwest
Jun 8 Mid-American Air Center/Southern Indiana
Jun 15 Kentucky Exposition Center/Kentucky
Jun 29 Turfway Park/Cincinnati
Jun 29 Majestic Star Casino/Indiana Northwest
Jun 29 Kentucky Exposition Center/Indiana Northwest
Jul 13 Turfway Park/Cincinnati
Jul 13 Mid-American Air Center/Southern Indiana
Jul 13 Barstow Airport/Saginaw Valley
Jul 20 Majestic Star Casino/Indiana Northwest
Jul 20 Kentucky Exposition Center/Kentucky
Jul 27 Mid-American Air Center/Southern Indiana

ANNIVERSARIES

SCCA MEMBERS CELEBRATING 25-60 YEARS

60-YEAR MEMBERS

Suzanne E Cooper	6/1/1954	Chicago
Wm E Wuesthoff	6/1/1954	Milwaukee

55-YEAR MEMBERS

John F Barker	6/1/1959	Colorado
Joseph W McClughan	6/1/1959	Houston
William Phaneuf	6/1/1959	Ohio Valley
Harry M Ward	6/1/1959	Northwestern Ohio

50-YEAR MEMBERS

George Bovis	6/1/1964	Chicago
Thomas L Hettinger	6/1/1964	Arizona
Terry Jesk	6/1/1964	Chicago
Dan Parkinson	6/1/1964	Cal Club
H Joseph Rozelle	6/1/1964	San Francisco

45-YEAR MEMBERS

Stephen H Benson	6/1/1969	Cincinnati
Jerry Borgelt	6/1/1969	Cal Club
Marty Borgelt	6/1/1969	Cal Club
John De Seyn	6/1/1969	Finger Lakes
Aldan Gomez	6/1/1969	San Diego
Phillip G Hollenbeck	6/1/1969	Glen
Shirley Shafer	6/1/1969	Steel Cities
Robert Roland Wood, Jr.	6/1/1969	New England

40-YEAR MEMBERS

Timothy S Barge	6/1/1974	Finger Lakes
W Kirk Hopkins	6/1/1974	Mahoning Valley
Gary L Kuntz	6/1/1974	San Francisco
Sotires P Mantis	6/1/1974	Washington DC - SCCA
Elizabeth Neilsen	6/1/1974	San Francisco
Jim Wheeler	6/1/1974	Kansas City

35-YEAR MEMBERS

Thomas E Johnston	6/1/1979	Northwest
Joel B Cooperman	6/1/1979	Colorado
Ralph E Crowell	6/1/1979	New England
Dennis M Dobkin	6/1/1979	Central Florida
Irma Ferro	6/1/1979	San Francisco
Michael Guterman	6/1/1979	Oklahoma
Maureen I Harris	6/1/1979	New York
Jeanie P Helmle	6/1/1979	Milwaukee
R Scott Holton	6/1/1979	Atlanta
Frank M Hughes	6/1/1979	Northern New Jersey
Maurice J Kirby	6/1/1979	Montana
James R Millard	6/1/1979	Continental Divide
William W Moore	6/1/1979	San Francisco
Robert Osann Jr	6/1/1979	Northwest
Robert Osann Jr	6/1/1979	San Francisco
John E Sandberg	6/1/1979	Central Illinois

30-YEAR MEMBERS

Richard Sekman	6/26/1984	Florida
Timothy D Blakeley	6/25/1984	Texas
Nathan Bonneau	6/1/1984	Milwaukee
Douglas R Brown	6/25/1984	Ohio Valley
Joanne B Brown	6/25/1984	Ohio Valley
William J Busacca	6/18/1984	Northwest
Robert L Dalziel	6/8/1984	Western Michigan
Randy Gruening	6/19/1984	San Francisco
Rodger J Gryns	6/22/1984	Atlanta
Diana S Heffron	6/15/1984	Central New York
David Hester DPH	6/25/1984	Chattanooga
Fred M Hetherwick	6/15/1984	Milwaukee
John C Houston	6/8/1984	Wichita
Earl G Hurlbut	6/27/1984	Glen; Western New York
Mark A Imig	6/15/1984	Milwaukee
Kay L Imig	6/15/1984	Milwaukee
Thomas S Kaufman	6/25/1984	North Carolina
Bruce Kolker	6/12/1984	Northern New Jersey
Raymond G LaRue	6/27/1984	Colorado
Marylane LaRue	6/27/1984	Colorado
Patricia Lawrence	6/22/1984	Western New York
Scott Lewis	6/8/1984	Fort Wayne
Kathleen G Lewis	6/8/1984	Fort Wayne
Virginia H Lyddon	6/19/1984	Blackhawk Valley

