

# PR

PERFORMANCE RACING INDUSTRY MAGAZINE

## THE SHOW

INDY BUZZES WITH NEW DISCIPLINES,  
ACTIVATIONS, PRODUCTS AND PEOPLE

### INSIDE

SUPER LATE MODELS | FABRICATING EQUIPMENT | POWER ADDERS  
HELMETS | ENGINE DYNOS | NOSTALGIA DRAG RACING | & MORE



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FEBRUARY 2024 VOLUME 39, NUMBER 2

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**ON THE COVER**  
Cover Photography: PRI

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# WELCOME

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## FROM THE EXECUTIVE EDITOR

### What treasures did you discover in Indianapolis?

Every PRI Show unearths some hidden gems, whether it be in the horsepower-generating form, or suspension, machinery, tooling, software, oil, pit equipment, safety gear, I can go on and on.

One of the advantages to attending the PRI Show in person, and intentionally walking aisle by aisle looking carefully at each booth and the products on display, is that attendees often discover a new component, technical innovation, or piece of equipment that they weren't aware of before entering the Indiana Convention Center and Lucas Oil Stadium. I have experienced numerous conversations on the third day of the PRI Show over the years when buyers have enthusiastically revealed to me that they placed an order for a new product to add to inventory or a new machine that saves time or ups their game against their competitors. They were anticipating their return to their businesses so they could share the good news with their customers. So many products, so many aisles, so many hidden gems.

I refer to "hidden gems" because quite often a product will be marketed toward one type of race car but it can easily cross over into others. For example, there could be a product that was designed by a dirt late model racer for that segment, but then after having a conversation with a drag racer, or a business owner who focuses on the autocross segment, the designer realizes that innovative new idea can benefit a wider slice of the motorsports market than first intended.

People often ask me why the PRI Show isn't segmented into drag racing, open wheel, off-road, road racing, and more. Well, it's for the exact reason that we want you to find those components or



**MEREDITH KAPLAN BURNS**  
meredithb@performanceracing.com

services that may otherwise have been overlooked by not visiting that section of the Show floor.

Now that we've settled back into our rhythm and begin the new race season, it's how we utilize what we discovered at PRI that will impact 2024. Follow up on sending an email or making a call to that new contact you met. If you want more information about a product or piece of equipment and haven't heard back from the manufacturer, reach out. Did any words of advice ring true in one of the PRI Education seminars? What about some technical advice that you want to try out? Follow through and implement that this month. Heck, being leap year, we get an extra day this month, so aim for the 29th as a deadline.

While the PRI Show can inspire us, we need to be intentional and proactive to incorporate those hidden gems—whether they be products or knowledge—into our racing or business programs. Make the best use of your PRI experience. **PRI**

## PRI MAGAZINE

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# FEATURED VEHICLES

Two record-setters are profiled this month, including a three-time micro sprint champion and the first screw-blown EFI car to run in the 3.60s.



## HYPER RACING X7 MICRO SPRINT

**ALEX KARPOWICZ** | SPRING BRANCH, TEXAS

**RACE SERIES/CLASS:** National Open Wheel (NOW) 600 Series

**ENGINE:** Yamaha R6 600cc with Hyper EVO Fuel Injection

**CAR:** Built by Hyper Racing

**FEATURES:** TJ Forged wheels and hubs, Performance Electronics ECU, Advanced Racing Suspensions shocks, Ultra Shield full containment seat, Outlaw Wings

**FACTS:** This is a three-time NOW600 championship car.

## BASED ON 1969 CHEVROLET CHEVELLE

**EDDIE ROGERS** | BERRYVILLE, ARKANSAS

**RACE SERIES/CLASS:** PDRA Pro-Boost, Midwest Drag Racing Series, ADRL, Xtreme Raceway Park's Xtreme Pro Mod Series

**ENGINE:** Screw-blown 521 Brad Anderson Hemi built by Eddie Rogers

**CAR:** Built by Chris Duncan Race Cars in Chandlerville, Illinois

**FEATURES:** Brad Anderson Enterprises block and cylinder heads; Bullet Cams camshaft and lifters; GRP connecting rods; Bryant Racing crankshaft; Manley Performance valves; PSI springs; PSI supercharger; T&D rockers; Dayco 8-mm supercharger belts; MSD ignition system; Davis Technologies Profiler handles wheel speed management, ignition controls, fuel management, and rev limiters; Strange Engineering components

**FACTS:** The car is named "Chevelle from Hell" and is tuned by Rogers' stepdaughter Amanda Hoover (one of a few female tuners in the Pro Mod world). Hoover and Chris Duncan met while racing against each other, and now build cars together, including this one, at Chris Duncan Race Cars. When originally built, the Chevelle from Hell was the first screw-blown EFI car to run 3.60s, however, it currently isn't running EFI.



# ASK THE EXPERTS

## ENGINE DYNO MAINTENANCE

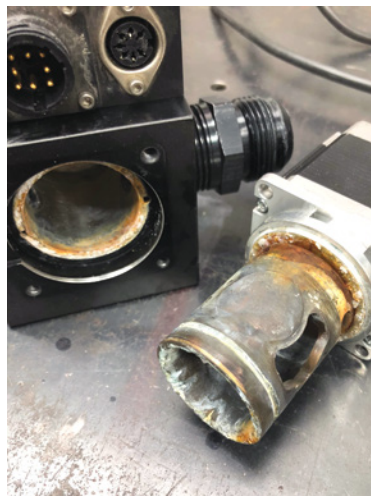
Dynamometers play a vital role in engine tuning, but if these sophisticated devices aren't maintained properly, the accuracy of the data they provide can be compromised.

By Bradley Iger

Engine dynos are designed to deal with some extreme forces, but they are ultimately sensitive measuring instruments, and the quality of the results they provide is highly dependent on owners' maintenance habits. And as Kevin Hamilton of Nesbru, Norway-based YourDyno pointed out, sometimes owners can create maintenance problems without even knowing it.

"Using untreated water in an engine dyno can cause significant problems," he explained. "Hard water can cause electrolysis if you've got dissimilar metals in a component of the dynamometer, and that will eat away at that metal. Untreated water can also cause calcium buildup, which can create other problems. There are a multitude of bad things that can happen with water that hasn't been treated properly."

Meanwhile, Ben Fox of SuperFlow in Sussex, Wisconsin, noted that water can also be inadvertently contaminated as well. "One of the biggest problems that I see is that engine shops will get blocks or cylinder heads in, and they'll do machine work to them, but they won't clean out the solvents and detergents within the castings thoroughly enough. After the



engine is assembled, they put it on the dyno, and that solvent or detergent gets into the water system. That can cause foaming issues, and if it gets into the absorber side of the control system, it can cause all sorts of control problems."

Hamilton also said that regular recalibration should be a part of any engine dynamometer maintenance routine. "Folks regularly let sensors, torque arms, and load cells go out of calibration. That's a very common issue that we run into. If the scales are not appropriately dialed in for each sensor, you're ultimately getting incorrect information from the dyno."

He suggested these systems be recalibrated on a regular basis based on both the manufacturer's recommendations as well as the frequency of the dynamometer's use. "Weather correction is really important, too. You want to make sure that the weather station is measuring temperature, barometric pressure, and humidity within a reasonable margin of error. And you need to use some sort of standard

YourDyno provided this example of dynamometer absorber cavitation. A company representative said this is caused by high absorber temperatures and an undersized water system.

measure against that, whether that's an external system on a race car, or even just calling your local airport to get their readings."

Jostein Fonneland of YourDyno told us that flexible couplings, drive hubs, and dampened driveshafts are commonly overlooked as well. These components can fail over time, and engine dyno operators often make the mistake of ignoring the resulting problems by cranking up noise reduction features.

"Some dynos will have a flex coupling, others will have a drive hub, and some have a dampened driveshaft," Fonneland said. "Over time, the rubber inserts in the driveshaft will start to fail, and that can create harmonics and resonant vibrations. That resonance usually shows up in the torque line. Normally it will give an erroneous torque signal or torque spikes. Sometimes people will get a graph that doesn't look good, and they will increase the noise filter to address the problem. But if there's an internal part that's failing, you're not really taking care of the problem—you're just hiding it. And the data behind it is not going to be as repeatable."

Disciplined maintenance of a dyno's water filtration system can ensure that the system continues to flow properly, said SuperFlow's Ben Fox. "If it gets clogged, it's going to create a water flow issue, and that will cause control problems."



*"USING UNTREATED WATER IN AN ENGINE DYNO CAN CAUSE SIGNIFICANT PROBLEMS."*

## "WEATHER CORRECTION IS REALLY IMPORTANT."

Instead, Fonneland advised doing a run without any noise reduction filtering at all. "If the graphs look fine without any filtering, it's a good sign that those parts are OK. But if there is an underlying problem, increasing the noise reduction filter isn't going to resolve it."

He also said that valve maintenance can play a vital role in the long-term performance of an engine dyno. "There are different styles of valves, and some will last a long time without any maintenance, but others will need to be taken apart to remove scale buildup, or they may start to stick. If a valve sticks, or it sometimes sticks and sometimes moves, it will be very difficult to get smooth sweeps." Fonneland added that these problems tend to happen more often with barrel-style valves than with butterfly valves, but they should be checked for this buildup at regular intervals regardless.

Fox noted that disciplined maintenance of the water filtration system can help to prevent some of this buildup and ensure that the system continues to flow properly. "That should be the top priority when it comes to maintenance," he said. "The water filtration system keeps the crud from ever getting to the absorber and servos, but it has to be maintained in order to keep it free-flowing. If it gets clogged, it's going to create a water flow issue, and that will cause control problems."

He said that the quality of water that's being used largely dictates how often the filtration system should be serviced. But as a general rule of thumb, it's a good idea to check the filters at least once a month, and they should be replaced yearly. **PRI**

## SOURCES

**SuperFlow**  
superflow.com

**YourDyno**  
yourdyno.com



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170cc Intake-67cc Chamber-1.940/1.500

170cc Intake-76cc Chamber-1.940/1.500

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170cc Intake-76cc Chamber-2.020/1.600

### SPORTSMAN II

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200cc Intake-72cc Chamber-2.020/1.600

### MOTOWN

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## Big Block Chevy

### MERLIN OVAL PORT

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### MERLIN RECTANGLE PORT

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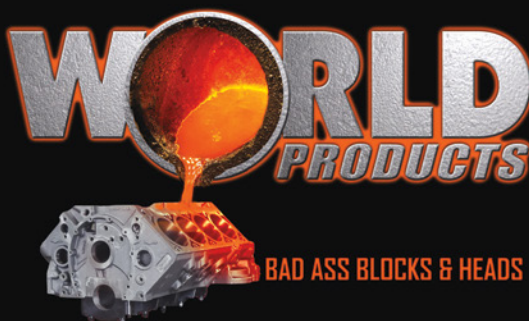
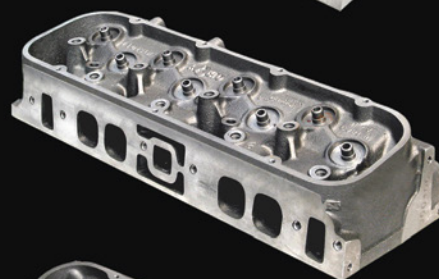
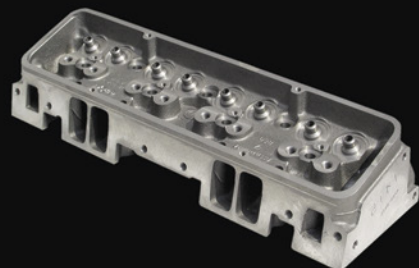
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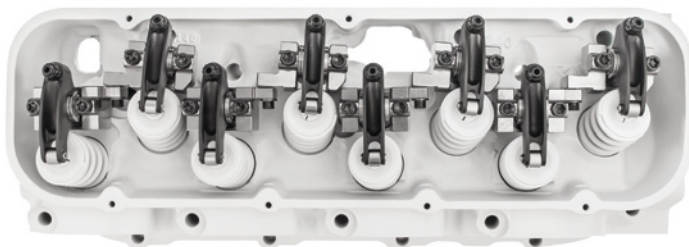


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# EDITORS' CHOICE

Hundreds of new product announcements cross the desks of PRI editors each month. Following are our top picks for February.

By Mike Magda

## ZERO EV FIRE SUPPRESSION

**LIFELINE**

[lifeline-fire.com](http://lifeline-fire.com)

Fires in electric vehicles require a different suppressant strategy, and motorsports can often be a test ground for emerging technologies. Such is the case for the development of the Lifeline Zero EV fire suppression system designed for electric vehicles and hybrids.

"It went through a lot of testing, and it had to pass FIA tests and specifications," said Matthew Bridges of Lifeline USA, Dublin, Virginia. "That's because the suppressant needs to be non-conductive."

A variety of sizes from 1.5 kg up to 3.0 kg are available in both stored pressure and remote charge that uses a CO2 cartridge. All use 3M Novec 1230 suppressant that helps produce increased levels of concentration for a quicker knock-down of the flames.

The stored-pressure models feature advanced nozzle design, and the remote charge versions have the cartridge integrated into the side of the cylinder for improved packaging. The 1.5-kg models are ideal for single-seat cars, while the 2.0-kg model is designed for saloon/sports cars. The largest 3.0-kg model can be used in international rally events.

The systems are homologated to FIA Technical List 16. The systems are supplied with a complete installation kit that includes anti-torpedo brackets and all components for a professional appearance.



## IRON 4.500-INCH BORE CENTER SBC CYLINDER BLOCK

### M&M COMPETITION ENGINES

[mmcompetitionengines.com](http://mmcompetitionengines.com)

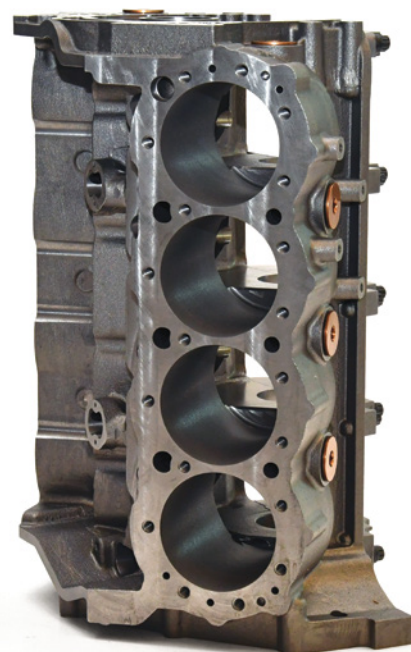
**S**mall block Chevy engines built with cylinder blocks that feature 4.500-inch bore centers are all the rage in select Late Model and modified classes. Now there may be another market opening up soon.

"We're certainly hitting the circle track guys hard, but also drag racers are getting interested," said Scott Patton of M&M Competition Engines, Franklin, Indiana, which recently introduced a new iron cylinder block that's available in either the standard 4.400- or 4.500-inch bore centers. "We sensed there was a lack of blocks available to racers, so we developed this one."

Available with a deck height of 9.025 or 9.325, the block can be ordered with 350 or 400 main journals and a one- or two-piece rear main seal. The cam location is raised .391-inch and can be a 55-mm roller or 60-mm Babbitt. Other features include four-bolt main caps, standard or reverse cooling, and priority main oiling with crossovers to ensure equal lifter lubrication.

"We also have extended head-stud bosses for additional thread engagement," noted Patton.

The lifter valley was engineered so that engine builders have plenty of flexibility in lifter size and location. Core plugs are machined to accept -16 AN O-ring plugs, and oil galley plugs are machined to accept -6 O-ring plugs. The block is also designed with a wide pan rail.



## TORQUESTAR TOP FUEL HARLEY REAR WHEEL

### DAYSTAR MACHINE & CYCLE CONCEPTS

[daystarmcc.com](http://daystarmcc.com)

**S**tructural integrity is the key selling point to this TorqueStar aluminum wheel that was designed by DayStar specifically for Top Fuel Harley racing.

"The rear wheel gets a lot of shock at launch, especially in the hub area where it often shears off the bolts that secure the hub," said Steve Vickers of DayStar Machine & Cycle Concepts, Dobson, North Carolina. "We added a bunch of features to make it stronger."

The main components of the modular wheel design are machined from 6061 billet aluminum, while the hub area is machined from 7075 billet aluminum. The bearing hubs are interlocked into the spoke plates to maximize torque distribution. There's a generous hub-engagement depth of .625-inch; plus, the hubs are secured with 12 1/4-20 bolts and six dowel pins. Competitive wheels may have fewer securing bolts and no dowel pins.

There are 24 bead-lock bolts per side to keep the tire in place. The wheel is 14 inches wide and designed for 31/15 Top Fuel motorcycle tires.



## GEN III HEMI BILLET VALVE COVERS

### DSR PERFORMANCE

[dsrperformance.com](http://dsrperformance.com)

The snowballing popularity of the Gen III Hemi engine in street and track performance is generating a wide variety of trick performance and aesthetic upgrades. These billet aluminum valve covers for the 6.2-liter Mopar engines from DSR Performance in Brownsburg, Indiana, address both those objectives.

"We wanted to blend a vintage style with a modern touch," explained Chad Osier. "These are perfect for those who want to upgrade a Hellcat but have a vintage look."

The show-car finish comes from precision CNC machining out of 6061 billet aluminum. The covers are baffled in the front and rear, and they feature dual ports. The covers come with ARP installation fasteners, oil caps, and O-rings for a direct swap on



a Gen III Hemi.

"We offer them in a bare billet, so it's a blank canvas for the customer to paint or engrave them as they wish," added Osier. "Then we also have one with DSR badging."

## WIRELESS STEERING WHEEL PANEL

### ECU MASTER

[ecumasterusa.com](http://ecumasterusa.com)

Give your vehicle the look and functionality of a Formula 1 race car or WEC Hypercar with a wireless steering wheel control panel from ECU Master in Garland, Texas.

"It's completely wireless RF transmission. There are no curly cords to get tangled up," said Zach Denney.