Frederick L Manuel	6/13/1984	Delta
Jim Mason	6/8/1984	Southern West Virginia
James J McDuffie	6/1/1984	Milwaukee
Nancy J Moore	6/27/1984	New England
Steven M Moorhead	6/19/1984	Northeastern
Pennsylvania		
Walter A Ott	6/8/1984	Fort Wayne
Thomas M Peet	6/28/1984	Detroit
Susan Raffaele	6/19/1984	Central Florida
Neil Wayne Roberts	6/15/1984	San Diego
Richard Robinson	6/13/1984	Lake Superior
Paul A Russ	6/26/1984	Cincinnati
Betsy Ruszel	6/22/1984	Indiana Northwest
Elizabeth H Scannell	6/19/1984	New England
Bill Seifert	6/25/1984	Continental Divide
Vartkes G Semerdjian	6/28/1984	San Francisco
Judy Sloma	6/7/1984	San Francisco
Terrence R Sorenson	6/27/1984	Milwaukee
Timothy Suddard	6/25/1984	Buccaneer
Kenneth Arthur Weld	6/25/1984	Central Florida

25-YEAR MEMBERS

Menas Akarjalian	6/30/1989	Central Florida
Timothy D Allen	6/30/1989	Kansas City
Diane Arthur	6/30/1989	Detroit
Thomas Ashbaugh	6/23/1989	Steel Cities
Donald H Baggett	6/9/1989	Atlanta
Jon Barkee	6/27/1989	Oregon
David B Baughman	6/20/1989	Kentucky
Gregory J Bell	6/22/1989	Oregon
Julian F Bowes	6/9/1989	Red River
Mark Brandow	6/14/1989	Land O'Lakes
Glenn R Conklin	6/27/1989	Washington DC - SCCA
Christopher A Cox	6/12/1989	San Francisco
James F Daniels	6/22/1989	Mid South
James F Daniels	6/22/1989	New England
Carol B Davis	6/5/1989	Steel Cities
Erin K Ebelmesser	6/30/1989	Oregon
Thomas Erickson	6/7/1989	Arizona
Douglas E Gollnick	6/28/1989	Buccaneer
Wendy J Gorman	6/22/1989	Land O'Lakes
Michael J Gorman	6/22/1989	Land O'Lakes
James A Hamilton	6/7/1989	South Texas Border
Hayes H Harris	6/7/1989	Central Florida; Florida
Jacob H Iliohann	6/6/1989	Western New York
Karl F Iochum	6/7/1989	Philadelphia
Margaret Iochum	6/7/1989	Philadelphia
Richard C Iverson	6/9/1989	Land O'Lakes
H Patrik Lundin	6/22/1989	Colorado
R John Lye	6/14/1989	Washington DC - SCCA
Gregory F March	6/27/1989	New York
Bud Matakatis	6/22/1989	New England
Dean Miyashiro	6/30/1989	San Francisco
Patricia M Moorhead	6/22/1989	Northeastern
Pennsylvania		
Keith Robert Moran	6/5/1989	Milwaukee
Steven F Osheal	6/5/1989	Alabama
Barry L Pantzer	6/6/1989	Arizona
Maura Perry	6/29/1989	Northern New Jersey
Philip J Pizzoferrato	6/21/1989	Mohawk Hudson
Gwenda Plush	6/27/1989	Washington DC - SCCA
Edward T Raitton	6/29/1989	San Francisco
Richard D Reenan	6/6/1989	Cincinnati
Tony Rivera	6/26/1989	Houston
Gordon F Roberts	6/5/1989	Florida
M Allen Sanders II	6/30/1989	Tennessee
Priscilla Seuss	6/27/1989	New England
C. David Seuss	6/27/1989	New England
Thomas Smolenski	6/13/1989	Western Michigan
Michael J Snyder	6/28/1989	Susquehanna; Wash DC
Erik S Talbot	6/5/1989	Des Moines Valley
Kelly Toombs	6/30/1989	Kansas City
Andy Williams	6/27/1989	Snake River
Susan Yacovelli	6/19/1989	New York
Greg Youngdahl	6/9/1989	Land O'Lakes

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LIMIT 1 - Save 25% on any one item purchased at our stores or HarborFreight.com or by calling 800-423-2567. Cannot be used with other discount, coupon, gift cards, Inside Track Club membership, extended service plans or on any of the following: compressors, generators, tool storage or carts, welders, floor jacks, Towable Ride-On Trencher (Item 65162), open box items, in-store event or parking lot sale items. Not valid on prior purchases after 30 days from original purchase date with original receipt. Non-transferable. Original coupon must be presented. Valid through 9/23/14. Limit one coupon per customer per day.



60195223

SUPER COUPON!

FREE

PITTSBURGH
6 PIECE
SCREWDRIVER
SET

ITEM 47770/61313
Item 47770 shown

\$4.99
VALUE



WITH ANY
PURCHASE

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59529648

Customers and Experts Agree Harbor Freight WINS in QUALITY and PRICE

SUPER COUPON!