The ergonomically designed carbon case easily mounts on a wide variety of racing steering wheels, and the position is adjustable. The panel features eight pushbutton and four rotary switches that are customizable to driver preferences.

"You can adjust traction control, ABS, power levels, or change engine maps," said Denney. "It's great for off-road in bouncy environments as the driver doesn't have to take hands off the wheel to make adjustments."

The control panel is also useful to road racers, Time Attack, track



day, and other race vehicles. "Anything with a steering wheel," added Denney.

The RF transmission is immune to all interference in the car. It features low power consumption and easily replaceable batteries. It also has direct integration with other CAN-bus devices, including ECUs.

## OIL CATCH CAN WITH AIR-OIL SEPARATOR

### IMPROVED RACING

[improvedracing.com](http://improvedracing.com)

**A**vailable with a large 7.0- or smaller 3.5-ounce reservoir, this new oil catch can from Improved Racing in Orlando, Florida, features a patent-pending air-oil separator that was developed using CFD computer modeling, lab evaluation, and real-world testing.

Both models have similar features, including quick-release provisions to easily check the oil level and versatile mounting brackets. The big selling point, however, is the air-oil separator design.

"There's no steel wool," said Michael Ihns. "We use a 100-micron, five-layer stainless-steel filter with increasing porosity. This helps the oil coalesce into larger droplets."

Additional efficiency is achieved through unique air passages that induce cyclonic separation to clean the blow-by gases. According to the company, the unit achieves 85–95% separation.

Other features include a quick-release mechanism that requires only a 1/8 turn to open, and there's a tool-free mounting bracket that can be clocked in 16 positions. Finally, there's a safety lock to prevent accidental release.

Vehicle-specific kits with hoses and attachments are available for many popular applications, including Corvette, Camaro, Ford F-150, and select Mopars.



## DAVIES CRAIG EWP80 REMOTE ELECTRIC WATER PUMP

### 3PCONNECT

[3pconnect.com](http://3pconnect.com)

**T**here are now three ways to purchase the Australian-made Davies Craig EWP80 water pump: pump only, pump with harness, and pump with harness and controller.

By removing the parasitic loss of a belt-driven mechanical water pump, racers can gain upwards of 13 horsepower in some applications. An electric water pump gives the user a wider cooling strategy that includes running the pump after the engine has shut down to reduce heat soak throughout the system.

"With the controller, you can program the preferred engine temperature settings, and it will control the pump and the radiator fan," noted Johnny Ramirez of 3pConnect, Ontario, California, which is the US distributor for Davies Craig.

The pump is constructed from anti-corrosive, heat-resistant, glass-filled nylon and incorporates a ceramic-faced seal for durability. Maximum current draw is 7.5 amps at 13 volts, and it will work within an operating temperature of -40 to 248 degrees F. Weighing just two pounds, the pump will accept hoses from 1.375- to 2.000-inch diameter. It's rated at 23.8 gallons per minute at 13 volts.



"This fan is not platform or vehicle specific," added Ramirez. "It can be an upgrade on a stock vehicle or work on a Pro Mod."

The pump and controller kit come with fittings, temp sensor, wiring harness, clamps, and hardware.

# NEWLY APPOINTED

## BRYAN WILSON

The new president and CEO of Midway Industries, Inc., parent company of Centerforce Clutches, got his start while still in school...elementary school, that is.

By Jim Koscs

This past October, Bryan Wilson took the reins of this third-generation-owned and operated company, one where he has spent his whole career, as its new president and CEO. He takes over the position from his father, Pat Wilson, making him the third generation in Centerforce's 41 years in business.

Bryan got his start in the family company by working a broom at Centerforce Clutches when he was in kindergarten. Like many boys that age, he also got into a bit of mischief. "A favorite memory as a kid at the company was running around the production facility and stealing sugar cubes from the coffee stations," he recalled for PRI. "I also enjoyed spending time with my grandfather, Bill Hays. When I was a little kid, he joked around, and we would run around town in one of his cars to 'pick up chicks,' as he'd kid me."

Wilson will oversee company strategy and provide what the company described as a renewed drive toward innovation and growth in the performance clutch market, which Wilson acknowledged is shrinking in this day of automatic transmission domination. Under his leadership as general manager,

*"THIS COMPANY HAS ALWAYS BEEN A PART OF MY LIFE."*

Centerforce saw significant growth, including increased sales and the addition of several new products and applications. He recently shared his outlook for the company.

**PRI:** Was your life growing up surrounded by high-performance cars and racing?

**Wilson:** Because I grew up around those cool cars, I never appreciated them until I was old enough to enjoy them.

**PRI:** What are some of your memories from working at Centerforce from an early age?

**Wilson:** This company has always been a part of my life. Sweeping the parking lot for my grandfather when I was maybe five or six years old was the start. When I was old enough, my first real job at Midway was crimping wire harnesses and drilling backing plates for Stinger Ignitions. As I graduated to a full-time position, I started in our bonding department making our Dual Friction facings, and it all took off from there.

**PRI:** What are you most looking forward to in your new role as president and CEO?

**Wilson:** Mostly to make my family proud by improving on what we do and how we do it, growing the brand and even starting something new. I want to pass along that a family business can be a great place to work, because we can have a great time making parts that people just want to have fun with. As my friend



### BRYAN WILSON

**TITLE:**  
President and CEO

**ORGANIZATION:**  
Midway Industries, Inc.  
(Centerforce Clutches)

**HOMETOWN:**  
Prescott Valley, Arizona

**FAST FACT:**  
"I find that many of us in the car industry have some hobby outside of cars, and mine happens to be pool/billiards," said Bryan Wilson. "I love the game and the balance between physical coordination and the complexity of working through the rack."

Doug Dwyer would say, "Making parts that people don't need, to impress people they don't know."

**PRI:** We noticed on the company website that Centerforce offers clutches for engine swaps in the Triumph TR7 and TR8. Now that is what we'd call a niche product! How does Centerforce respond to such seemingly small markets?

**Wilson:** Being a clutch-centric company, we are niche by definition. The clutch market is withering a bit in volume, but we still have a great many places we can improve. More engine and transmission swaps in all kinds of vehicles really makes us focus on a wide variety of clutch products and applications. As many other industries are finding, we also must become a bit more flexible. While our products are a bit difficult to make as one-offs, we can run low-quantity production.

**PRI:** Where do you see the best opportunities for Centerforce in the near term?

**Wilson:** Finding those niche opportunities and helping our customers get the best product to meet their performance and ease-of-use needs. I don't want to give away too much else at this point, but I will say there are ideas forming.

**PRI:** How does the company explore new opportunities?

**Wilson:** We have built a team of professionals that have either been at Centerforce for more than 30 years, or in the industry for even longer. That experience and some new blood always makes for great conversations. I want to build on that knowledge and bring them all together to plan our strategy.

**PRI:** What is one mistake you've learned from in your professional career?

*"A FAMILY BUSINESS  
CAN BE A GREAT PLACE  
TO WORK, BECAUSE WE  
CAN HAVE A GREAT TIME  
MAKING PARTS THAT  
PEOPLE JUST WANT TO  
HAVE FUN WITH."*

**Wilson:** In the past, I believed that you should pick a management style and evolve. I have learned there is not one style, but many. People are very different, from their reactions to their motivations. Each person needs a mix of styles to be effective. Unlike numbers, people are not as simple as two plus two equals four.

**PRI:** Who has been most influential to you in your professional career?

**Wilson:** I have been lucky to work with and know many people that have influenced and coached me over the years, though I must give this one to my father. While we do not always see eye-to-eye, he has had the largest impact on me being who I am. Influence is not specific, but how we look at life and if we choose to grow and improve. He has always promoted learning and curiosity, and I guess my grandfather instilled that in us, as well.

**PRI:** What is one piece of advice you have received, whether personally or professionally, that has greatly impacted your life?

**Wilson:** If you enjoy what you do, you will never have to work a day in your life.

**PRI:** Excluding your cell phone/tablet/computer, what is one thing you can't live without?

**Wilson:** Besides family, friends, and coffee—challenges! If it wasn't for those, how boring would life be? **PRI**

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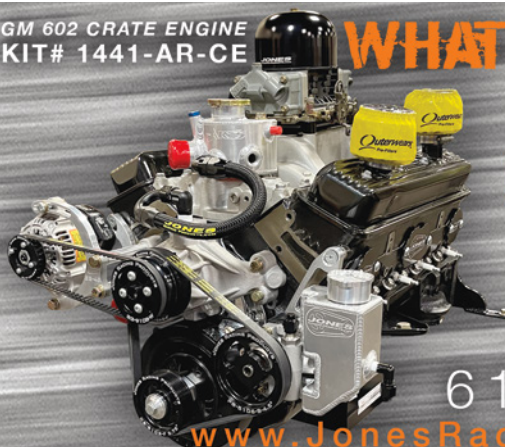
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# INDUSTRY INSIGHTS

PIPPA MANN

Pippa Mann's Shift Up Now focuses on one key component that enables success in motorsports: funding.

By Jeff Zurschmeide

**B**y any standard, Pippa Mann's racing career, both inside and out of a race car, is successful. The London-born driver started her professional career in the British Formula Renault series in 2003 at age 20, and in 2009 moved over to American racing with the Indy Lights series. She scored her first Lights win in 2010, as well as three pole positions. The following year, she moved up to IndyCar, driving for Conquest Racing, Rahal Letterman Lanigan, and then Dale Coyne Racing until 2017. After a stint as a test driver in FIA Formula E, Mann has been active in European endurance racing with Giti Tire Motorsport, taking the SP8 class win at the 2021 24 Hours of Nürburgring.

In addition to her career as a driver, Mann has built a business coaching drivers in the SRO America and IMSA GT4 series. Beyond that, she has taken the lead at Shift Up Now, an organization dedicated to securing funding for aspiring female racers. Funds raised from donations and sponsorships are used to award opportunities to racers who have the talent and drive to succeed in motorsports. This allows those racers access to more competitive equipment, seat time for testing and practice, and resources to help grow their careers.

We found time in Mann's hectic schedule to sit down and discuss Shift Up Now and how it differs from other programs designed to advance women's careers in racing.

***"WE ARE REALLY FOCUSED ON THE PROBLEMS THAT ARE HITTING OUR ATHLETES, WHICH LITERALLY IS THE FUNDING TO COMPETE."***

**PRI:** Tell us about Shift Up Now. What's the elevator pitch?

**Mann:** The primary goal of Shift Up Now is to fund female athletes in motorsports.

**PRI:** Do you just arrange sponsorships, or are you also working to identify jobs for women other than as drivers?

**Mann:** That's what Women in Motorsports North America (WIMNA) does, which is a different type of organization than Shift Up Now. WIMNA is a big organization that's able to do everything. Shift Up Now is a very small organization that's focusing on a very small part of the problem, which is funding female athletes in motorsport. We are really focused on the problems that are hitting our athletes, which literally is the funding to compete.

**PRI:** Funding is the main challenge facing racing drivers regardless of who they are, but is it still harder for women?

**Mann:** Funding is an issue for all racing drivers regardless of where they're from, who they are, absolutely. But when you look at the research into marketing spend and sponsorship spend and dollar spend, you'll see there's still a significant disparity. That's where Shift Up Now is trying to persuade sponsors to step up to the plate to back women in motorsport equally. Our goal is not more, our goal is equal.

**PRI:** You have had a substantial career as a driver and coach. What made you decide to come to this little organization and try to work on this now? You're still driving actively, so why Shift Up Now and why now?

***"EVERY TIME WE'RE ABLE TO CONNECT OUR RACERS WITH BRANDS THAT WANT TO SUPPORT THEM AND BRING REAL DOLLAR AMOUNTS TO THE TABLE IS A MASSIVE VICTORY."***

**Mann:** The simple answer is: because it's important. Shift Up Now was just starting to find a foothold, and there was this group of athletes who were bringing a level of brand recognition, even though it was very small, back in 2020. It was around that time that the founder, an amateur racer named Lynn Kehoe, asked me to step up and take the reins or it was probably going to go away. Lynn had hit a lot of dead ends, a lot of roadblocks, as we all do. Those of us who were involved felt that we were on the cusp of something. So when Lynn asked me to take on running Shift Up Now, I said, "Okay, but if I'm going to do this, you have to let me relaunch this in a manner that I and the other racers feel makes sense."

We understand this is the lunatics running the asylum, but if this is going to be us, we need to be allowed the freedom to try and go and do this in a way we think will work. In December of 2020, we relaunched Shift Up Now. That was when we added outside membership to the organization as a way of getting race fans involved in what we were doing. By adding a membership option for

supporters, we're trying to bring those people closer to us for the long term. Also, frankly, using that \$100 a year membership fee.

It's not a ton of money, but \$100 a year per person helps us run the business. Because I'm driving a lot of race cars and I'm incredibly lucky that I get to do that, but this isn't making me massive amounts of personal wealth, nor do I have a huge amount of time available.

For someone like me to be able to run Shift Up Now, it was imperative that it was able to wash its own face, pay for its own website, and pay for the PR help. Three years later, as we enter December of 2023 [*Editor's note: this interview took place at the beginning of December 2023*], we've added Aaron Vogel as our president. So I am no longer a one-man-van running around with my hair on fire. There's now two of us running around with our hair on fire instead of just me.

Also, we have added Sarah Montgomery as a director of membership, and we've recently reinvested in new membership software, and we've relaunched that literally just last month. So now there's three people running around with their hair on fire.



Pippa Mann, who leads Shift Up Now, has a successful career both in and out of race cars. Here she is in the No. 39 Clauson-Marshall Racing Driven2SaveLives Chevrolet at the 2019 Indianapolis 500.

**PRI:** You're investing in the organization's public face and membership organization. Is that delivering results?

**Mann:** Yes. We have a new platform that's much more interactive. It really gives our members what they've been asking for. It's aesthetically pleasing. As a result, we have more brands that are starting to join

us as corporate members. They're not really spending the kind of money that allows us to sponsor people in race cars yet, but they're spending some money to show their support for us, and they're providing benefits of various types to our members. I think our members will find that fantastic, and we hope it will attract more members because frankly,

the bigger Shift Up Now has gotten, of course the more money it takes to run the thing.

**PRI:** What happens when someone joins your organization? What do they get for their money?

**Mann:** Members get access to online events. For example, tonight we have what's called a fan forum. Callies Performance is a sponsor of that, so it's the fan forum presented by Callies, and we have around 20 of our members who are coming via Zoom to talk to me, Sarah Montgomery, Ashley Freiberg, and Sabré Cook directly. We've started doing these monthly giveaways for our members. The first two are going to be signed items, and then next year we have some fairly cool giveaways that I can't talk about quite yet because it hasn't been announced, but that's going to be a lot of fun.

For the members who are aspiring racers, we have educational webinars. Next year we're going to do one of those per quarter. So one fan forum and one educational webinar per quarter, and it's going to be on topics that we think will interest our audience. Right now, Sabré Cook is going to be doing a webinar about the benefits of iRacing, why she believes it's helpful, why she believes young drivers should do it, and how it helps her. We have a partnership with PitFit, renowned for training race car drivers in Indianapolis. They are going to continue our "train the race car driver" series. We have three of our four educational webinars scheduled. Basically, there's one online event per month. Also, every month our director, Sarah Montgomery, is going to be reaching out to our members and sending information just to them.



Shift Up Now partnered with Yokohama Tire to put Ashley Freiberg in a full-time seat in the Porsche Sprint Challenge series. "We were able to watch Ashley go out there and win races and win the series championship in that car," Pippa Mann said. "That was so incredibly cool to see!"



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We also have discounts from several brands inside our membership portal. Bell Helmets, for example, gives all of our members a discount. Our members get benefits from Sabelt, and we're adding more brands that want to be involved with that. Our members are starting to get more and more back from being part of our journey and working with us and supporting us. We hope we're creating a two-way street because that's what we're trying to do. We're trying to make these core supporters feel involved and engaged and like they really are part of this. Without them there's no way I could have taken on running Shift Up Now.

**PRI:** Have you had any particular success where you sponsored someone, and they won a championship, or you were able to

***"THE MISSION IS TO HELP FUND FEMALE ATHLETES IN A SPORT WHERE THEY ARE STILL CURRENTLY UNDERREPRESENTED AND UNDERFUNDED."***

achieve something important for someone in their career?

**Mann:** The person we have to talk about is Ashley Freiberg. One of our biggest successes was partnering with Yokohama Tire this year to help Ashley return to a full-time seat in a race car in the Porsche Sprint Challenge series. Yokohama's motorsport manager reached out to me, and we were able to put a deal together where Yokohama was the biggest part of the deal, but they wanted Shift Up Now to appear as the title sponsor in Ashley's campaign. We were able to watch Ashley go out there and win races and win the series championship in that car. That was so incredibly cool to see!

Every time we're able to connect our racers with brands that want to support them and bring real dollar amounts to the table is a massive victory. While we have been smaller so far, hopefully you're going to see several more brands added next year. This year we added the support of Yokohama through Ashley, and next year our

partnership with Yokohama is expanding a little bit more. We have started to get some of our racers featured on TV this year, so you're going to start to see more content about our racers reaching more audiences. As we both know, that's not immediate financial help, but when you are providing the sponsors with another avenue for exposure and you are putting them in front of a bigger audience, that helps drive the wheel forward.

**PRI:** Our readership at PRI is people who are in the business of motorsports. Is there anything that they can do to help women drivers in your context?

**Mann:** We've seen teams investing in female talent such as Hannah Grisham. That gave her the opportunity to race and win at the Heart of Racing Shootout in 2022. Then she's gone on to score two pole positions in SRO Sprint X in 2023 and win twice with her teammate Rianna O'Meara-Hunt at Indianapolis Motor Speedway. Team owners are realizing that if they invest in female talent, they could be investing in race-winning drivers.

Among the grants Shift Up Now provides is money "for extra coaching on the weekends" for women racers who "found enough money to get to the race track but can't actually afford a coach," Pippa Mann said. "Things like that are really important." Mann knows from firsthand experience, as she coaches drivers in the SRO America and IMSA GT4 series.