LOT NO. 32879/60603

"Great Press for an Incredible Price!"
- American Iron Magazine

20 TON SHOP PRESS
Item 60603 shown

SAVE \$150

\$14999 ~~\$16999~~

REG. PRICE \$299.99

• Pair of Arbor Plates Included!

86387231

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SUPER COUPON!

MECHANICAL WHEEL DOLLY
HaulMaster

LOT NO. 67287/61917/62234

SAVE \$50

\$5999 ~~\$109.99~~

REG. PRICE \$109.99

Item 67287 shown

• 1250 lb. Capacity

89764121

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SUPER COUPON!

1/2" ELECTRIC IMPACT WRENCH
CHICAGO ELECTRIC POWER TOOLS

LOT NO. 68099/45252/69606/61173

SAVE 45%

\$3799 ~~\$69.99~~

REG. PRICE \$69.99

Item 68099 shown

72145151

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SUPER COUPON!

RAPID PUMP® 3 TON LOW PROFILE HEAVY DUTY STEEL FLOOR JACK
PITTSBURGH AUTOMOTIVE

LOT NO. 68049/62326/60688/61253/61282

SAVE \$95

\$7499 ~~\$169.99~~

REG. PRICE \$169.99

Item 61253 shown

• Weighs 77 lbs.

84164244

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SUPER COUPON!

18 VOLT CORDLESS 3/8" DRILL/DRIVER AND FLASHLIGHT KIT
drillmaster

LOT NO. 68287/69652

SAVE 55%

\$1999 ~~\$44.99~~

REG. PRICE \$44.99

Item 68287 shown

Includes one 18V NiCd battery and charger.

78033374

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SUPER COUPON!

30", 5 DRAWER TOOL CART
US * GENERAL PRO

LOT NO. 95272/69397/61427

SAVE \$180

\$16999 ~~\$199.99~~

REG. PRICE \$349.99

Item 95272 shown

• 704 lb. Capacity

78695639

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SUPER COUPON!

MOVER'S DOLLY
HaulMaster

LOT NO. 93888/60497/61899

SAVE 46%

\$799 ~~\$14.99~~

REG. PRICE \$14.99

Item 93888 shown

• 1000 lb. Capacity

62148245

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SUPER COUPON!

3 GALLON 100 PSI OILLESS HOT DOG STYLE AIR COMPRESSOR
CENTRAL PNEUMATIC

LOT NO. 97080/69269

SAVE 50%

\$3999 ~~\$79.99~~

REG. PRICE \$79.99

Item 97080 shown

99706632

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SUPER COUPON!

6" DIGITAL CALIPER
PITTSBURGH

LOT NO. 47257/61585

SAVE 66%

\$999 ~~\$29.99~~

REG. PRICE \$29.99

Item 47257 shown

Includes two 1.5V SR44 button cell batteries.

69257158

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SUPER COUPON!

45 WATT SOLAR PANEL KIT

LOT NO. 68751/90599

SAVE \$115

\$14499 ~~\$180.99~~

REG. PRICE \$295.99

Item 68751 shown

29850457

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SUPER COUPON!

105 PIECE TOOL KIT
PITTSBURGH

LOT NO. 4030/69323/69380/61591

SAVE 60%

\$3599 ~~\$89.99~~

REG. PRICE \$89.99

Item 4030 shown

• 4 Drawer Tool Chest Included!

60622068

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SUPER COUPON!

AUTO-DARKENING WELDING HELMET WITH BLUE FLAME DESIGN
CHICAGO ELECTRIC WELDING

LOT NO. 91214/61610

SAVE 53%

\$4199 ~~\$89.99~~

REG. PRICE \$89.99

Item 91214 shown

93408884

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You're Throwing Your Money Away

Aug 17 Mid-American Air Center/
 Southern Indiana
Aug 17 UPS/Kentucky
Aug 23-24 Grissom Aeroplex/Indiana
 Northwest
Aug 24 Wilmington Airport/Cincinnati
Aug 28 Tire Rack Test Track/South Bend
Aug 31 Kentucky Exposition Center/
 Kentucky
Sep 7 Wilmington Airport/Cincinnati
Sep 7 Mid-American Air Center/Southern
 Indiana
Sep 14 Barstow Airport/Saginaw Valley
Sep 21 Wilmington Airport/Cincinnati
Sep 21 Mid-American Air Center/
 Southern Indiana
Sep 21 Majestic Star Casino/Indiana
 Northwest
Sep 21 UPS/Kentucky
Oct 5 Mid-American Air Center/Southern
 Indiana
Oct 11 Majestic Star Casino/Indiana
 Northwest
Oct 12 UPS/Kentucky
Oct 15 Wilmington Airport/Cincinnati
Oct 19 Wilmington Airport/Cincinnati
Oct 19 Tire Rack Test Track/South Bend
Oct 25 NCM Motorsports Park/Kentucky
 Cincinnati (513) 256-0469
 Indiana Northwest (219) 713-9148
 Kentucky (502) 758-5314
 Saginaw Valley (517) 719-8158
 South Bend (574) 277-6016
 Southern Indiana (812) 477-5936

PROSOLO

WHAT Tire Rack ProSolo Tour
WHEN July 26-27, 2014
WHERE Wilmington, Ohio
 The final round of the 2014
 Tire Rack ProSolo National
 Tour before the ProSolo Finale
 takes place at Wilmington
 Airport in Wilmington, Ohio.



Perry Bernell

CENTRAL cendiv-scca.org
Jun 1 Oskaloosa Airport/Iowa
Jun 8 Hawkeye Tech Truck Driving
 School/Iowa
Jun 8 Tire Rack Street Survival, Iowa
 Speedway/Des Moines Valley
Jun 8 Miller Park/Milwaukee
Jun 15 La Crosse Fairgrounds Speedway/
 Land O' Lakes
Jun 22 Oskaloosa Airport/Iowa
Jun 22 Hawkeye Downs/Iowa
Jul 12-13 Minnesota State College/Land
 O' Lakes
Jul 13 Hawkeye Downs/Iowa
Jul 27 Oskaloosa Airport/Iowa
Aug 3 Miller Park/Milwaukee
Aug 9-10 Minnesota State College/Land
 O' Lakes
Aug 17 Oskaloosa Airport/Iowa
Sep 14 Marshalltown Go Kart Track/Iowa
Sep 28 La Crosse Fairgrounds Speedway/
 Land O' Lakes
Oct 12 Miller Park/Milwaukee
Oct 12 Hawkeye Tech Truck Driving
 School/Iowa
 Iowa mholzi@aol.com
Land O' Lakes (608) 785-1773
Milwaukee (414) 688-4893

MIDWEST midiv.org
May 31-Jun 1 War Memorial Stadium/
 Arkansas
Jun 1 Metropolitan Community College/
 Kansas City
Jun 1 Gateway Motorsports Park/St.
 Louis
Jun 21 War Memorial Stadium/Arkansas
Jun 21-22 Columbus Air Force Base/
 Mississippi
Jun 22 Lincoln Airport/Nebraska
Jun 28-29 Metropolitan Community
 College/Kansas City
Jun 29 Gateway Motorsports Park/St.
 Louis
Jul 6 Gateway Motorsports Park/St.
 Louis
Jul 13 Lincoln Airport/Nebraska
Jul 19 War Memorial Stadium/Arkansas
Jul 19-20 Grenada Airport/Mississippi
Jul 20 St. Charles Family Arena/St. Louis
Jul 26-27 Metroloitan Community
 College/Kansas City
Aug 2-3 Columbus Air Force Base/
 Mississippi
Aug 3 Motorsports Park Hastings/
 Nebraska
Aug 10 St. Charles Family Arena/St. Louis
Aug 10 Lincoln Airport/Nebraska
Aug 15-17 Lincoln Airport/Nebraska
Aug 17 St. Charles Family Arena/St. Louis
Aug 23 Motorsports Park Hastings/
 Nebraska
Aug 23-24 War Memorial Stadium/
 Arkansas
Aug 24 St. Charles Family Arena/St. Louis
Sep 6-7 Grenada Airport/Mississippi
Sep 14 St. Charles Family Arena/St. Louis
Sep 23 Lincoln Airport/Nebraska
Oct 12 St. Charles Family Arena/St. Louis
Oct 18-19 Columbus Air Force Base/
 Mississippi
Oct 19 St. Charles Family Arena/St. Louis
Oct 26 Metropolitan Community College/
 Kansas City
Nov 8-9 Gateway Motorsports Park/St.
 Louis
Nov 15-16 War Memorial Stadium/
 Arkansas
Dec 14 War Memorial Stadium/Arkansas
 Arkansas (501) 218-3267
 Kansas City (816) 356-1445
 Mississippi (601) 441-0088
 Nebraska (402) 827-3282
 St. Louis (314) 691-6728

SOUTHWEST sowdivscca.org
Jun 7-8 NOLF Waldron Field/South Texas
 Border
Jun 22 Chennault Airpark/SW Louisiana
Jul 5-6 NOLF Waldron Field/South Texas
 Border
Aug 2-3 NOLF Waldron Field/South Texas
 Border
Sep 6-7 NOLF Waldron Field/South Texas
 Border
Oct 4-5 NOLF Waldron Field/South Texas
 Border
Nov 1-2 NOLF Waldron Field/South Texas
 Border
Dec 6-7 NOLF Waldron Field/South Texas
 Border
 South Texas Brdr (361) 980-8000
 SW Louisiana (337) 263-5457