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#### Applications:

2001-2016 GM 6.6L Duramax

Black 2001-2005 P/N (119020100)	Black 2006-2010 P/N (119020200)	Black 2011-2016 P/N (119020300)
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#### Applications:

2001-2007 GM 6.6L Duramax

2007.5-2010 GM 6.6L Duramax Single Sensor

2007.5-2010 GM 6.6L Duramax

P/N (119000500)

P/N (119000510)

P/N (119000515)



#### Applications:

2001-2005 GM 6.6L Duramax

P/N (119000630)

2006-2010 GM 6.6L Duramax

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We also have the Shift Up Now Foundation, which is our 501(c)(3) non-profit, and it lives alongside the for-profit organization. So our for-profit organization deals in all sorts of traditional partnerships, sponsorships, it has our membership, we do social media campaigns for people. However, our foundation can operate in a slightly different space because of that tax deductible status. The mission is a little more complicated, but it pretty much comes down to the same thing. The mission is to help fund female athletes in a sport where they are still currently underrepresented and underfunded. The missions line up, but it creates a different way to appeal to different companies, and to wealthy individuals. It allows us to work with race tracks or events that want to support a 501(c)(3) in motorsport because it makes sense to them.

With the funds in the Foundation, we write sponsorship grants for athletes. In the same way a brand comes in and writes a sponsorship, now it's a sponsorship grant, and it comes with deliverables that drivers have to provide in return for the funding, the same as any sponsorship would. It gives us another avenue to provide that support that so many of our athletes are missing.

**PRI:** What sort of things are you granting money to do?

**Mann:** Sometimes it's the money to pay for extra coaching on weekends because she found enough money to get to the race track, but she can't actually afford a coach. Things like that are really important. We had one driver this year who was using her teammate's takeoff tires. She had new tires for qualifying and the races, but she was using the takeoffs for testing. So we are trying to make sure she has the money to have appropriate tires to use before



To Pippa Mann, Shift Up Now focuses on "finding ways to make a difference, on helping people," and making sure "that the funding is going where people need it to go."

qualifying. That's where the Shift Up Now foundation focuses. We are not big enough yet to be a title sponsor. We would love to be, but we're not there yet. We focus on finding ways to make a difference, on helping people, and that the funding is going where people need it to go.

**PRI:** We've been talking about putting money in at the front end. Is there anything that a track or a series could do as far as reducing barriers to entry for women racers?

**Mann:** The whole point is we want to be treated as equals. No one at Shift Up Now is out there asking for something special. That said, I think IMSA's Diversity Scholarship is fantastic. I love the fact that it's open to all minorities in motorsport. I think it's a fantastic idea, but I also think you have to be very careful because we are not asking for special treatment. We're out here asking to be treated as equals because we believe that when you treat us as equals and we have equal opportunity and equal seat time and equal testing, we can compete as equals. All we're asking for is the equal opportunity to either succeed or to fail, but to do so on our own merits.

**PRI:** We are always on the lookout for young people coming out of karting. How

young is Shift Up Now prepared to go with its sponsorships and grants? Would you consider a 10-year-old girl working her way up in karting?

**Mann:** We can't do it right now because we're still too small. If we spread ourselves any more thinly than we're currently spread, nothing is going to happen. At the moment, our biggest priority is trying to push up, and then we want to reach down. We need to continue to push up first. However, being able to reach down is 100% on our radar. It's on our athletes' radars. There's a way we can start in 2024, where those who want to be mentored can be paired with an athlete to learn.

**PRI:** Where would you like Shift Up Now to be in 10 years' time?

**Mann:** I'd love to see a Shift Up Now athlete competing in IndyCar and in NASCAR, IMSA, and SRO sports car racing. I would love us to have the financial ability to be active in all of those major series. And I would love us to have a robust junior athlete program that is reaching down to that transition from the kart to car space. I want to have a robust junior program that reaches down across all of these various disciplines and helps bring up the next generation of racers. That's the big dream. **PRI**

*"ALL WE'RE ASKING FOR IS THE EQUAL OPPORTUNITY TO EITHER SUCCEED OR TO FAIL, BUT TO DO SO ON OUR OWN MERITS."*



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# POLE POSITION TECH

With a cautious eye toward the 2024 season as the economy recovers and the election looms, the racing aftermarket released cutting-edge innovations, timely product upgrades, and expanded applications at the PRI Show.

By Mike Magda

While the 2023 PRI Show offered valuable networking opportunities along with informative educational forums, new performance products have always been the backbone of the event—and a big lizard appeared to be stimulating much of the parts development as the racing industry readies for a new season of competition.

It seemed as if one couldn't walk down any aisle inside the Indiana Convention Center and Lucas Oil Stadium without bumping into some type of product designed for the Ford 7.3-liter V8 known as the Godzilla engine.

Here's just a small sampling of new parts discovered for that powerplant while strolling among the 1,000-plus exhibitors: eight-stack EFI from InnoV8, front cover from Late Model Engines (LME), bellhousing to support Tremec transmission from Lakewood, high-mount front drive system from Holley, bolt kits from ARP, lifters from Isky, Magnum crankshaft from Callies, cam phaser lockout and conical valve springs from COMP Cams, CNC-ported cylinder heads from Livernois Motorsports, intake manifold from Edelbrock, performance bearings from King Engine Bearings, supercharger from Harrop Engineering, and steel rocker arms from Jesel.

Although the Godzilla platform garnered more than its share of headlines, the engine doesn't seem to be in a lot of race vehicles at this point. Most of the excitement is currently focused on muscle car and street rod swaps; however, that perspective will change soon.

"There will be more racing applications coming for Godzilla," said Bryan Neelan at LME, Houston, Texas. "It just needs to be supported by more guys like us."

"It'll be more like the LS sooner or later," added Nolan Jamora of Isky Racing Cams, Gardena, California.

*"THERE WILL BE MORE RACING APPLICATIONS  
COMING FOR GODZILLA."*





The drive for more precision in engine building—from the valvetrain to cylinder honing and more—was a theme of the 2023 PRI Show. As engine builders strive for ever more horsepower, the margin of error keeps getting smaller and smaller, requiring new levels of precise measurements.

Other potential racing innovations on the horizon were showcased at PRI, including new EV components, alternative fuels, and simulator racing. There was even a proposed concept for a new type of turbine engine called the Tomahawk TX from Xcentrick Innovations in Brookings, South Dakota. Projected horsepower was 7,500 at 12,500 rpm while weighing less than 200 pounds. A working prototype has yet to be built; nonetheless, the design theory of a combined-cycle centrifusion turbine with an afterburner drew a good deal of curious attendees to the presentation video.

Across the hall there was a new engine that is ready to race. Katech Engineering of Clinton Township, Michigan, unveiled its new 2.7-liter billet inline-four engine designed for midget racing. The cylinder block dimensions are based off a GM LT engine, and it features a Katech CNC-machined LT cylinder head.

"We designed and developed this engine completely in-house," said Kennan Moffitt. "We've made 375 hp on methanol. And since every ounce counts, we made it as light as possible at 168 pounds."

For this engine, Katech blocked off the direct-injection ports on the LT head and adapted a traditional Kinsler fuel-injection system. Yet the engine is designed so that a pair of high-pressure fuel pumps can be mounted on the block and run off the camshaft to provide enough fuel for DI.

"Our purpose was to get it in the Xtreme Midget Outlaw series, but you can do whatever you want with it," added Moffitt. "It's capable of on-road applications. We've

heard guys joke around that they'd like to put it in their Miata."

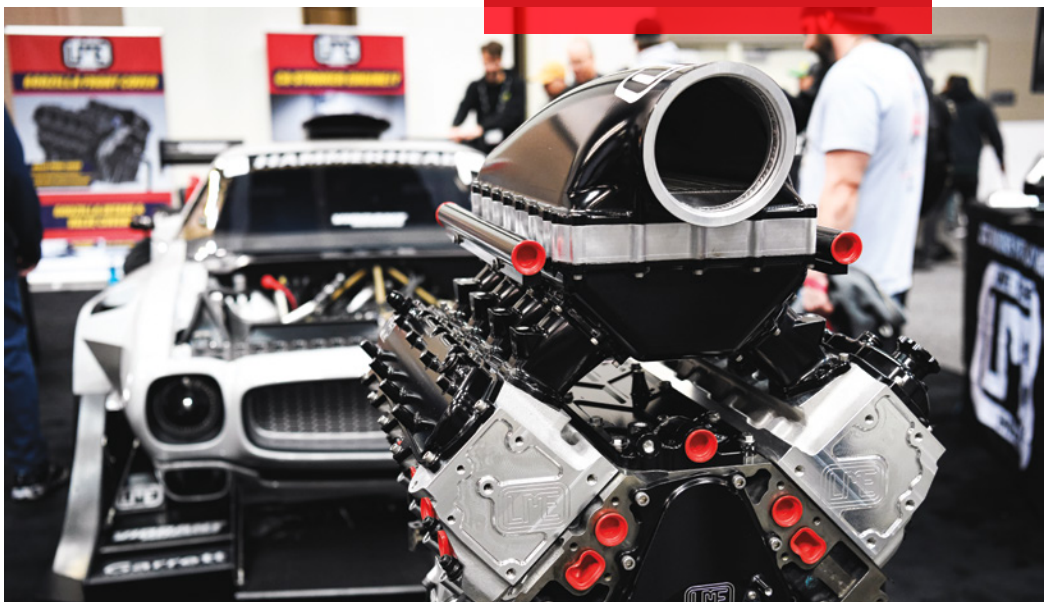
The Katech engine is an encouraging example of renewed R&D in the performance aftermarket following the pandemic when many development projects were put on hold. Product demand soared during that time, while manufacturers battled supply chain challenges, higher materials costs, and labor shortages. When those problems were finally sorted out, companies channeled more time and money not only into development but also getting the manufacturing operations up to speed. Sometimes the delay allowed for additional improvements. Two years ago, Dart Machinery in Warren, Michigan, showed off a prototype Mopar Gen III Hemi Iron Eagle block that came standard with 7/16-inch head studs.

"Now we can offer an upgrade to half-inch studs," said Nick DiBlasi, showing off the orange powder-coated production version. Other features of the block include steel four-bolt main caps, priority main oiling with two lifter crossovers, scalloped water jackets that allow more coolant, and 5/8-inch-thick decks.

"This block is for the guys really pushing limits on the OEM blocks, guys with power adders," added DiBlasi. "This is a clean-slate approach. We're fixing a lot of the shortcomings of the factory block."

Another new Dart Iron Eagle offering is based off the Toyota 2JZ architecture. It also

The Late Model Engines' booth at the PRI Show featured new products for several engine families, from LS and LT to Ford's Godzilla V8.



features Siamese cylinder bores, extra-thick decks, 11-mm or 1/2-inch head-bolt holes, revised oil-passage locations, and scalloped water jackets.

"We're also working on a cast-aluminum version," said Brandon Abidin. "This block will be used in everything—obviously a lot of drag racing but also drifting, Time Attack, and a variety of applications."

The Dart iron 2JZ block is a fresh option in a segment where high-priced billet blocks or considerable machine work on a factory block were the only alternatives.

"This casting solves every issue," said Abidin. "To me, this could be the next LS swap for people who aren't LS savvy. I think you're going to see a lot more guys adopting this engine."

Addressing a void in the market is certainly one approach that's driving new product development for racers, as are new engine and vehicle applications from the OEMs. Changes in sanctioning body rules will also spur development. Then there are new forms of competition that get

manufacturers excited.

"Racers are asking for a lot of drag-and-drive stuff these days," said Jamora at the Isky booth. "A lot of people are getting into that because there are so many classes. You can run cars from a 14-second daily driver up to 8 and even 6 seconds. They can go on any budget to run these cars."

Since reliability is a key factor in building a drag-and-drive engine, Jamora recommends Isky's bushed lifter, "because you have cars that run 7s and 6s, yet they need to idle and drive 150 miles in traffic. So it's a true test of what the lifter can do. We're the only one that does a bushing hydraulic roller. We have the fastest LS running in the 6s with a hydraulic roller."

## BOOST DRIVE

One industry trend that continues to flourish is boost. Driven by the demand for 1,000-plus-hp street engines along with the continued growth in outlaw and small-tire classes, plenty of new superchargers and turbochargers were shown at PRI.



New products from Turbosmart USA are providing engine builders with more control over boost pressure. "With our newer generation of products, we're directly controlling the power management in a way that has never been done before," said Marty Staggs.



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## ***“WE’RE ABLE TO ACHIEVE MORE HORSEPOWER WITH LESS BOOST.”***

“These are our Next Gen turbochargers, and they’re at least 10% better in terms of airflow than the previous design,” noted Reggie Wynn of Precision Turbo & Engine, Crown Point, Indiana. “Basically, you have the same size but more efficient.”

Slowly, more rules and class designations are coming into the once wide-open world of outlaw racing.

“We designate a lot of our turbochargers that are constrained by rules with an ‘R.’ That means it’s a class-specific turbocharger. For example, this 6470 is legal for the Mean Street class at the World Finals,” said Wynn, noting all R units will have an integrated speed sensor for data acquisition. “For us, this Next Gen Technology has been a game changer. We’re able to achieve more horsepower with

less boost. That means the shaft speeds are lower, and you’re not working the turbo as hard as you had to in the past, which can introduce back-pressure issues.”

Controlling boost has also become a critical issue. Turbosmart USA, based in Ontario, California, showed off its line of new electronic StraightGate external wastegates that are available in different sizes. The idea is to offer the engine builder and tuner more control over boost pressure.

“Precision and total control,” emphasized Marty Staggs. “With our newer generation of products, we’re directly controlling the power management in a way that has never been done before.”

The traditional pneumatic wastegate will not go extinct, according to Staggs. But the electronic models will provide the accuracy that leading tuners need for competitive runs.

“You’re controlling manifold pressure directly: this much boost at this point in the run,” explained Staggs. “Ideally, the turbo is spinning at its optimum shaft speed, so you get peak efficiency, peak performance, and

full control over the power of the engine.”

Turbosmart offers a wide array of boost-control products, sometimes begging the question if there’s a need for such diversity.

“We’re in all forms of motorsports, from jet skis to Reno air-race planes, and we don’t know what our customer is going to end up doing with our product,” said Staggs. “If you have forced induction, we have something for you, whether it’s turbocharged or supercharged.”

Over at ProCharger, the Lenexa, Kansas-based company displayed its wide range of centrifugal superchargers, but the main attraction was a new line of modular accessory drive kits.

“For LS, LT, small and big block Chevy, we have an accessory drive that you can start out with just the water pump and alternator. Then you can add AC, you can add power steering, and you can add a ProCharger in steps,” explained Grant Jones. “Or you can do it all at once. We’ve had guys successfully support 1,600 hp with it.”

For hardcore racers, Jones said the

## ***A WORD FROM THE SANCTIONING BODIES***

By most accounts, 2023 was a rewarding year for the majority of motorsports organizations. With the promise of additional races and new sponsorships coming to many venues—along with stable rules packages and expected higher car counts—there is an air of confidence that this year will be just as successful.

Safety, as always, is the primary concern of sanctioning bodies. Last year, World of Outlaws in Concord, North Carolina, required on-board fire suppression for the first time.

“We have documented instances where it helped,” said competition director Tom Devitt. “Of course, with anything new, we had some issues that we had to work through.”

The biggest problem centered around the support clamps, but changes were made to ensure proper mounting. New SFI specs were written that take into consideration a sprint car’s weight, fuel, and packaging. As for new product under consideration, Devitt said the series is looking at new fuel injection and cylinder heads presented by the aftermarket. Also, two companies are working on cylinder blocks, as current product is in short supply.

Over at the NHRA in San Dimas, California, drivers in cars running faster than 150 mph at any distance will be required to wear a SFI 38.1 head-and-neck restraint.

“For a lot of years, a neck collar was used, and many thought it was for protection. But mostly the neck collar was used for flame intrusion at the bottom of the helmet,” explained Lonnie Grim,

national tech director, noting the rule will impact categories like Super Gas and Super Comp. “We looked within our licensed categories of how many participants this covered, and it’s a significant number. This is one of the biggest moves NHRA has made in a long time due to safety.”

Following the introduction of Factory X last year, Grim said NHRA will be reviewing Factory Showdown and Factory X in early 2024 to see if any performance adjustments will be needed for the season. “Obviously, our Factory X category would love to go faster, and at some point, they will,” he said.

Last year was the 10th anniversary of the PDRA, and record car counts were set with a race average of 320 vehicles across eight events. For this year, Redline Oil became the first title rights sponsor. “Partnering with Redline takes us to a higher professional level and gives us a stronger hold in the market,” said series director Tyler Crossnoe. “Classes are staying the same, but payouts are going to be increased.”

PDRA events are focused mostly in the East; however, westward expansion is on the table. “I would like to get a little bit closer to home [Tennessee], but I know that’s a couple years down the road,” added Crossnoe. “It’s finding the tracks and seeing what works for the racers. It might be two divisions and running a true World Finals. We’ve been looking at multiple options.” —Mike Magda

biggest ProChargers are helping make 4,500 hp, and he's seeing a wider range of motorsports drawn to boost applications.

"We've got blowers that will support more power than what most of the racers are wanting at this point. You're starting to see a lot more road race, drifters, and even mud trucks with blowers. The same principles that work for drag racing can apply to slick mud surfaces," said Jones. "Road racing is also growing. A ProCharger runs cooler than other types of forced induction."

## INVESTING IN MACHINERY

Boost is certainly the key factor in the massive performance increases made in the diesel community. Helping those engine builders are more tuning controls and more data to make better decisions about modifications.

"Every year we're getting more and more diesel guys with inquiries about engine dynos," said Shawn Kell of SuperFlow, Sussex, Wisconsin. "In my opinion, that's a very underserved industry. There just aren't

Among the new engine blocks in Dart Machinery's booth was an Iron Eagle block based off Toyota 2JZ architecture. "This block will be used in everything—obviously a lot of drag racing but also drifting, Time Attack, and a variety of applications," said Brandon Abidin.

enough dynos in diesel shops."