ROCKY MOUNTAIN coloradoscca.org
Jun 1 Miller Motorsports Park/Utah
Jun 1 Front Range Airport/Colorado
Jun 8 Cohen Stadium/El Paso, TX
Jun 21-22 Miller Motorsports Park/Utah
Jun 21-22 Cohen Stadium/El Paso, TX
Jul 12 Front Range Airport/Colorado
Jul 13-14 Cohen Stadium/El Paso, TX
Jul 19 Miller Motorsports Park/Utah
Jul 26-27 Miller Motorsports Park/Utah
Jul 27 Pikes Peak Int'l Raceway/
 Continental Divide
Aug 3 Cohen Stadium/El Paso, TX
Aug 16-17 Miller Motorsports Park/Utah
Aug 16-17 Cohen Stadium/El Paso, TX
Aug 17 Front Range Airport/Colorado
Sep 14 Pikes Peak Int'l Raceway/
 Continental Divide
Sep 20 Miller Motorsports Park/Utah
Sep 21 Cohen Stadium/El Paso, TX
Sep 28 Front Range Airport/Colorado
Oct 5 Cohen Stadium/El Paso, TX
Oct 12 Pikes Peak Int'l Raceway/
 Continental Divide
Oct 18-19 Cohen Stadium/El Paso, TX
Nov 3 Front Range Airport/Colorado
Nov 8-9 Cohen Stadium/El Paso, TX
 Colorado (414) 218-1594
 Continental Divide (719) 310-8281
 Utah (801) 495-1442

NORTHERN PACIFIC norpaccca.org
Jun 7-8 Expo Idaho/Snake River
Jun 8 Montana Expo Park/Montana
Jul 13 Oakland Coliseum/San Francisco
Jul 19-20 Expo Idaho/Snake River
Jul 27 Oakland Coliseum/San Francisco
Aug 2-3 Expo Idaho/Snake River
Aug 16-17 Rocky Mnt Emergency
 Services/Montana
Aug 25 Montana Expo Park/Montana
Sep 6-7 Rocky Mnt Emergency Services/
 Montana
Sep 20-21 Expo Idaho/Snake River
Oct 4 Expo Idaho/Snake River
Oct 5 Montana Expo Park/Montana
Oct 12 Montana Expo Park/Montana
Oct 18-19 Expo Idaho/Snake River
Nov 1-2 Expo Idaho/Snake River
 Montana (406) 788-1735
 San Francisco www.sfrscca.org
 Snake River (208) 484-2768

SOUTHERN PACIFIC scca-sopac.org
Jun 15 Paniewa Drag Strip/Big Island
Jun 22 Maui/Hawaii
Jun 29 Marana Regional Airport/Arizona
 Border
Jul 20 Paniewa Drag Strip/Big Island
Jul 27 Maui/Hawaii
Jul 27 Aloha Stadium/Hawaii
Jul 27 Marana Regional Airport/Arizona
 Border
Aug 3 Aloha Stadium/Hawaii
Aug 10 Paniewa Drag Strip/Big Island
Aug 17 Aloha Stadium/Hawaii
Aug 24 Marana Regional Airport/Arizona
 Border
Aug 24 Maui/Hawaii
Sep 6-7 Paniewa Drag Strip/Big Island
Sep 21 Paniewa Drag Strip/Big Island
Sep 28 Marana Regional Airport/Arizona
 Border
Sep 28 Maui/Hawaii
Oct 12 Paniewa Drag Strip/Big Island
Oct 18-19 Marana Regional Airport/
 Arizona Border
Oct 26 Maui/Hawaii
Nov 23 Paniewa Drag Strip/Big Island
Nov 23 Marana Regional Airport/Arizona
 Border
Dec 14 Marana Regional Airport/Arizona
 Border
Dec 21 Paniewa Drag Strip/Big Island
 Arizona (602) 920-5127
 Hawaii Aloha www.sccahawaii.org
 Hawaii (808) 281-3654

ROAD RALLY

A complete RoadRally planning calendar can
 be found at www.scca.com/rally

NATIONAL

Jul 19 Hoosier Hollers/Indianapolis
Jul 20 Hoosier Hills/Indianapolis
Aug 30 NC Oktoberfest/Land O' Lakes
Aug 31 NT Badger Trails/Land O' Lakes
Sep 19-22 USRRRC with the Coker Tire
 Challenge/Chattanooga Region
Nov 1 NC Highway Robbery/Cal Club
Nov 2 NG Turkey Traps/Cal Club
Dec 7 NT Yucatan Winter Safari/
 Land O' Lakes

REGIONAL

NORTHEAST nediv.com

Jun 28 RT The Wounded Turkey Classic/
 Philadelphia
Jun 29 RT Homeward Bound/
 Philadelphia
Jun 29 Oldies but Goodies Tour/South
 Jersey
Aug 24 GPS Monte/South Jersey
 New England librally@aol.com
 Philadelphia (215) 260-2303
 South Jersey (856) 228-9249