Handling the massive torque of a diesel engine is the main challenge for any dyno. The Black Widow is a diverse model for high-horsepower engines, but the sales team would enjoy seeing a dual-brake version.

"Brandon Hart [Hart's Diesel] has combined two of our Black Widow brakes," said Kell. "We helped him with the valve-control strategy. He's done the majority of the work, and we're excited to see what it's going to do. Hopefully, we can convince our engineering team about it, but we'll see what the future holds on that."







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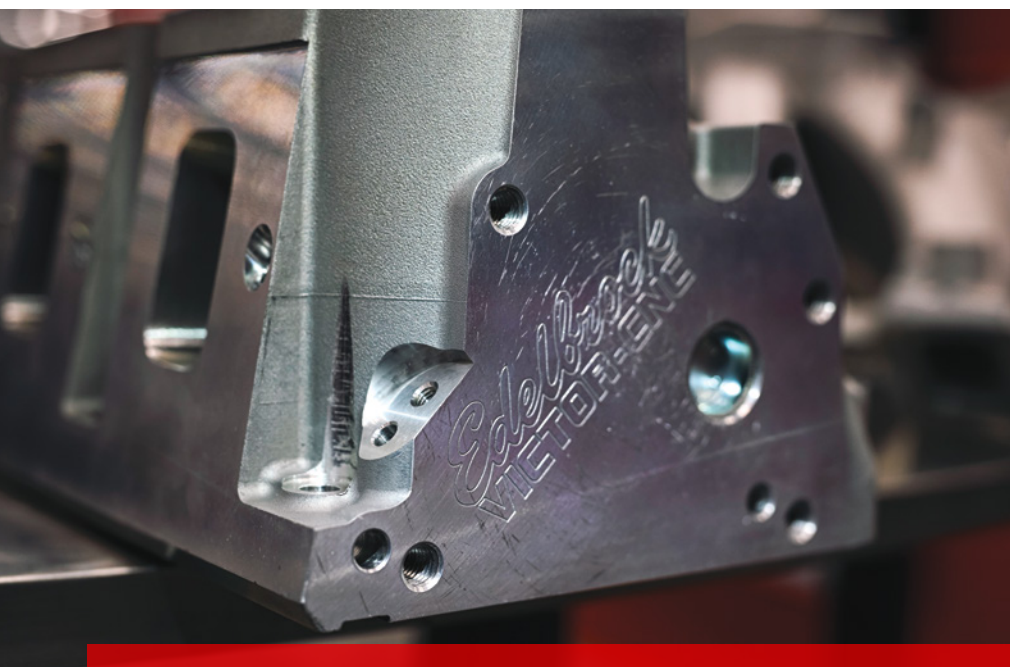








Shop Mopar



Edelbrock displayed its CNC machined Victor cylinder heads for several engine applications, including Gen III Hemi and LS7. It hopes to get approval to use the LS7 heads—with provisions for mechanical injection—on 410 sprint cars, said Jamie Wagner.

At the Show, SuperFlow released its WinDyn5 software that provides direct real-time access to all subsystems with sophisticated screen displays on up to four monitors. There are more than 500 user-configurable channels. "This software is network friendly, which is very popular with our customers," added Kell.

Machinery Row is always a big draw at PRI as attendees drool over the latest in high-tech

CNC machines as well as traditional metal-shaping hand tools. Mazak unveiled the VC EZ 20X, a four- or five-axis-capable machine with a 15,000-rpm spindle speed. Even with cutting-edge technology built into today's CNC machines, Paul Robinson said Mazak's top priorities are often training and support.

"We do training on different levels. We can do the full turnkey support for them, or we can give them the basics and they can do it

on their own," said Robinson. "What Mazak does better than anything is we have the best service and parts inventory. We're there to support the customer long term."

## EXPLORING NEW MARKETS

As companies gear up their R&D efforts, they're often looking at new markets for their products. Borowski Race Engines in Rockdale, Illinois, was specializing in the LS engine until the pandemic hit and supply chain problems changed the shop's dynamics.

"We were motivated to expand into other platforms, like the big block Chevy," said Joe McCaul. "We're also seeing new opportunities in off-road, like sand buggies and air boats. We've found a big market in Iceland, especially with Formula Off Road."

"We're seeing big growth in off-road," concurred Zeke Urrutia at Ferrea Racing Components, Fort Lauderdale, Florida. "Side-by-sides are really big for us now. Some of these guys are spending \$40,000 to \$50,000 just on aftermarket parts for their vehicles."

"We're seeing more and more shows putting autocross into their events," added Robert Florine of ARP, Ventura, California, which unveiled a number of bolt kits for the Godzilla engine in anticipation of more racers gravitating to that platform. "If they've got a drag strip, they almost always have an autocross."

Over at Brian Tooley Racing, the Bardstown, Kentucky-based company has invested heavily in a Spintron and advanced engine modeling software to design its latest camshafts for the Gen III Hemi. "We were able to run hundreds of iterations of lobe designs," said Brian Tooley, who added that it was necessary to purchase his own cam-grinding machine after he developed a breakthrough formula a couple of years ago.

The Gen III Hemi continues to be a popular foundation for new parts



Keeping up with racing's nonstop evolution was a theme of the seminar put on by Randy Neal of CWT Industries, who was joined onstage by MAHLE's Dan Begle and Kimm Karrip. "It's amazing where we've evolved," Neal said. "All the low-hanging fruit of making horsepower, that's gone."

## "IF YOU'RE REALLY GOING TO THE NEXT LEVEL, TECHNOLOGY IS THE ONLY ASSET AVAILABLE TO YOU."

development. Edelbrock of Olive Branch, Mississippi, showed off its new Victor heads that are full CNC ported and come with copper seats for those racers using titanium valves. "We raised the intake ports an eighth of an inch," said Jamie Wagner. "This head will be six-bolt capable when those blocks become available."

Edelbrock also displayed the Victor CNC 12-degree six-bolt cylinder head for LS7 engines. They come with .220-inch raised intake ports and .100-inch raised exhaust ports. There's even a version with provisions for mechanical fuel injection into the intake ports. "We've been trying to get approval from various sanctioning bodies to use this in 410 sprint cars," added Wagner.

Finally, one of the more compelling trends or themes drawn from the 2023 PRI Show is the drive for more precision in engine

building. Brad Lagman of QMP Racing in Chatsworth, California, developed the MC-1 measuring center because traditional methods of taking piston, lifter bushing, or bearing measurements were inconsistent.

"If I gave a piston and micrometer to 19 different guys, I'd get 19 different sizes," said Lagman. "Now I have youngsters in the shop, and they can measure parts like a seasoned pro with the MC-1. We can isolate bad parts before they get into the assembly room."

Precise measurements are the key to unlocking hidden horsepower these days, according to many engine experts.

"We keep trying to make more horsepower per cubic inch. If we refine the engines, our margin of error gets smaller and smaller and smaller," said Lake Speed Jr. of Total Seal, Phoenix, Arizona. Speed was part of an educational seminar on metallurgy and

surface finish along with racing consultant Billy Godbold and Ben Strader of EFI University. "If you want to climb higher, you're going to have to measure things more precisely, because as Ben says, you can't manage it if you can't measure it."

Another seminar emphasizing precision was led by Randy Neal of CWT Industries of Norcross, Georgia, joined on-stage with Dan Begle and Kimm Karrip of MAHLE, Farmington Hills, Michigan. Neal reminded the attendees that motorsports is an evolving industry, and the only way to move forward is to improve accuracy.

"If you can't measure it, you don't know—you're just guessing," said Neal. "If you're really going to the next level, technology is the only asset available to you. It used to be in Cup racing we had to go 501 miles to win. Now they're building engines that can go 20,000 miles. It's amazing where we've evolved."

"But the path is clear. If you think you can beat technology, that's a losing bet," summed up Neal. "All the low-hanging fruit of making horsepower, that's gone." **PRI**

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# INNOVATION ON DISPLAY

Manufacturers continually answer the need for more speed with their latest products and technology showcased at the annual PRI Show. Hundreds of those components are included in the Featured Products Showcase, which were determined by an esteemed panel of 13 judges who are entrenched in motorsports. Here we reveal the recipients of the Featured Product Awards.

By AJ Hecht

There was no better display of the racing industry's capacity to innovate at the 2023 PRI Show than the Featured Products Showcase. Ranging from engine blocks to race suits, the annual display shines a spotlight on hundreds of submitted products from PRI Show exhibitors from every segment of the industry.

According to Brian Havins, director of editorial and consumer marketing at Power Automedia and a judge for this year's Featured Product Awards, the Showcase does more than just highlight products. It demonstrates the racing world's ability to solve problems.

"[The industry] is stronger than ever. I was talking to a company, and as these cars and technology keep evolving, new issues keep coming up," Havins said. "Now, noise and electrical interference are a huge issue, so people are working on spark plug wires and plugs and fixing these things that we might see in a modern-day hot rod."

"There's always a problem that starts," he added, "and these companies figure out what that issue is, how to fix it, and how to make it better."

However, those problems don't always have to be new or complex.

Guillermo Moeller, a content creator and one of this year's 13 judges, looked not only for innovative ideas and game-changing products, but also for simple solutions that tackled problems in a different manner.

He eventually zeroed in on a product he could see himself using in his own shop: the Speedway Motors SoloSwap Ford 5.0 Coyote Mock Up Engine Swap Dummy Block Kit.

"There were a couple of products I really liked, then I just focused in on something practical. I ended up going for

something really simple," Moeller said. "I have a shop, and we do a lot of swaps. I saw the problems it would solve for me, and I liked that a lot."

Not every judge took the same approach when selecting a top product.

KJ Jones, senior editor of HOT ROD Magazine, singled out the Garmin Catalyst, a cockpit-mounted racing coach and performance optimizer, despite not having much use for the product himself. "I don't even road race," he said. "I just thought it was really cool."

Jones' goal for the Showcase was to identify a groundbreaking or innovative product. The Catalyst fit the bill.

"It plots your driving along a course and pulls data over several laps. It stitches and weaves together what you've done, and as you continue to drive, it will find areas in your driving to offer suggestions on how to, in a sense, achieve the ultimate lap," he said. "Among all the cool stuff there, that was a really cool thing for me. It will resonate among enthusiasts who are into driving cars like that."

In his search for a product to highlight, Jones also came to recognize how the Featured Products Showcase benefits both exhibitors and attendees. "[The PRI Show] is your opportunity to get in front of stuff, especially if it's new," he said. "You go see it in the Featured Products window, then you go out on the floor and see it and touch it. That's what I did with the Garmin piece. I went to the booth to check it out, ask questions, and that's how I learned how it worked."

Jones, as well as the other 12 Featured Product Awards judges, submitted a selection for best Featured Product. Additionally, the top vote-getters in each of the eight product categories received a 2023 Featured Product Award. Following is a complete list of winners.



## BEST ACCESSORY PRODUCT


**DIGITAL 400+ PERFORMANCE  
MAINTAINER WITH 4 AMP  
HYPERCORE LITHIUM CHARGER**  
OPTIMA BATTERIES

The OPTIMA Batteries D400+ 12V Performance Maintainer is fully automatic, extends battery life, and comes with a digital battery type selector for OPTIMA LiFePO4, AGM, powersports, and flooded batteries. It is designed for a spark-free connection, has reverse polarity and over-temperature protection, and can charge at 4 amps.  
[optimabatteries.com](http://optimabatteries.com)


**CUSTOM SFI RACE SUITS**  
RETTIDE CANOPIES

These custom-tailored and embroidered SFI-, FIA-, and CIK-rated racing suits are offered for karting, drag racing, stock car racing, and more.  
[redtidecanopies.com](http://redtidecanopies.com)


**GREAVES 3D TIRE SCRAPER**  
UNITED RACE PARTS

Designed and tested by tire technicians in racing series around the world, the TS-03 Tire Scraper features a molded handle with adjustable blade and roller angles to ensure user comfort, as well as variable temperature and fan speed.  
[unitedraceparts.com](http://unitedraceparts.com)

## BEST CHASSIS PRODUCT


**2005-2014 S197 MUSTANG  
PROMA STAR STRUTS AND  
CASTER CAMBER PLATES**  
QA1

The QA1 ProMa Star coil-over strut kit is designed for both street and race applications thanks to its lightweight inverted strut design and adjustable ride height and valving.  
[qa1.net](http://qa1.net)


**FUEL CELL SURGE TANK (FCST-X)**  
RADIUM ENGINEERING

The FCST-X fuel pump surge tank system works with any competition fuel cell with a 24-bolt flange and eliminates fuel starvation until the fuel cell is completely empty. The lift-out fuel pump modules make servicing quick and easy, and the system can be built with a variety of brushed or brushless fuel pumps.  
[radiumauto.com](http://radiumauto.com)


**PATENTED CAM-LOC BILLET  
QUICK CONNECTS**  
ULTIMATE AWNING

Made in the United States and assembled without cables or quick pins, Ultimate Awning has been awarded multiple patents for this portable, on-demand shelter system.  
[ultimateawning.com](http://ultimateawning.com)

## BEST DRIVETRAIN PRODUCT



### DIGITAL CLUTCH CONTROLLER BANGSHIFT BILLY

The BangShift Billy Digital Clutch Controller allows a diaphragm clutch to operate like a slipper clutch at the drag strip with all adjustments made through a phone app.

[bangshiftbilly.com](http://bangshiftbilly.com)



### NODULAR IRON DROPOUT CASE FOR FORD 8 INCH QUICK PERFORMANCE

The all-new Quick Performance Dropout Case for Ford 8 inch is cast and machined in the United States and features a nodular iron case and bearing caps, pinion support, and 1310 Series pinion yoke, as well as billet side adjusters, a 2.89-inch carrier bore, and snap ring pilot bearing retainer. Available as an assembled third member or individually, the dropout case accepts all factory parts.

[quickperformance.com](http://quickperformance.com)



### DYNAMIC DRIVE MOUNT EVOLUTION STAINLESS STEEL BRAKES

STRANGE ENGINEERING

Strange's Dynamic Drive Mount (DDM) System eliminates thermally generated stress from rotor attachment points and allows for the hat and rotor to expand and contract independently, which reduces warping, coning, and cracking common with bolt retention designs. It also features EVO calipers for max retraction.

[racestrange.com](http://racestrange.com)

## BEST ELECTRONIC/TELEMETRY PRODUCT



### GARMIN CATALYST GARMIN USA

Garmin Catalyst is a racing coach and driving performance optimizer that mounts in the cockpit to gather performance data and provide real-time audible coaching. Immediate session analysis helps drivers of all levels achieve their full track driving potential.

[garmin.com](http://garmin.com)



### HALTECH UC-10 DASH RACE WINNING BRANDS

The uC-10 Dash from Haltech is a 10-inch, low-profile digital dash that features a full-color optically bonded TFT screen, an aluminum powder-coated enclosure, on-board data logging, and two remote mount buttons. It is compatible with Haltech CAN, OBD2, and selected aftermarket ECU brands.

[haltech.com](http://haltech.com)



### WIRELESS WHEEL PANEL ECUMASTER

The wireless wheel panel features eight Otto push-button switches and four rotary switches. Switch state data is transmitted via RF and is immune to all interference in a race car. The receiver transmits all switch states via CAN to other devices in the vehicle. The panel is ergonomic and lightweight and has a bespoke carbon enclosure.

[ecumasterusa.com](http://ecumasterusa.com)

## BEST ENGINE PRODUCT

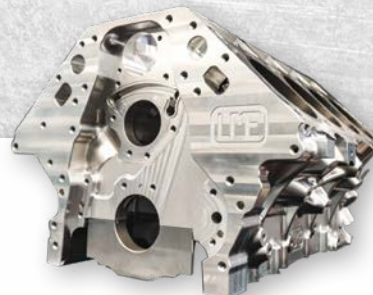

**G-SMART BLUETOOTH TURBO  
SPEED AND BOOST MODULE**
**GARRETT ADVANCING MOTION**

The G-Smart Module transmits turbo speed and boost via Bluetooth directly to a mobile device and comes with a plug-and-play wiring harness for Garrett speed sensors and other non-Garrett manufacturer sensors.

[garrettmotion.com](http://garrettmotion.com)

**INTERCOOLER CHILLER  
SYSTEM FOR TURBO  
AND SUPERCHARGED  
APPLICATIONS**
**INTERCOOLER CHILLER**

The Flex Plug-and-Play system from Intercooler Chiller for forced induction heat exchangers integrates into the vehicle's factory AC system and cools turbocharged and supercharged intake air systems that use a liquid for cooling. The system prevents heat soak of the engine and potential power loss and engine damage.

[icchiller.com](http://icchiller.com)

**C8 LT2 BILLET BLOCK WET**
**LATE MODEL ENGINES**

The LME billet timing chain guide and LME billet front cover allows the builder to delete the factory tensioner and factory cam phaser to improve reliability.

[latemodelengines.com](http://latemodelengines.com)

## BEST LUBRICANT PRODUCT


**DOMINATOR 10W-40 100%  
SYNTHETIC RACING OIL**
**AMSOIL**

This multi-viscosity, shear-stable synthetic race formula was engineered to maximize power and provide engine protection. Fortified with zinc and phosphorus additives to protect critical surfaces in extreme conditions, the oil is recommended for use in racing and high-performance engines operating on gasoline, alcohol, diesel, or other racing fuel.

[amsoil.com](http://amsoil.com)

**100% SYNTHETIC HYBRID  
MOTOR OIL**
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AMSOIL 100% Synthetic Hybrid Motor Oil is purpose-built for the varying engine usage and increased start-and-stop activity common to hybrid engines. It contains a boosted dose of inhibitors to help prevent condensation-related corrosion and is available in 0W-16 and 0W-20 viscosities common to hybrid engines.

[amsoil.com](http://amsoil.com)

**ADRENALINE R82+ DIESEL  
RACE FUEL ADDITIVE**
**HOT SHOT'S SECRET**

Hot Shot's Secret Adrenaline R82+ Diesel Race Fuel additive turns pump diesel into competition fuel and raises cetane up to 34 points. The additive meets the requirements of NTPA, PPL, ODSS, and other sanctioning bodies when used as directed.

[hotshotsecret.com](http://hotshotsecret.com)

## BEST SHOP EQUIPMENT PRODUCT



### ELITE PRO WIRELESS RACING SCALES FROM LONGACRE

AFCO PERFORMANCE GROUP

The Elite Pro Wireless Scales by Longacre have extended Bluetooth connectivity and allow users to connect to the scales through the Longacre Connect app, which is compatible with both Android and iOS devices.

[longacracing.com](http://longacracing.com)

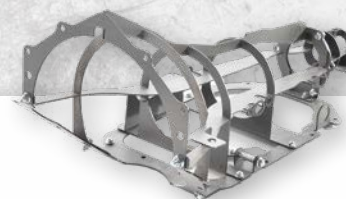


### WHEELWISE 5-LUG WHEEL FITMENT TOOL WITH TIRE SIZE ATTACHMENT

SPEEDWAY MOTORS

This patent-pending attachment simulates tires up to 12 inches wide and up to a 12-inch sidewall height. It can be used to verify a specific tire size or determine maximum tire size fitment and is made from laser cut and press bent 12-gauge steel with laser etched measurements in both SAE and metric tire sizes.

[speedwaymotors.com](http://speedwaymotors.com)



### SOLOSWAP GM 4L80E SWAP MOCK UP TRANSMISSION

SPEEDWAY MOTORS

The SoloSwap 4L80E Mock Up Transmission is compatible with all bolt-on transmission components, including sensors, oil pans, and more. Weighing in at 17.5 lbs. for ease of handling, the mock-up can be attached to any GM small block V8, big block V8, or LS V8 engine, including the company's SoloSwap mock-up blocks.

[speedwaymotors.com](http://speedwaymotors.com)

## BEST SUSPENSION PRODUCT



### 1979-1993 FOX BODY MUSTANG SUSPENSION KITS

QA1

The QA1 Fox Body Handling Kits offer a ride and handling performance upgrade for the Fox Body Mustang. The kit includes a lightweight tubular K-member, control arms, boxed trailing arms, sway bars, and front and rear double adjust coil-overs.

[qa1.net](http://qa1.net)



### 2007-2018 SILVERADO 1500 LOWERING KITS

QA1

The QA1 lowering kits for Silverado 1500 or Sierra 1500 offer suspension upgrades with cast steel, stamped steel, or aluminum arms and provides maximum adjustability and improvements to ride quality and performance.

[qa1.net](http://qa1.net)



### THREADED BODY COPPERHEAD DOUBLE ADJUSTABLE

SLADE PRECISION SHOCKS

The Slade Precision Copperhead double adjustable shocks are now available with a threaded body for 2.5-inch ID springs and offer a wide range of adjustment for coil-over applications.

[sladeshocktechnology.com](http://sladeshocktechnology.com)

## JUDGE'S PICKS



### COMPOSITE ROCKER ARM

AWA FORGED COMPOSITES

—David Kennedy, NHRA



### FORD MUSTANG DARK HORSE R FRONT BRAKE PACKAGE

BREMBO

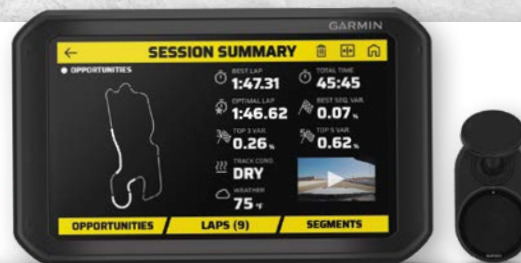
—Nathan Buchanan, SICK Cars & Trucks



### FLAGTRONICS FT200 KIT

FLAGTRONICS BY BALLENGER  
MOTORSPORTS

—Joe Skotnicki, Race of Champions



### GARMIN CATALYST

GARMIN USA

—KJ Jones, HOT ROD Magazine



### GARRETT G-SMART BLUETOOTH TURBO SPEED AND BOOST MODULE

GARRETT ADVANCING MOTION

—Garrett Reed, American Muscle HD



### 2020-2023 CORVETTE C8 HTC HO AND STAGE II INTERCOOLED SUPERCHARGER SYSTEMS

PROCHARGER SUPERCHARGER SYSTEMS

—Brian Havins, Power Automedia



**F-4X-136 CENTRIFUGAL  
SUPERCHARGER WITH  
CRANKDRIVE**

PROCHARGER SUPERCHARGER  
SYSTEMS

—Craig Cook, Drag Illustrated



**2007-2018 SILVERADO 1500  
LOWERING KITS**

QA1

—Mitchell Stapleton, Stapleton42



**DART MACHINERY TOYOTA 2JZ  
ENGINE BLOCK**

RACE WINNING BRANDS

—Mike Kojima, MotoIQ



**SOLOSWAP FORD 5.0 COYOTE MOCK UP  
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—Guillermo Moeller, Performance Customs



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**PRI SHOW**  
REPORT

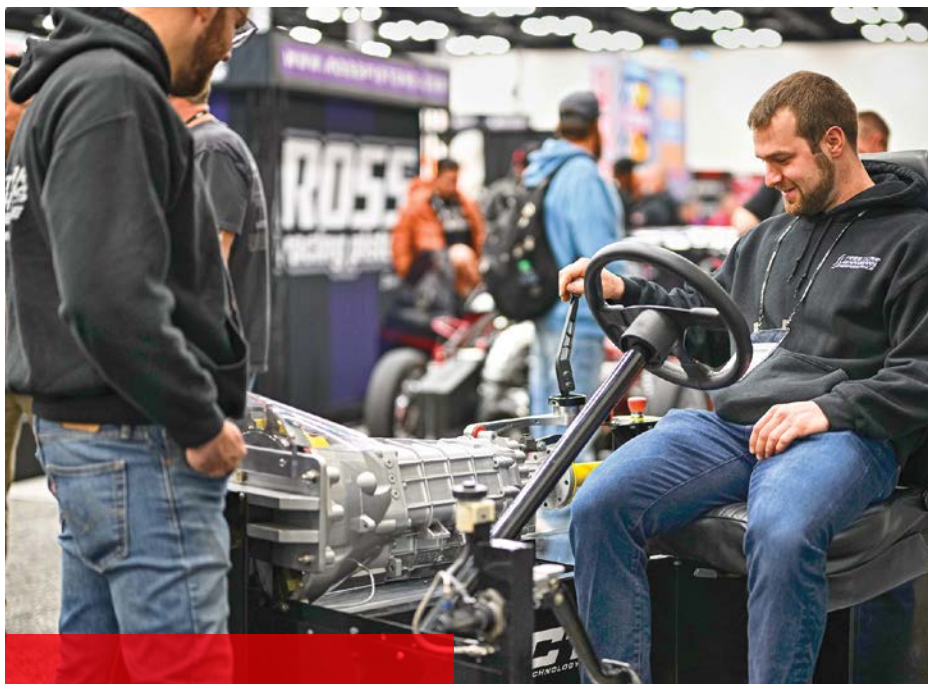
# PILGRIMAGE TO INDY

ATTENDEES EXPLAIN WHY THEY PUT THE PRI SHOW HIGH ON THEIR MUST-ATTEND LIST EVERY YEAR AND PROVIDE A GLIMPSE OF WHAT PAID OFF AT THE 35TH EDITION OF THE ULTIMATE MOTORSPORTS TRADE SHOW.

By Jack Haworth



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Much more than handshakes, the 2023 PRI Show attendees got plenty of hands-on experience with cutting-edge race parts and components. “What’s nice about coming here is you actually get to meet the people,” said one attendee. “The personal attention here is absolutely awesome.”

**T**he 2023 PRI Show may be over, but its influence on the racing industry is only beginning to be felt.

On December 7–9, tens of thousands of motorsports professionals gathered at the Indiana Convention Center and Lucas Oil Stadium in downtown Indianapolis for the 2023 Performance Racing Industry (PRI) Show, the most influential business event in racing. Featuring more than 1,000 exhibitors and almost 3,600 booths, it was an action-packed three days of education, networking, and showcasing cutting-edge products and machinery.

The reasons for attending the PRI Show are as varied as the disciplines we race—some folks come to build connections, others to buy the newest race parts, and many value the free education sessions—but in an industry where efficiency is essential, being able to accomplish multiple goals in one place makes the PRI Show valuable for everyone.

## WHEELING AND DEALING

“We come here every year with a goal to look for more speed,” said George Bessette Jr., a modified racer from Connecticut. “We always leave here with something, no matter if it’s knowledge or product.”

This year, Bessette was pleased to have found a good deal on a belt sander. “They have great deals here with show pricing. It’s awesome just to be able to come here and meet with people we usually talk to over the phone,” he explained.

The Northeast modified racer wasn’t alone in that last sentiment, as several attendees heralded the benefits of conducting business face-to-face with fellow motorsports professionals. For example, Volkswagen drag racer JD Curry Jr. traveled from Ohio to Indianapolis in search of hard-to-find parts for his VW. The trip paid off, as he found one vendor to custom build new intakes for a set of heads and another vendor to

build a custom carburetor.

“What’s nice about coming here is you actually get to meet the people,” said Curry. “You can’t do that over the phone or through the Internet. The personal attention here is absolutely awesome.”

## FIRST-TIME CONNECTIONS

The opportunity to reconnect with colleagues and fellow gearheads keeps industry veterans coming back to Indianapolis on an annual basis. However, the PRI Show also offers an opportunity for fresh faces to introduce themselves to the industry. For first-time attendee John Esburnett, the general manager of Lee USA Speedway in Lee, New Hampshire, he arrived to Indy ready to learn.

“I’m new to the general managing role of [Lee USA Speedway], so we decided to come down here to PRI to learn new things,” said Esburnett. “I’m 25, so I’m just sponging it up and absorbing all that I can.”

When we spoke with Esburnett, he had just finished listening to the “State of the Racing Market” education session—one of 22 PRI Education seminars offered throughout the three days. The sessions were free to Show attendees and covered

Lucas Oil Stadium was activated to highlight the emerging trend of alternative racing—particularly the EV & Alt Racing and Esports sections. This included dozens of high-tech simulation rigs that gave attendees the opportunity to turn virtual hot laps.





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important topics ranging from “Advanced Technology in Dirt Late Model Racing” to “Digital Advertising: Measuring Success.” (Learn more about the PRI Education sessions beginning on page 50.)

Another first-time attendee was California-based Late Model driver, Kylie Glick. At only 13 years old, the young racer and her family flew from California to Indianapolis to help her gain exposure in the industry.

“This is our best opportunity to shake hands with big brands, meet people in the industry, meet other drivers, and just learn a ton,” said Mirinda Glick, Kylie’s mom. “Being able to collect it all in one spot where we can get that all accomplished, it definitely makes the trip worthwhile.”

For racers like Kylie, a simple handshake in Indy can be the first step to building a lasting connection that launches a lifelong career. The PRI Show is also a critical opportunity for organizations within the industry to connect and strategize for the



As buyers scoured the aisles for new products and machinery, suppliers stayed busy taking orders all three days of the PRI Show. Machinery Row is a popular destination for anyone considering adding new machinery or equipment to improve the bottom line.

coming year.

Indianapolis local McKenna Haase is a 410 sprint car racer on the track, but

off the track works to support the next generation of racers. She founded a youth motorsports foundation, Youth Racers of America Inc., as well as a youth racing team, Compass Racing Development LLC. Haase explained she was using the PRI Show as an opportunity to meet with folks from another youth racing organization, Speed Youths.

“We are just trying to get [youth racing] to be more important to this industry,” said Haase. “I think it is definitely a deficit that we need to address, and this event is giving us an opportunity to connect on that and have a good dialogue about it.”

Ultimately, that’s what the PRI Show is all about—connecting, networking, and planning how to improve for the 2024 season. No matter what your racing business specializes in, the PRI Show is where the business of racing gets done.

## CHASING THE CUTTING-EDGE

Just as race teams are always looking



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to elevate their performance, the same is true for the team at PRI. We listen to feedback and work year-round to improve the PRI Show and make it more valuable to our industry. In 2022, we began limiting attendance to PRI Members. The show floor is still revved up, but as New Jersey-based shop owner Andrew Jackson noted, the quality of the attendees has improved.

"Every year has been good, but also every year has been getting better," said Jackson. "It's become more condensed, less of a show for everybody and more of a show just for the industry. You're able to talk to more companies because of the simple fact that there's less congestion. It's definitely been a better experience because you're able to get more time with different people."

For 2023, we continued to innovate and improve. We activated the space inside the Lucas Oil Stadium area to highlight the emerging trend of alternative racing—particularly EV & Alt racing and Esports. New



**"The Business of Racing Starts Here."** While that is always true for the PRI Show, the 2023 edition also included some actual racing with the inaugural PRI Ekarting Classic presented by Top Kart USA, which took place on the floor of Lucas Oil Stadium during the PRI Happy Hour.

activations included the return of live racing action on the e-karting track and dozens of cutting-edge simulation rigs for attendees to

test their talent in sim racing. The updated layout infused new energy and showcased new disciplines, while the PRI Ekarting Classic presented by Top Kart USA had our PRI Happy Hour buzzing on the Show's opening night.

"PRI has a lot of newer stuff out, like with the e-kart track and the simulators," said Missouri-based drag racer Cory Clemens. "It's been great this year."

In its 35th year, the PRI Show was stronger than ever—both a celebration of our racing community and an essential event for the industry. From drivers to track owners, builders to buyers, the PRI Show provided a coveted once-a-year opportunity to gain invaluable knowledge, parts, and connections to fuel on-track success in 2024.

"If you're not here, you're not seeing what's out there and what's great about whatever type of racing you're in," said Clemens. "You've got to be cutting edge, and that's what PRI is all about." **PRI**

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**PRI SHOW**  
REPORT

# THOUGHT LEADERS

CONTINUING EDUCATION IS JUST ONE COMPONENT OF THE PRI SHOW. OUR PRI EDUCATION PROGRAM OFFERS ADVICE AND TIPS THAT CAN QUICKLY BE IMPLEMENTED, BEGINNING WITH THESE HIGHLIGHTS FOCUSED ON IMPROVING BUSINESS STARTING TODAY.

By Meredith Kaplan Burns

“Never stop learning” is an oft-cited mantra by successful leaders who value education and the ability to learn new concepts, techniques, or theories. Education goes far beyond K–12, and even college or tech school training. PRI acknowledges the value of continuing education, which is why the PRI Education program is a core component of the PRI Show. Each year’s PRI Education program is carefully crafted to allow thought leaders and technology innovators in the motorsports industry to share their knowledge, which allows PRI Show attendees to leave Indianapolis with valuable tools to ignite sales, improve performance in marketing and promotion, or just implement new methods of conducting business.

The following is a summary of just some of

the quality information about how to operate a business that was shared as part of PRI Education, which you can promptly start using in your organization.

## MARKETING STRATEGIES FOR TODAY

The importance of digital media, and more specifically social media, cannot be understated for the motorsports industry overall, and more specifically to drivers, teams, race tracks, and more. In fact, any PRI Education seminar that focuses on the digital world fills the Indiana Convention Center meeting rooms.

Digital marketing includes social media, along with other promotional avenues, and Bryan Robb of Digital Throttle in Incline Village, Nevada, shared the lessons he

learned over several decades in the automotive and motorsports industries in “Digital Marketing: Lessons Learned.”

To understand how relevant social media is in today’s digital-centered world, Robb provided a breakdown of US users per platform. Facebook currently has 256 million, YouTube has 239 million, TikTok 150 million, Instagram 143 million, SnapChat 109 million, X/Twitter consists of 99 million, Pinterest has 85 million, and Reddit has 26 million. Of those numbers, 56% of YouTube users are between the ages of 18–44, half of all TikTok users are ages 24 and under, 62% of Instagram followers are between the ages of 18–34, and 59% of those on SnapChat are 24 or younger.

Why is digital media so important? Robb shared some startling statistics: The average



time spent per day by US adults on digital media was estimated at 7 hours and 34 minutes in 2023! Traditional media garnered only 4 hours and 53 minutes. And the digital timeline is only charting upward.

That pocket computer called a "cell phone" is truly valuable where digital ads are concerned, as 64% of them are seen on a mobile device. In addition, approximately 80% of digital ads are clicked from a mobile device.

When determining what content to include in social media posts, Robb provided a "good, better, best" example. In the "good" category are product shots, customer vehicles, and contact information. "Better" includes lifestyle images/posts, Events/Recent Stories, and one to two posts per week. Actively posting, videos, and creating

community fill in the "best" category.

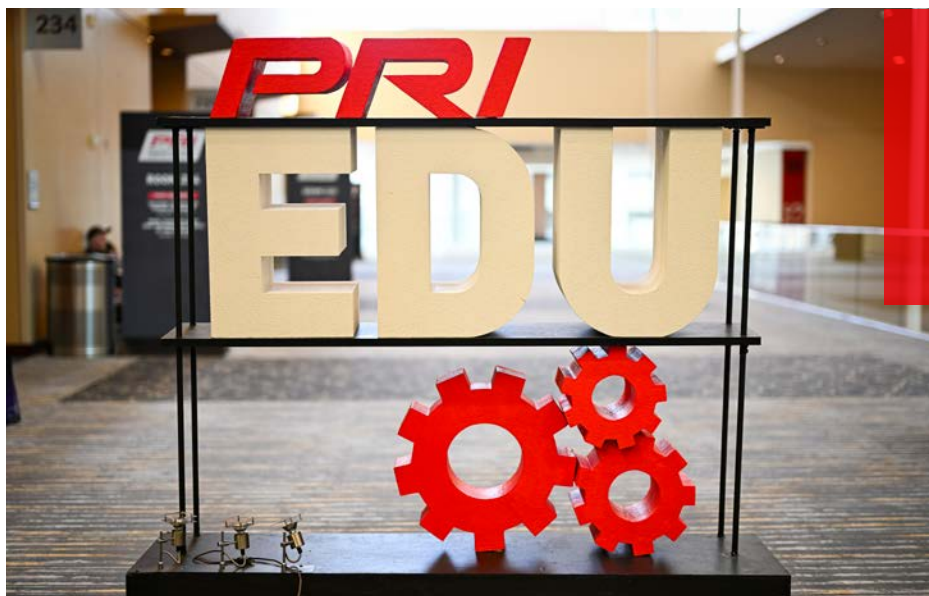
For online searches, Robb reported that 88% of users choose Google as their preferred search engine, though don't overlook the importance of Bing, which makes up 12%. Under the topic of "Learned Google Search," he advised using all the free search ad elements available, which includes validating the company to show the logo, name, and the customer service phone number. Also include callouts with information, images, and site links.