GREAT LAKES greatlakes-scca.org

Jun 29 RT Cannon/Southern Indiana
 Southern Indiana (312) 476-6216

CENTRAL cendiv-scca.org

Aug 30 CR Oktoberfest/Land O' Lakes
Aug 31 RT Badger Trails/Land O' Lakes
 Land O' Lakes (608) 685-6572

SOUTHWEST sowdivscca.org

Jun 21 DFW Map/Texas
Aug 9 Clear Blue Sky/Texas
 Texas (972) 235-4305

SOUTHERN PACIFIC scca-sopac.org

Jun 6 First Friday Niter/Cal Club
Jul 4 First Friday Niter/Cal Club
Aug 1 First Friday Niter/Cal Club
Aug 9 Not My Fault/Cal Club
Sep 5 First Friday Niter/Cal Club
Oct 3 First Friday Niter/Cal Club
Nov 7 First Friday Niter/Cal Club
Dec 5 First Friday Niter/Cal Club
 Arizona Border (520) 664-0906
 Cal Club (310) 372-7168

RALLYCROSS

NATIONAL CHAMPIONSHIP

Oct 3-5, 2014 I-80 Raceway, Greenwood,
 Neb.

REGIONAL

NORTHEAST nediv.com

Jul 5 Susquehanna RallyCross/
 Susquehanna
Jul 26 Susquehanna RallyCross/
 Susquehanna
Oct 11 Susquehanna RallyCross/
 Susquehanna
 Susquehanna (717) 697-1610

MIDWEST midiv.org

Jun 15 RallyCross 4/Nebraska
Sep 14 RallyCross 5/Nebraska
Nov 2 RallyCross 6/Nebraska
 Nebraska Contact
spducharme@mac.com

ROCKY MOUNTAIN coloradoscca.org

Jun 7-8 RallyCross 4/Continental Divide
Jul 5 RallyCross 5/Continental Divide
Aug 9 RallyCross 7/Continental Divide
Aug 24 RallyCross 8/Continental Divide
Sep 20 RallyCross 9/Continental Divide
Oct 19 RallyCross 11/Continental Divide
Nov 1 RallyCross 12/Continental Divide
 Continental Divide ryolse@gmail.com

NORTHERN PACIFIC norpaccca.org

Jun 6-8 Prairie City/San Francisco
 San Francisco (916) 595-3355



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BLACK ARMOR HELMETS

Black Armor Helmets introduces its SAH2010 and FIA 8858-2010 rated full-face, carbon-fiber helmet, manufactured utilizing high-pressure bag molding and curing, yielding a lightweight and strong shell that looks outstanding and offers excellent protection and durability. The full-face helmet is predrilled for head and neck restraint anchors, includes tear-off posts, and a clear shield. www.blackarmorhelmets.com

MEGUIAR'S ULTIMATE INTERIOR DETAILER

Meguiar's Ultimate Interior Detailer not only cleans existing dirty interiors, but also provides a grease-free, protective barrier to prevent against new stains and UV damage. Unlike traditional products, this satin sealed finish lasts for weeks and weeks. Ultimate Interior Detailer is safe to use on all interior surfaces, including navigation system screens. www.meguiars.com

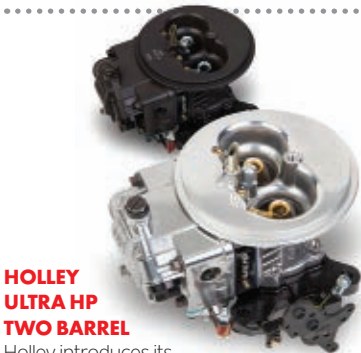


BMC AUTOMOTIVE AIR INTAKE

The BMC Oval Trumpet Airbox (OTA) is a high-performance, carbon-fiber aspiration and filtration kit. The OTA features a dynamic inlet that provides a constant quantity of pressurized air to the engine for better combustion and improved performance. www.leovinceusa.com

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HOLLEY ULTRA HP TWO BARREL

Holley introduces its Ultra HP two-barrel carburetor that delivers the proven results of the Ultra HP four barrel, but now in a 500cfm two-barrel setup. The all-aluminum construction provides nearly 50 percent weight savings. It has no choke tower, and a new air entry area for smoother airflow and increased flow. www.holley.com

DEATSCHWERKS FUEL PUMP

DeatschWerks has expanded its fuel pump range to now cover Volkswagen and Audi 1.8T applications. The DW65v fuel pump is the company's first application-specific fuel pump for the European market. The DW65v fits like stock, but flows enough to support the high power of the 1.8T. www.deatschwerks.com



MAC'S CINCH PACK

Mac's Tie Downs has created the new Cinch Pack, a 10,000lb capacity assembly that shortens to two feet in length, which makes it easy to tightly and securely tie down your load when space is limited. Available in four colors: red, blue, black, and yellow. www.macstiedowns.com

SportsCar welcomes submissions of relevant motorsports products. Please send a description of the product, including price, and a color image to *SportsCar* Top Gear, 17030 Red Hill Avenue, Irvine, CA 92614, or e-mail sportscar@racer.com. Products appearing in *SportsCar* are not necessarily endorsed by *SportsCar* or the SCCA.



SCCAMAJORS.COM

Upcoming Events

June 14-15 - Northern Conference

June Sprints - Road America

July 5-6 - Eastern Conference

Watkins Glen Intl. Raceway

July 5-6 - Western Conference

Portland Intl. Raceway

July 12-13 - Northern Conference

Gingerman Raceway



RACE HERE.



mazda



MAILBOX

WRITE TO SPORTSCAR MAGAZINE:
17030 RED HILL AVENUE, IRVINE, CA 92614
OR E-MAIL SPORTSCAR@RACER.COM



Courtesy Sasha Lanz

GET ON THE ROAD

RoadRally is alive and well in Texas.

AMBITIOUS GOAL

The Rally Committee for Texas Region has announced an ambitious goal for the 2014 rally season. In 2007, there was an average of 21 cars entered in five rallies. The number of cars entered grew to 38 per rally for the five-rally schedule in 2013. The committee has announced a goal of 50 cars in each of the six rallies on the schedule, making for a total of 300 cars entered for 2014. They are off to a good start, with 54 cars entered in the Children's Book Run charity rally run in February.

We run a series of fun GTA rallies, all different, with interesting start or ending locations when we can, and different sorts of competitive challenges along the route. About half of the entrants in each rally are return-customers, some having come for years. The other half is new to rallying, and we try to get them to join us for more.

Sasha Lanz

LEW'S PASSING

I'm sorry to have to tell the Club that Lew Scott has passed away. Lew joined SCCA in 1972 as a member of Arizona Region, racing a Triumph Spitfire and

then an Elva Courier. He served the Club as Regional Executive of Arizona Region, and as a steward in both Arizona and Oregon Regions. He was Deputy Executive Steward of Oregon Region for a time in the 1990s.

Several years before his death, Lew endowed a perpetual trophy to be awarded each year to an Oregon Region racer who does much with a very small budget. The Lew Scott Award will continue to recognize the Club members who do all they can to go racing.

Oregon Region remembered Lew at its May Double Regional event, which was dedicated to his memory.

Jeff Zurschmeide

BEST PRACTICES

I have been in the Club Racing program for 38 years and thought I had seen just about everything in the way of "customer service" by the host Regions – some really good ideas and some not so good. At the VIR U.S. Majors tour this year, I saw something I had never seen before and want to highly recommend it to Regions throughout the Club.

Immediately following each race, while most of the cars were still in the line to be weighed, someone from Timing and Scoring was at impound handing out copies of the provisional results to all the drivers. Talk about instant satisfaction! A big "well done" to North Carolina Region, and a challenge to others to give this a try – it will be much appreciated by the drivers.

Tom Campbell

MORE CLASSES? MORE COMPETITORS

I enjoyed *The Good Old Days* Solo column in the May *SportsCar*. In that chicken and egg question, per "the number of classes has grown at about the same rate as the number of competitors," I've always maintained that increasing the number of classes attracts competitors because there are more opportunities to compete and the classing is fairer. At the SEB meeting in 1973, I proposed that we have parallel women's classes. The motion passed and held for about 20 minutes while the SEB chair berated the other NEDiv board member until he relented. His argument was, "We can't take that home to NEDiv," with no consideration of what would be best for the Solo program. The MiDiv rep also thought this would be too many classes for their Regions, even though Regions were free to choose their own class structure, and the 13 Open classes we had at the time were probably too many for his small Region anyway. I commented that I would support 100 classes as a way to stimulate participation if we could have 1,000-car Nationals. Only SoPac's rep agreed that was reasonable. Well, we're approaching the first and have achieved the second, although the idea that the number of classes leads to participation hasn't been explicitly adopted. It will be interesting to see if the duality of Street and Stock attracts more Tire Rack Solo National Championships competitors this year.

Bud Bohrer



Perry Bennett

ROOM TO GROW

How many cars will Lincoln hold?

MEMBER BENEFITS

The number and variety of special offers available under the SCCA Benefits Program continue to grow. These partners offer the following advantages to members:



Candlewood Suites Savannah is offering members a discounted room rates of \$59 per night on studio suites and \$69 per night on one-bedroom suites.



Members will get an additional 10-percent discount on all Team FAASST online store purchases from **FAASST Performance Driving School**.



National Car Rental offers special discounts of up to 20 percent off retail car rental rates.