Another lesson learned that he shared is free social posting is not advertising. Six percent of your followers will see your organic posts. He added that "boosting" a post is not always beneficial because of imprecise targeting and inaccurate reporting, and it can be expensive.

Finally, once social ads are posted, don't click and forget. Be sure to monitor the questions and comments in the ads you run.

Alex Striler, marketing and sponsorship expert, and founder and host of SponsorshipSummits.com, returned to the PRI Show to present "Using Social Media and Technology to Create Value for Sponsors." He was joined by Megan Meyer, founder of MotorsportsMarketingTips.com, and Cole Striler, a software engineer who specializes in data science, AI, and workflow analysis.

When choosing which social media platforms to be on, the team recommended being "selective where you post content and who you are trying to reach." Consider the different ages of your audience, their interests, and uses. Ask yourself the



A core component of the annual PRI Show, the 2023 PRI Education lineup filled meeting rooms in the Indiana Convention Center and Lucas Oil Stadium. People are hungry to expand their knowledge base, and the 22 seminars delivered with a focus on Business, Technology, and EV and Alternative Fuels.

following questions: What is the key to being memorable and valuable when using social media? If everyone is on social media, how can you stand out?

A self-proclaimed “social media Grinch,” Kyle Estes of KRT in Rosemount, Minnesota, found the social media seminars helpful. “It was pretty clear to me that in order to do what

you want to do on the marketing side that you have to be active on social media.” As a result, he planned to expand into the digital marketing platform upon returning home.

## BRANDING

Another component of marketing is branding. Ben Porter of Redline Ace in Speedway, Indiana, shared tips he’s learned over 23-plus years of his graphic design career, with a focus on logo and brand design. Branding, he explained, is based on a consistent theme made up of a company’s

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As the digital marketing landscape constantly changes, marketers need to stay updated to the latest trends and technology. Bryan Robb of Digital Throttle shared his expertise in his seminar "Digital Marketing: Lessons Learned."

name, logo, visual identity, mission, values, and tone of voice. The goals of a successful logo are an invitation to interact with your brand, a symbol that customers can easily recall, how to separate your brand from your competitors', how to command respect and set precedence, and how to foster brand loyalty.

When designing or refreshing a logo, several design provider options

are available. Choosing to do it yourself may be appealing pricewise, but does it deliver the uniqueness or quality that you desire? Copy and pasting is another option to mimic what others have done, which is fast and cheap, but isn't unique and may not offer the quality that is desired. AI was a topic in several seminars at the PRI Show, and

this technology is now available to design a brand. While it can definitely be fast, cheap, and even offer a higher quality than the other two methods, is it unique? Finally, a professional designer can work with a customer to deliver that unique and high-quality logo, but the professional service does come at a higher cost and takes longer. When considering using professional services, review that expert's portfolio for examples of what has been delivered to other customers. Seeing that high-end result can easily sway someone to see the value of choosing a professional designer.

When designing a logo, Porter offered advice to those who are already working with clients. First, he recommended evaluating the individual (such as a driver) or a business. Next, research the industry, and then find out where the logo will be used. Sketch a variety of logo concepts and develop an initial set of proofs for the client. Finally, refine the designs with feedback and

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deliver the final logo files to the customer.

Yazz Maye and Charles Demmings of MassAppealDMV in Upper Marlboro, Maryland, attended the "Graphic Design and Branding" seminar. Maye noted that a helpful tip she picked up from the seminar was don't give clients too many options at once when designing a logo. "Break it down, simplify it, bring it step by step. Don't bring in colors, specifically, don't bring in color until the end of the design. It's so simple and it makes sense. Why didn't I think about it sooner?" she asked, laughing.

"But you are so focused on giving the customer immediate gratification, especially with social media in this day and age, everyone wants something yesterday. Not even now, but yesterday," she added. That one little step seems like it would drag the process on, but it actually makes it that much faster because it allows them to make that decision quicker and move forward. That was invaluable."



Anyone who attends a PRI Education seminar taught by Tom Shay of Profits Plus Solutions can count on receiving sage business advice. Shay provides useful, real-life examples of what to do and what not to do to operate a successful company.

Shay of Profits Plus Solutions in Dardanelle, Arkansas, discussed why getting back to the basics is often needed to course correct in "Why A Business Plan Can Make You More Money."

A business plan is a common requirement to obtain a small business loan at a local bank. Sure, it's needed for that, but it can also serve as a guide to where you want to take your business in the next year, three years, five years, and longer. A benefit of a business plan is that it is not static. This document can be updated to address changing market conditions, new or different goals, or when new product lines or services are added.

Shay outlined the basis of a business plan, which includes a cover page; table of contents; series of introductory statements; vision statement, such as what your business looks like in three to five years, or the length of the loan you are requesting; where your company is going; company's mission

## IN THE TRENCHES

Sometimes business owners get lost with ideas of grandeur and think they need to go in myriad directions to be successful. Tom

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statement; statement of purpose, which is who you are, what you are going to do, what you want with regard to funding; and concluding with an executive summary, which Shay referred to as the “CliffsNotes” page of your business plan.

While a business plan may be a basic tool for a company, Krista Lamb of DeatschWerks in Oklahoma City, Oklahoma, discussed a more advanced option in “ERP Selection and Implementation Doesn’t Have to be Disruptive.” In this seminar, she provided an overview of ERP, or enterprise resource planning. ERP refers to a type of software that organizations use to manage day-to-day business activities such as accounting, procurement, and supply chain operations.

Lamb shared her personal experience with going through this process and freely shared what worked and what didn’t. To begin the process, she visited every staff member at DeatschWerks and asked them

to list their job duties. After 90 days, she returned to each person and asked if they forgot anything, followed by what they liked about the current processes in place as well as what they didn’t like.

If your organization is considering implementing ERP software, she provided a path to selection. Step one is to gather information. Interview your organization’s leaders and employees in all areas of your business, as noted above. Step two is to understand flow. Outline how various business processes flow through your organization. Step three is to define the requirements. Develop and rank a set of requirements for each of your business areas. Step four is to conduct market research. Research the ERP marketplace and determine an initial list of solutions. Request information is step five. Develop and publish your Request for Information (RFI), then evaluate the responses. Pruning makes up step six. Narrow the list of options

to solutions that best fit your requirements.

Step seven is to find solution demos. Schedule onsite demonstrations, evaluate participants, and further narrow down your options. Request proposals is step eight. Request and evaluate proposals from the top software vendors on your list. Step nine is references and visits. Check references from your proposal requests and conduct onsite visits. Finally, selection is step 10. Select the final solution and negotiate the terms of your agreement.

Her last piece of advice is to avoid business disruption by not getting ahead of the process. Provide training until the subject matter experts are confident. Test everything multiple times, then identify and support an internal project owner for implementation.

To watch these and all of the PRI Education seminars from the 2023 PRI Show, visit PRI’s YouTube page at [youtube.com/user/pritradeshow](https://youtube.com/user/pritradeshow). **PRI**

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# SHOW BUSINESS

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Three days doesn't seem like enough time to view the thousands of motorsports products on display, experience the highly anticipated events, connect with long-time friends, discover new product lines, and so much more during the PRI Show. We present this photographic coverage to recap some highlights and maybe some things you missed while in Indianapolis for the 35th Performance Racing Industry Show last December.

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So much to see, so little time. Aisles upon aisles featured new racing components and technology at the 35th PRI (Performance Racing Industry) Show in December 2023. While the products are what draws racing industry members to the Indiana Convention Center and Lucas Oil Stadium, it's the ancillary events that keep Show attendees preoccupied, such as the Grand Opening Breakfast, which kicked off the Show with Indy 500 champion Tony Kanaan, a slate of more than 20 thoughtfully curated PRI Education seminars, special guest appearances, and the return of real race action during the PRI Happy Hour. "The PRI Show is where the motorsports industry comes together to build the relationships that create the foundation for success in the coming year," said Jim Liaw, PRI General Manager. "Those relationships, combined with the first look at innovative new products and the opportunity to gain professional expertise, will position our members to gain an advantage on the track and in the marketplace."

And gain an advantage they will with more than 1,000 exhibitors filling just under 3,600 booths. Everywhere one turned to at the Show they witnessed the latest state-of-the-art equipment and products, with exhibitors ready to take their orders for delivery in time for the 2024 race season.

"Our Show programming is a dynamic combination of the latest industry trends, annual traditions, and several satellite events designed to create networking opportunities and deliver tremendous value to the time attendees spend in Indianapolis," said Karin Davidson, PRI Trade Show Director. She referred to the 2023 Show as having "it all for motorsports professionals looking for the products and expertise to take their efforts to the next level."

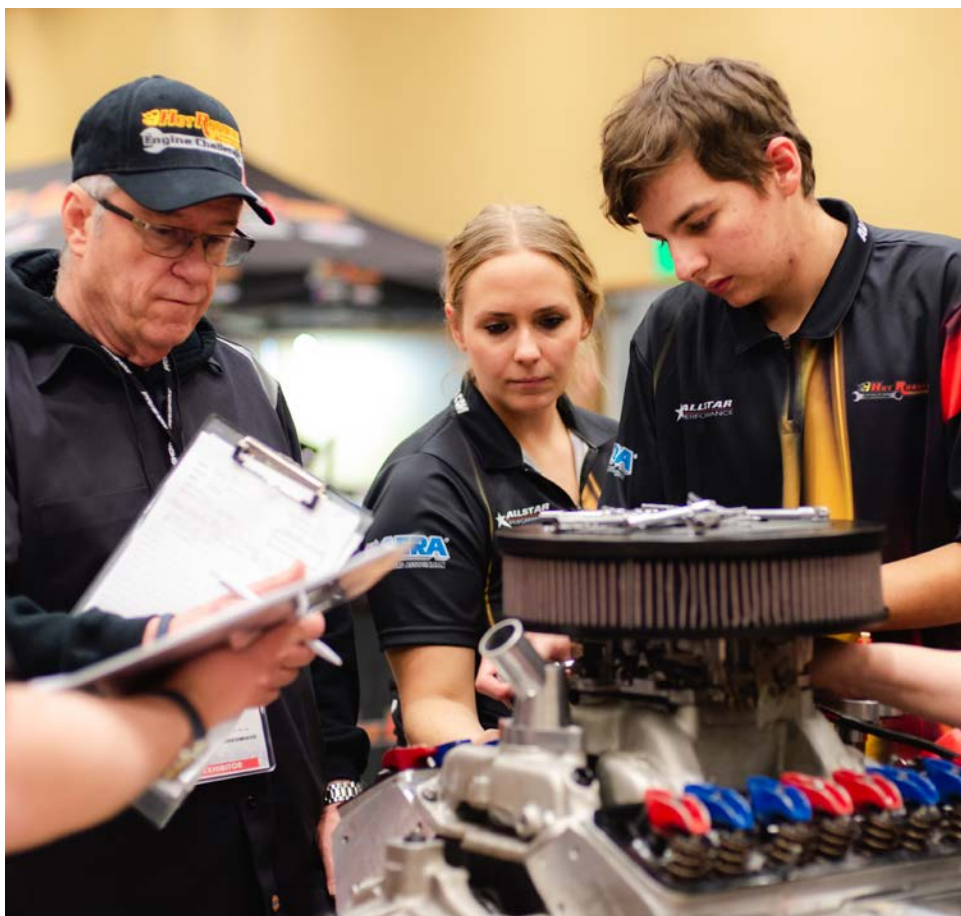
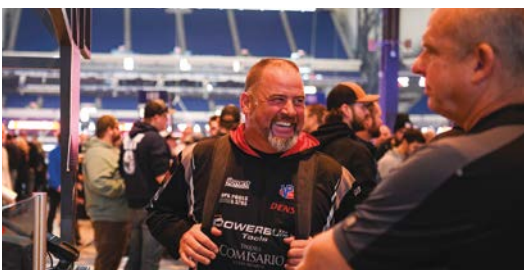
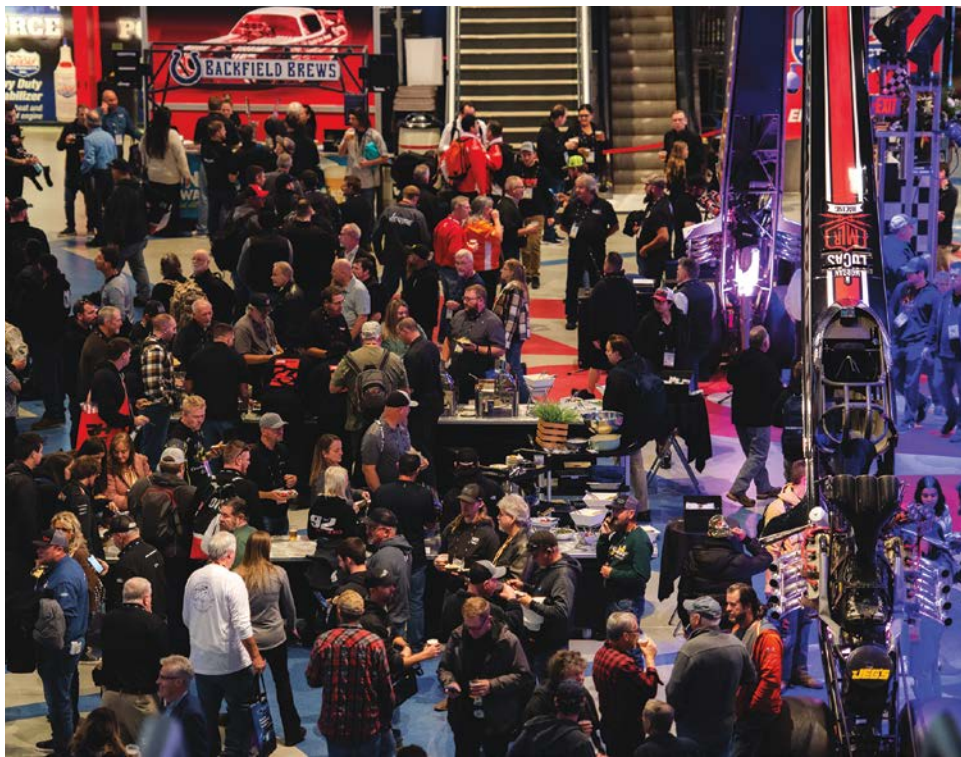
This photographic display shows just some of the highlights from last year's Show, to tide you over until it's time to make plans for PRI 2024!

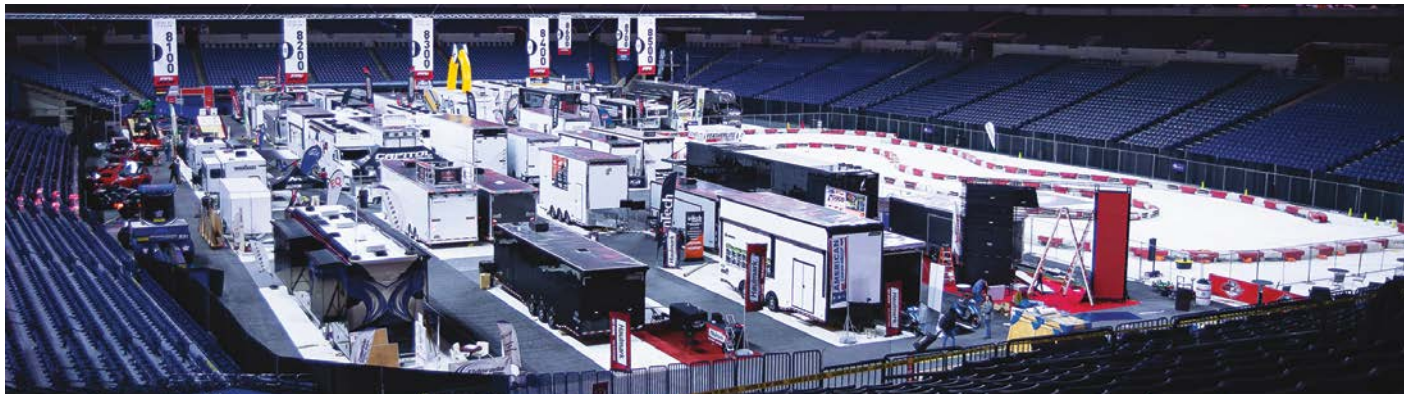


## FEATURES

From the drop of the flag to begin the PRI Show to the conclusion on Saturday, there were no shortage of events and activities to compensate time in between conducting business on the Show floor. Grand Opening Breakfast headliner Tony Kanaan started the buzz on Thursday morning while the new PRI EKarting Classic presented by Top Kart USA concluded the day's events at the PRI Happy Hour. Throughout the Show, highlights included the Featured Products Showcase in its new location, not far from the new PRI Paddock & Podcast Studio, the return of the Hot Rodders of Tomorrow national championship, the Women in Motorsports panel, and more.







## LUCAS OIL STADIUM

Racing action of the real and virtual varieties was under the spotlight in Lucas Oil Stadium. Three full days of electric kart action took place on a specially designed race track, not far from the Esports Arena presented by SRO America, which featured daily invitational Esports races broadcast direct to SRO and PRI livestream platforms. Completing the space were trailers and tow vehicles ready to be ordered along with the EV & Alt Racing section that incorporated cutting-edge technology related to alternative forms of racing propulsion and renewable fuels.