Receive a 10-percent discount on many brands from **SafeRacer**, as well as free shipping on orders over \$99.



Solo Performance Specialties (SPS) offers a 10-percent discount all online purchases of graphics items.



Members receive 20 percent off all Torco oil products from **Torco Advanced Lubricants**.

For a full description of all the special offers included in the Member Benefits program, plus links to the participating companies, go to the "Discounts" area at ams.scca.com.

SportsCar magazine welcomes letters. The opinions expressed here are the opinions of the individual writers, and do not necessarily reflect those of SCCA or *SportsCar*. Letters should be under 150 words, and may be edited for length and style. *SportsCar* magazine and the SCCA reserve the right not to publish any letter.



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CONTACT
PATCH**PHILIP ROYLE**

EDITOR, SPORTSCAR MAGAZINE

Ain't technology grand?

Around the time we dove into the production of this, our racing technology issue, I decided to read Stephen Hawking's *A Brief History of Time*. As I turned the last page of Hawking's book, grasping an infinitesimally small percentage of what I'd just read, I was glad that racecar technology is, for the most part, easier to understand. But, much like some of the content in *A Brief History of Time*, what might seem obvious to us now was - back in racing's heyday - completely mind blowing.

A great difference between cosmology and racecar technology is that what we do in competition can be proven. When Hap Sharp and Jim Hall developed groundbreaking aerodynamic advancements, they were applying theories that could be proven by the stopwatch. They were also early in the use of advanced composite techniques like developing fiberglass chassis; while a little more abstract than wings, those composite shells could also have their successes measured.

Like several theories in *A Brief History of Time*, several go-fast racing concepts never panned out. One person not included in this issue is Smokey Yunick. In 1962, the year before Chaparral Cars was created, Yunick entered a winged car in the Indy 500 with the idea of generating great downforce and winning in the corners. Unfortunately, the wing produced so much drag that the car's lap times were slower than without the wing. Chaparral, meanwhile, succeeded with its wings.

While it's easy to think all major racing innovations have already been made, there are a number of

advancements taking place using software development tools that our aerodynamic forefathers could only dream about. Look, for instance, at the JDR Formula 1000 on the cover of this issue, which puts to test a number of aerodynamic concepts born in computer simulations. In Solo, an attempt at something skirting the edge of the rules took place as recently as 2008, when Vic Sias ran his infamous yellow BMW in Street Modified with an active adjustable rear wing. In the case of Sias, the rules were quickly clarified to disallow something so advanced.

On a smaller scale, many of us are pioneering technology in our own garages. In my case, I have several one-off pieces I've cobbled together to aid in my racing endeavors. Does any of it work? Perhaps. Any scientific method is often lacking - but as Sharp, Hall, Yunick, and many others have discovered, the proof is always in the pudding. Unlike cosmology, in the world of automotive competition, "the pudding" doesn't involve calculations using imaginary numbers and 11 dimensions. All we have to do is compete; success is the measure.

Advancements in our understanding of the world we live in - be it on the grand scale of the universe or on the much easier to envision racetrack - are fascinating. While I barely understood most of what Hawking wrote, I did understand everything in this issue - even the global positioning story. Although I should warn you, searching the Web for the mathematical equations that make GPS possible is not for the weak of heart. ☺

LOOKING
BACK

A JOURNEY INTO SPORTSCAR'S PAST

20 YEARS AGO... **JULY 1994**

- *Understanding Race Car Structural Design* gave us a look at the safety features incorporated into the latest Citation chassis.
- The ESR-1 made news, as Dan and Mark Sullivan paired an 85hp electric motor with an A-Mac DSR chassis for use in Solo I competition.

30 YEARS AGO... **JULY 1984**

- Bill Mitchell took an in-depth look into the tech of Trans Am circa 1984, including such greats as the Huffaker Trans Am, Roush Capri, and the Herman + Miller Porsche.
- Coverage of the Gravity Grand Prix showed how far Soap Box Derby cars had come since 1934.

40 YEARS AGO... **JULY 1974**

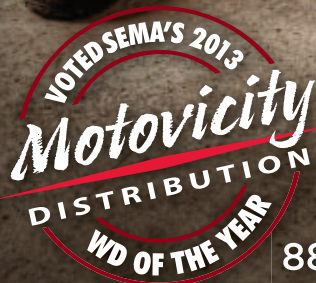
- This issue included coverage of a St. Patrick's Day Solo event that featured a shamrock shaped course and required portions to be driven in reverse.
- *Vintage Events: Medicar For Old Racers* offered a look at the upcoming SCCA vintage racing schedule, which kicked off at Lime Rock Park.

50 YEARS AGO... **JULY 1964**

- A multipage feature included covering of the proposed roll bar specifications by the SCCA Competition Board. It was determined that common sense rather than theory should determine design.
- Member Bob Jackson was featured, having just won a Pulitzer Prize.



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