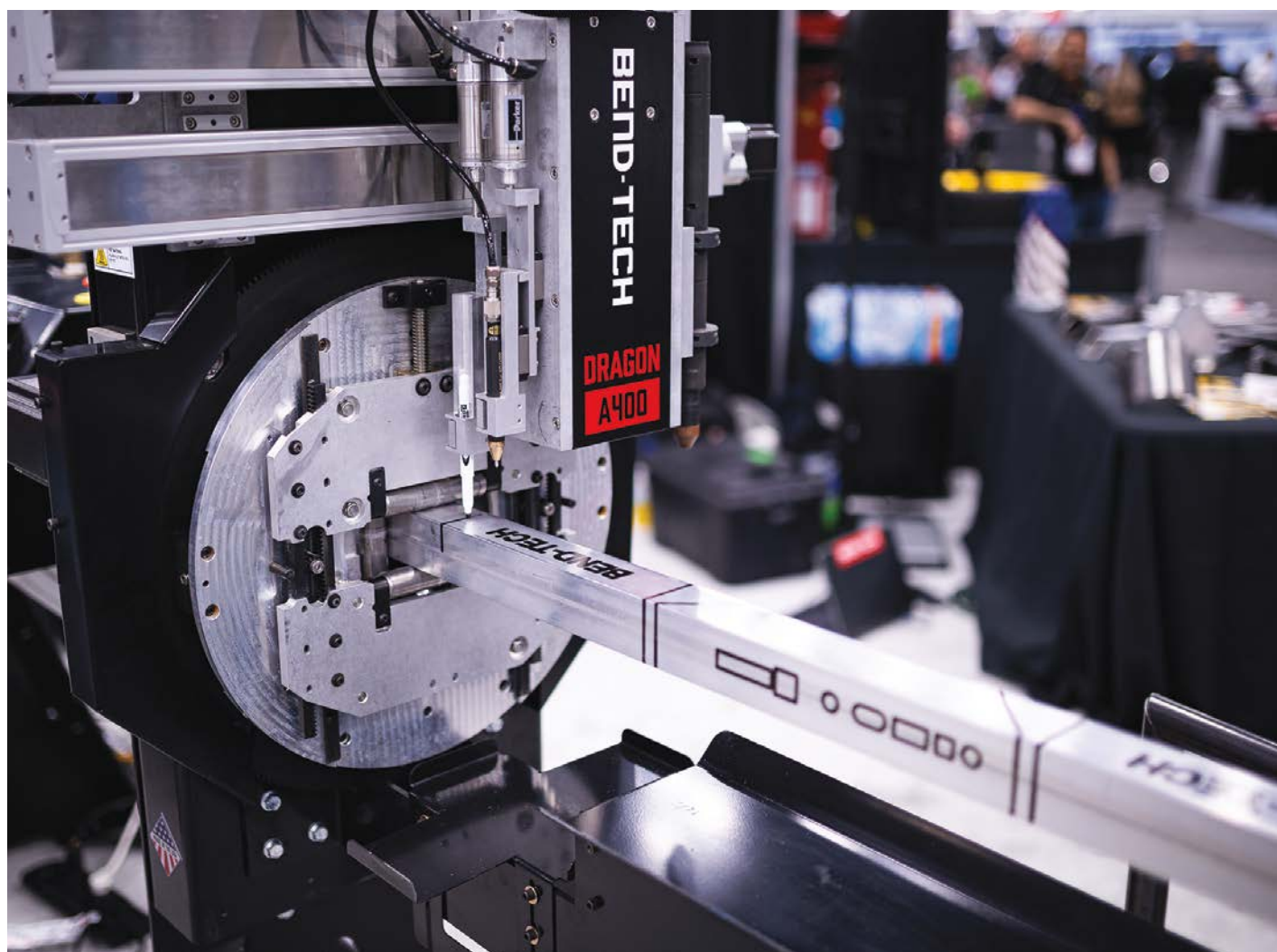
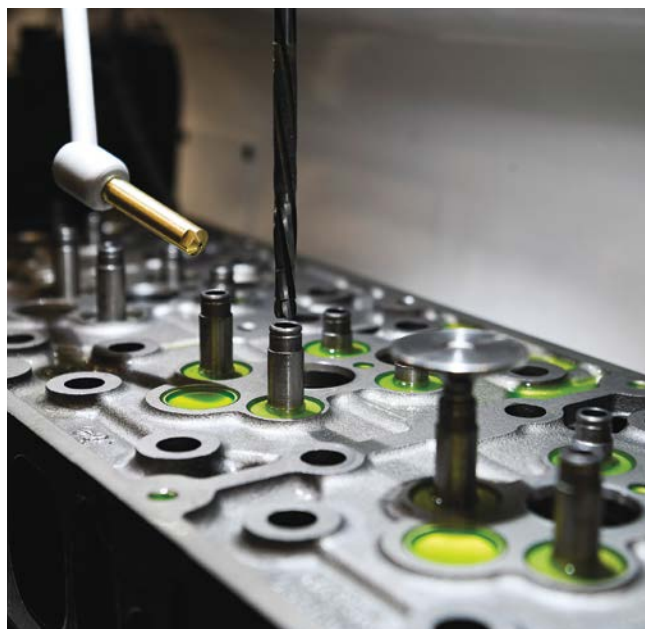




## MACHINERY

CNC machines, parts cleaning equipment, welders, seat and guide machines, fabricating equipment, hand tools, all this and more were on display in the highly trafficked Machinery Row section of the Show floor. Builders of all sorts surrounded the equipment to witness live demonstrations as they determined which new piece should be ordered to improve the bottom line.



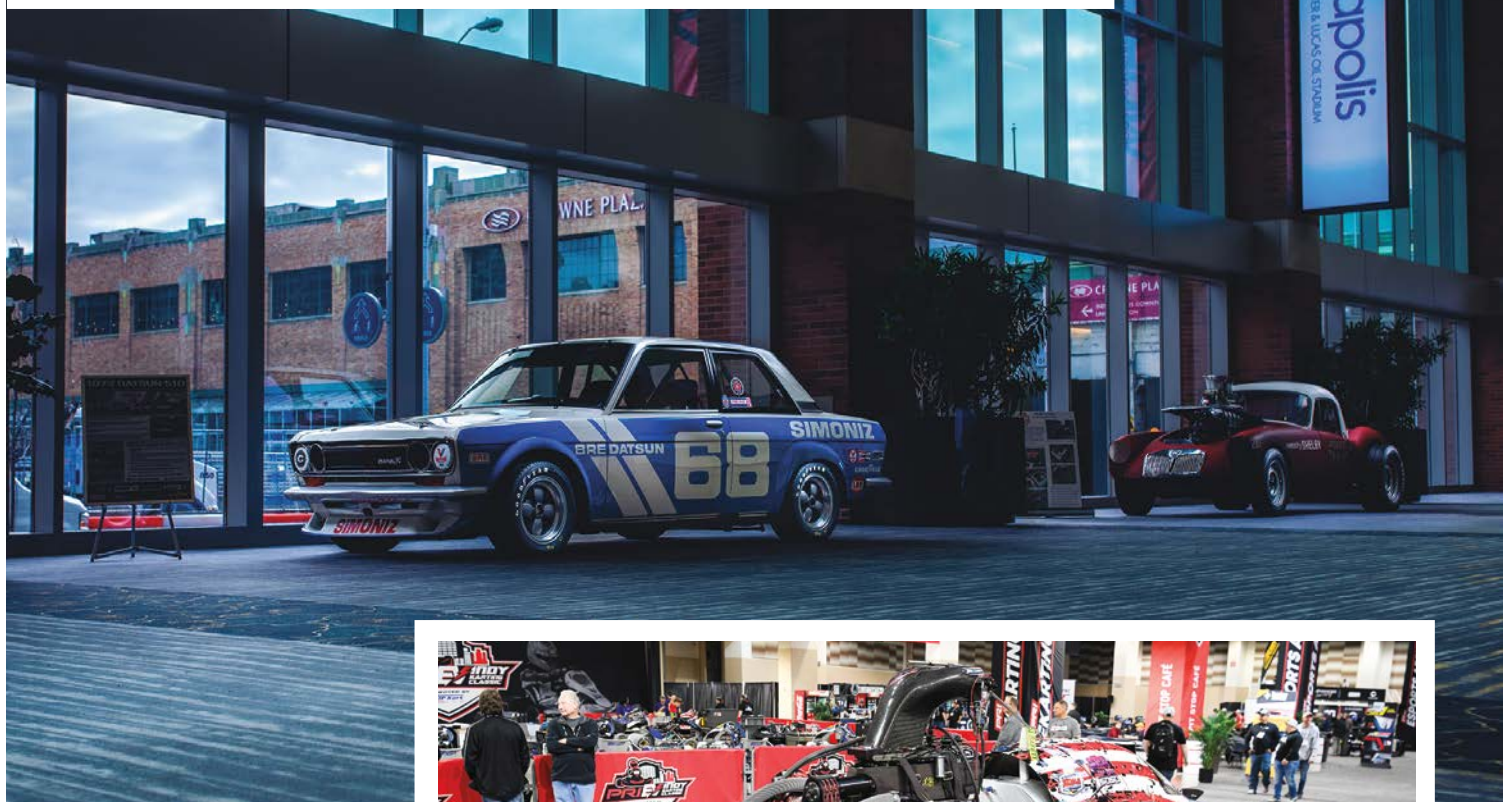




## VEHICLES

Racers are drawn to the parts, but the completed cars featuring those parts also makes Show-goers stop in their tracks. PRI's Featured Vehicles didn't disappoint as the latest array revealed historic to modern-day vehicles that compete on dirt, asphalt, and even water. Plus, the ever-popular hanging car display returned to greet industry members as they entered the Indiana Convention Center at the Capitol Cube entrance.

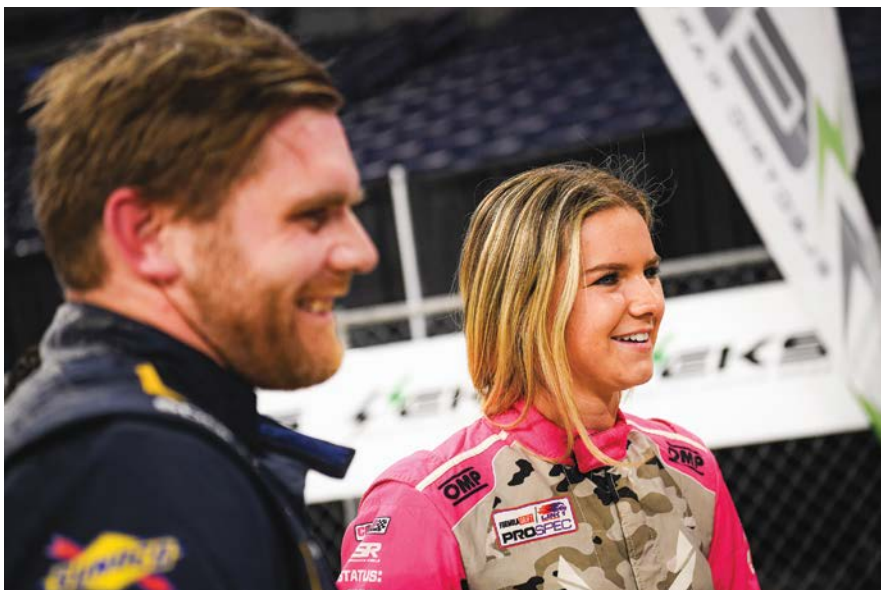






## VIPs

Recognizable faces and record-setters were everywhere at the PRI Show. Erica Enders was onsite after recently being crowned as the “winningest woman in motorsports,” along with fellow drag racing competitors Antron Brown, Leah Pruett and Tony Stewart, who were joined by the First Lady of Motorsports Linda Vaughn, Clay Millican, former drag racer and now TV analyst Tony Pedregon, plus NASCAR and sprint car standout Kyle Larson. IndyCar veterans Pippa Mann, Conor Daly, and Tony Kanaan made appearances, as did IMSA Michelin Pilot Challenge champion Robert Wickens, and Formula Drift’s Amanda Sorensen. Everywhere one looked, Street Outlaws was represented, including an appearance by Murder Nova.



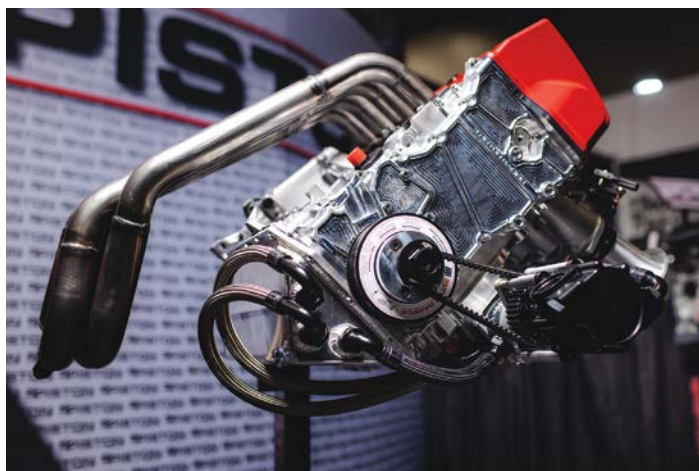


# SHOW STOPPERS

Ford vs. Chevy, Toyota vs. Honda, Cummins vs. Duramax, engine rivalries are alive and well and on display at the PRI Show. For three glorious days each December in Indianapolis, we celebrate all things motorsports-related, with some brand-loyalty banter mixed in for good measure.



**H**orsepower is the focal point at the PRI Show. Everywhere one looks, there is plenty of eye candy on display, built into the vast selection of race engines sprinkled throughout the aisles. We scoured the entire PRI Show to bring you 10 race engines that were built for use in midgets, drifting, drag racing, road racing, and more. From a personal project to the quickest side-by-side, and even one engine that arrived in Indianapolis fresh off the dyno, this selection represents what makes the racing industry so great.



## 4 PISTON RACING

4P NATIONAL MIDGET ENGINE

### ENGINE BUILDER:

4 Piston Racing

### APPLICATION:

USAC National Midget Series (D2 and Badger available)

### HORSEPOWER:

400 hp

### FEATURES:

- 230 pounds fully dressed
- 154 cubic inches
- EFI or constant flow
- Factory Honda crankshaft, block, and heads with modifications by 4P
- 250 lb.-ft. of torque
- Turnkey package

*"Most of our work is in endurance road racing, but I've always had a personal love of dirt racing. I did this more as a personal project, but it's a really viable engine for that type of racing."*

—Luke Wilson, 4 Piston Racing



## ARP

CAN-AM X3/ROTAX 900 ACE

### ENGINE BUILDER:

D&M Racing

### APPLICATION:

Can-Am Maverick and jet skis

### HORSEPOWER:

650 hp

### FEATURES:

- ARP 625+ head studs, ARP2000 main studs, ARP perimeter bolt kit
- Brian Crower 73.5-mm stroke crank, I-beam rods, solid cams and valvetrain, adjustable cam gears
- CP-Carrillo pistons with 9310 alloy pins
- TPR billet valve cover
- Turbosmart external wastegate
- Vibrant Performance clamps
- Xona Rotor turbo
- Whalen billet case and manifold
- Injector Dynamics 2600 injectors

*"This is the quickest side-by-side engine. So, ET would be like a 3.40 at 300 feet."* —Garrett Raymond, ARP



## FLUIDAMPR

TOYOTA 2JZ-GE VVTI 3.0L

### ENGINE BUILDER:

Dan Burkett from RAD Industries

### APPLICATION:

Toyota Supra Pro Drift Car

### HORSEPOWER:

1,000 hp

### FEATURES:

- Brian Crower billet lightweight 86-mm/3.0-liter crankshaft, HD connecting rods, 264 VVTI cams, valvetrain
- CP-Carrillo custom pistons
- RAD Industries Pro KRC power steering kit, 160 2JZ high-output alternator, carbon front timing covers, 2JZ-GE billet upper water neck, water inlet alternator bracket
- Hypertune intake manifold with Bosch DBW throttle body, billet valve covers
- BorgWarner EFR 9274 turbo
- Turbosmart HyperGate45 wastegate

*"The Toyota 2JZ is a sought-after inline-6...got its mainstay in the Toyota Supras. Then people single-turbo, twin-turbo, and supercharge them. It's just a solid, pretty reliable engine, and you can make a lot of power for a little bit of money." —Nick Orefice, Fluidampr*



## INDY CYLINDER HEAD

572-CUBIC-INCH CHRYSLER STREET HEMI

### ENGINE BUILDER:

Indy Cylinder Head

### APPLICATION:

Pro Street

### HORSEPOWER:

900 hp on 87- or 91-octane gas

### FEATURES:

- Indy Cylinder Heads block, cylinder heads, rockers, valve covers, intake manifold, gear drives, oiling systems
- All aluminum
- Weighs less than 500 pounds total

*"It's hard to buy a turnkey Gen II Hemi anymore. We're pretty much the only game left in town, so the whole [PRI Show] booth was dedicated to the Chrysler world." —Ken Lazzeri, Indy Cylinder Head*

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Caterpillar C15  
Cylinder Head



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\*Machines displayed may include optional accessories\*

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## INDY POWER PRODUCTS

7.3L GODZILLA

### ENGINE BUILDER:

Ford

### APPLICATION:

Road racing, drag racing, street car

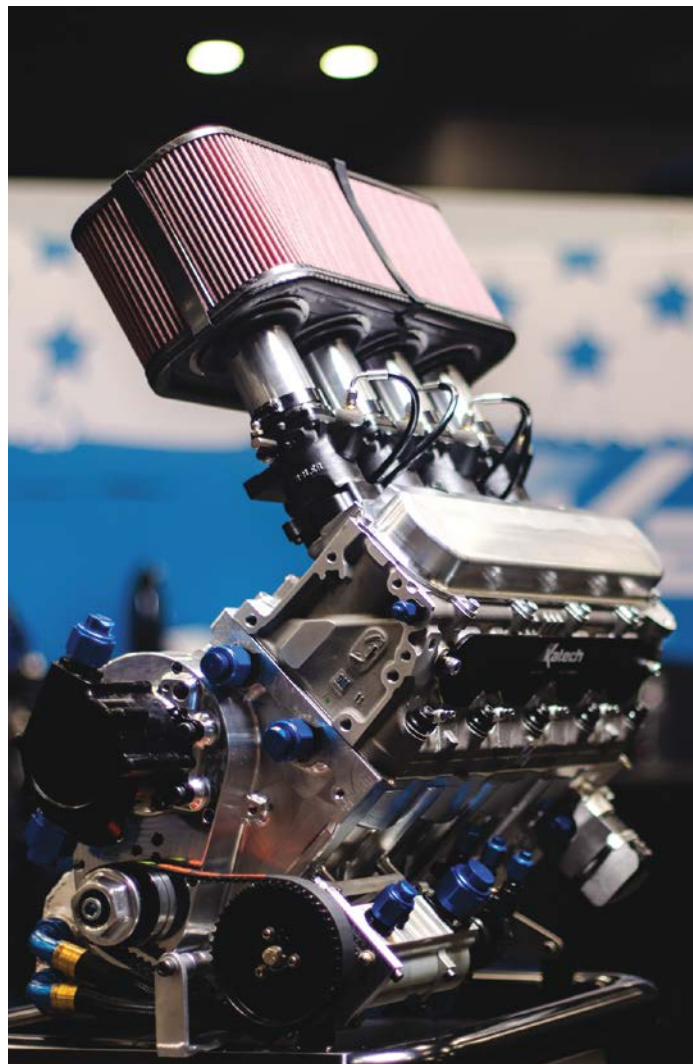
### HORSEPOWER:

650 hp

### FEATURES:

- InnoV8 Race Engines individual throttle bodies
- Cobra-style oil pan
- CNC-ported cylinder heads
- Billet aluminum front timing cover
- Billet aluminum pan rail
- Gerotor oil pump with billet rotors and billet aluminum housing

*"This is our crate engine package that has the Indy Power Products oiling system on it. This particular one is set up to go in the Cobra kit cars, but we have packages that will fit in Fox body chassis, F-100s, and things like that. We're really focused on the engine swap, getting the 7.3L package into anything for an engine swap." —Jim Ryder, Indy Power Products*



## KATECH PERFORMANCE

INLINE-4 PUSHROD NATURALLY ASPIRATED BILLET MIDGET ENGINE

### ENGINE BUILDER:

Katech Performance

### APPLICATION:

USAC, Xtreme Outlaw Series, POWRi Midget Series

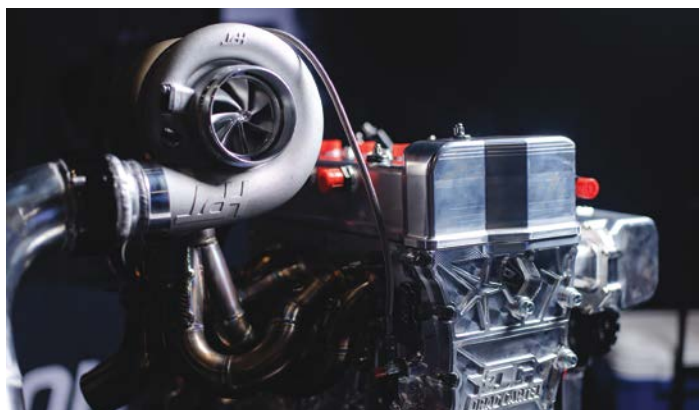
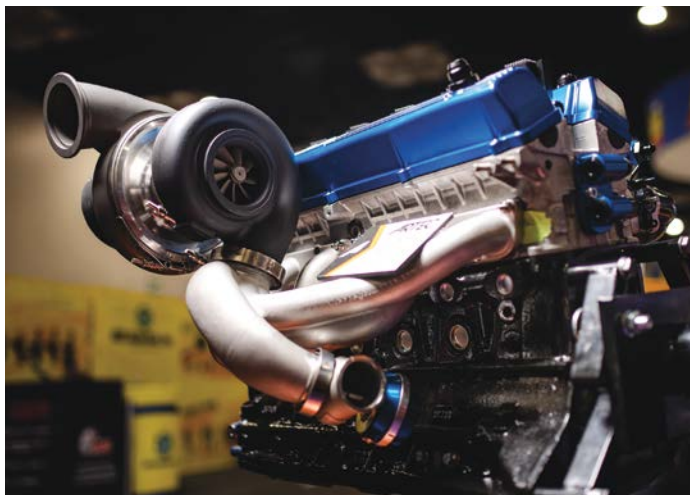
### HORSEPOWER:

375 hp on methanol, 350–360 hp on race gas

### FEATURES:

- Cylinder block: Katech billet LT Gen V-based four-cylinder
- Cylinder heads: Katech CNC-ported and polished chambers
- Custom billet crankshaft
- CP-Carrillo connecting rods and pistons
- Valvetrain: solid roller, Jesel lifters, titanium intake and exhaust valves, T&D shaft rockers, PAC springs, CHE Precision guides
- Kinsler individual throttle bodies
- Katech fabricated oil pan

*"This was our big unveiling at PRI! We literally pulled this off the night before we drove out to PRI. This engine was still on the engine dyno the night before we came." —Keenan Moffitt, Katech Performance*



## NOONAN RACE ENGINEERING

BASED ON HONDA BILLET K24

### ENGINE BUILDER:

Noonan Race Engineering

### APPLICATION:

AWD, Import racing, Time Attack, XFWD

### HORSEPOWER:

1,200 hp

### FEATURES:

- Water-jacketed version
- 6061 aluminum engine block
- 92-mm stroke, 9.1-inch deck, 87-mm bore

*"This should be a real impressive piece for just a little bit over two liters. We're Hemi people, LS guys, so to go to four-valve, it's been really impressive what we've learned from this platform so far. Even though it's a billet block, it's got superior cooling."* —Darrell Makins, Noonan Race Engineering

## PLATINUM RACING PRODUCTS

NISSAN RB20/25/26

### ENGINE BUILDER:

GReddy Performance

### APPLICATION:

Circuit or drag racing

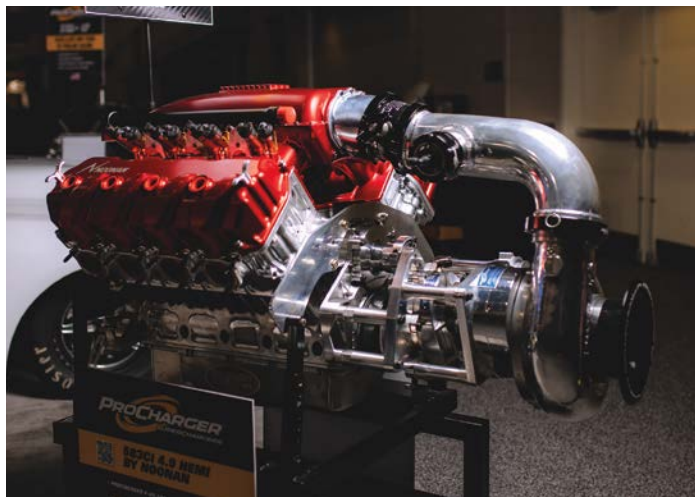
### HORSEPOWER:

1,450+ hp

### FEATURES:

- Artec Performance 70-mm V-Band Big Daddy exhaust manifold
- Carbon drive-by-wire ITB throttle bodies
- GReddy raised logo quad baffled cam covers
- GReddy/PRP race series trigger kit, LS1 alternator kit, IGN-35A coil kit
- GReddy/Artec turbo kit
- Turbosmart wastegate
- GReddy cam gears, timing belt, water pump pulley
- Dahtone Racing ITB DBW kit

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## PROCHARGER SUPERCHARGERS

583-CUBIC-INCH HEMI

### ENGINE BUILDER:

Noonan Race Engineering

### APPLICATION:

Raced in Street Outlaws No Prep Kings Gucci Nova, driven by Giuseppe Gentile

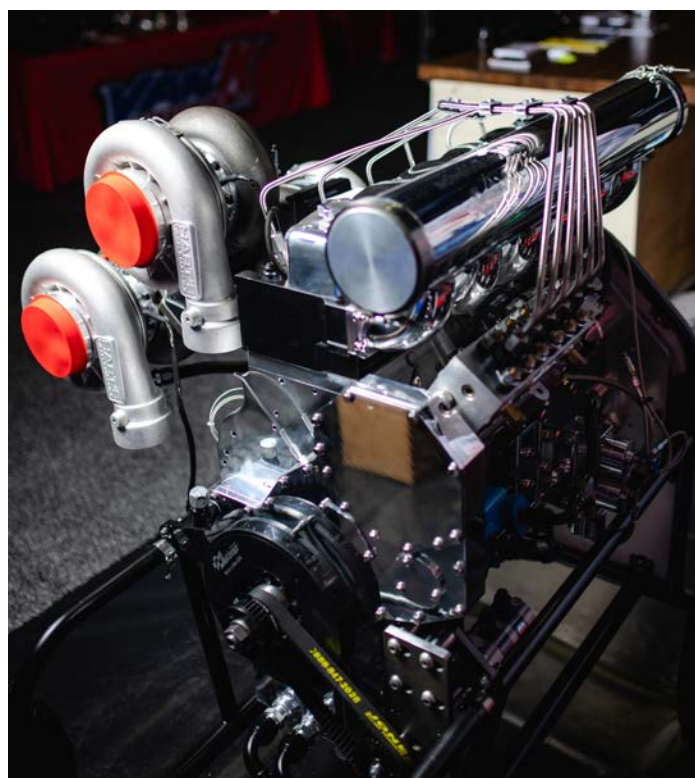
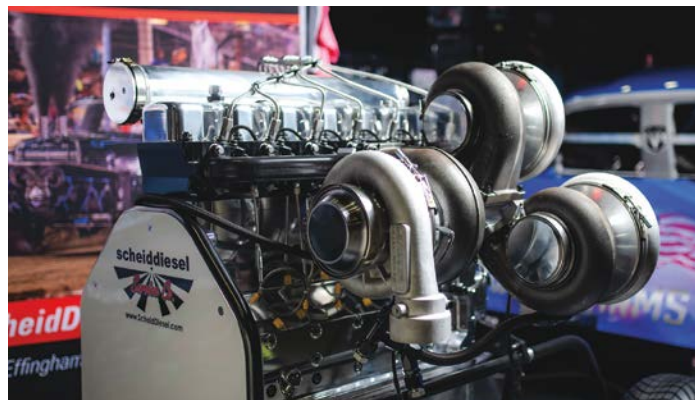
### HORSEPOWER:

4,000+ hp

### FEATURES:

- ProCharger F-4X-144
- ProCharger crank drive
- ProCharger bypass valves
- Noonan billet block and billet cylinder heads
- Noonan all CNC-machined billet intake manifold

*"The Noonan engines are probably one of the most durable and make the biggest power numbers, so probably about half the teams with NPK and quite a few in NHRA and PDRA Pro Mod, Pro Boost use these same engine combos. Noonan injector systems are pretty intricate to support this 4,000-horsepower range." —Sergio Shifman, ProCharger Superchargers*



## SCHEID DIESEL

BASED OFF A 6.7L CUMMINS

### ENGINE BUILDER:

Scheid Diesel

### APPLICATION:

Super Stock Truck Pullers

### HORSEPOWER:

3,500 hp

### FEATURES:

- Hart's turbochargers
- Fluidampr
- Scheid Diesel injection pump, aluminum block, cylinder heads, valve covers
- Stock crankshaft

*"What makes our aluminum block unique is that ours will still accept OEM parts. It can bolt right back into the same spot as your iron block used to be." —Jared Jones, Scheid Diesel*

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# MAINTAINING MOMENTUM

Ongoing efforts to contain costs and level the playing field have helped to keep asphalt Super Late Models healthy over recent years, while rising visibility and increased cooperation between series is establishing the path ahead.

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By **Bradley Iger** | Photo courtesy of ASA STARS



**A**sphalt Super Late Model racing has seen some significant changes over the past few years. As Jeff Munro of All American Speedway in Roseville, California, noted, what was once a fragmented landscape of rulesets, schedules, and events—particularly on the West Coast—has evolved into a more unified front thanks in part to the concerted efforts of touring series organizers.

"The Super Late Model stuff has really been narrowed down recently," Munro observed. "At this point we're basically down to one group—SRL (StockCar Racing League)—that's now doing this on the West Coast, and they're hosting a national series. That has really brought things together in terms of rules package continuity with the rest of the country. It's healthier to have one bigger group on the West Coast to spearhead the effort."

That organizational consolidation also made it easier for Munro to introduce the Wild West Super Series as a way to offer local racers additional opportunities to get on track. "Last year we did a little four-race season at All American Speedway with the same rule package. Among the folks who race with SRL, there are probably a dozen of them who are based right in our backyard, so we wanted to put something together where they could race close to home. And we purposely set up our schedule to avoid any overlap with the other races. There are also strong indicators that some of these race tracks are going to change hands in the near future for various reasons, and those changes will likely bring even more alignment amongst the series."

While these developments are encouraging for West Coast racers, Munro also quickly added that trends established in the Midwest and eastern regions of the country have really dictated the direction that the Super Late Model segment has taken on the whole.

## REFINING THE FORMULA

As is the case with many motorsports disciplines, one of the biggest challenges that has faced Super Late Model organizers has been the need to find an agreeable middle ground between cost containment and innovation. As racers continue to incorporate increasingly sophisticated technologies into their programs, sanctioning bodies are often forced to react. If they don't, they run the risk of driving away those without the financial means to do the same.

"Teams are getting smarter and smarter at a very rapid rate," said Tim Bryant of Five Flags Speedway, Pensacola, Florida. "It's a very intelligent bunch racing in Super Late Model, and with the advancement of technology, it's getting tougher and tougher to stay on top of it. Tech crews across the country are challenged way beyond where they used to be. They have to try to stay ahead of those advancements as well as the loopholes that these really smart crew chiefs



Several signs point to a healthy Super Late Model market, starting with the 56th annual Snowball Derby at Five Flags Speedway, which boasted one of its best car counts to date and an increased purse to match.

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The SRL has worked "to unify the Super Late Model rules here on the West Coast and worked with series back east to make sure these traveling teams would be able to compete over there, too," said SRL's Larry Collins. "Since then we've seen a lot more cars traveling the country and hitting those big events."

are continuously looking for."

Those loopholes are often related to aerodynamics, Bryant said. "It really starts with the bodies. We've got a lot of what we call 'North Carolina influence' in Super Late Model racing these days. These teams are very clever when it comes to aero, and many of them have wind tunnel access. They find ways to tweak the bodies—and we're talking about template body racing here. But small changes can make a big difference, so some folks will take a look at every template we have and find an area on the car where there isn't a template and find some way to gain an advantage. We're always looking for ways to keep that reeled in and keep the racing fair. I think we owe it to the smaller teams that don't have those resources."

Meanwhile Bob Sargent of the ASA STARS National Tour in Macon, Illinois, told us that greater cooperation between sanctioning bodies has resulted in a tangible effect on the costs faced by traveling teams. "Before

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Greater cooperation between sanctioning bodies has caused a tangible effect on the costs faced by traveling teams, said ASA STARS' Bob Sargent. "Before we started seeing this effort to establish common ground between the series and tracks, there were some things that were getting out of hand and hurting the sport."

we started seeing this effort to establish common ground between the series and tracks, there were some things that were getting out of hand and hurting the sport. Tires have always been a big concern—the amount of tires that the teams have been using, and the different tires that different regions have been using. It really starts to add up when it comes to costs. We've been putting a lot of focus into addressing that."

Larry Collins of the SRL National Super Late Model Tour in Bakersfield, California, said that his series sought to replicate many of the successful organizational strategies that have been implemented in dirt racing. "Wherever you run a dirt late model, it's pretty much the same set of rules and they're enforced in the same way, so there's consistency. The idea is pretty straight-forward: We wanted to ensure that teams could travel from one of our events to another series' event and not have to make significant changes to the car in order to be competitive. So, a while back Ricky Brooks and I started working to unify the Super Late Model rules here on the West Coast and worked with series back east to make sure these traveling teams would be able to compete over there, too. That was a big accomplishment for us, and since then we've seen a lot more cars traveling the country and hitting those big events."

Collins also noted how often NASCAR

Cup series drivers are using Super Late Model racing to hone their skills outside of their primary racing endeavors, while more and more young drivers are looking at the discipline as a steppingstone into the upper ranks of motorsports.

"The Cup series teams like to come out to the weekday events as a way to stay sharp," he explained. "We've heard from those teams that these Super Late Models are similar to the current Cup car from a drivability standpoint, and their participation keeps fan interest high. We have a lot of strong teams that are willing to travel and hit the big events as well, while in the past some of the bigger teams might've just focused on chasing points in one particular series. But we're also about the veteran drivers like Bubba Pollard who have been in this sport for a long time and will continue to be involved in the sport. And we have these young up-and-coming drivers who are an integral part of it, too. They may not have the name recognition that the veterans have, but they have the talent, and a lot of them are looking at these marquee events as a way to elevate their visibility."

### THE BALANCING ACT

As sanctioning bodies have worked to establish a consistent ruleset and contain costs throughout the country, the sealed engine package has become the power

plant of choice for the majority of teams in asphalt Super Late Model racing. These 350-cubic-inch Chevrolet small block-based power plants are supplied by approved builders like Hamner Performance and Progressive Racing Engines, but some teams are also allowed to build a Southern Super Parts Engine (SSPE) from an approved list of components.

"It's almost like a spec motor—anyone can build it," said Bryant. "It has cost ceilings on individual parts, and there's also a claim on that engine, which is currently at \$24,000. Like the bodies, some of these folks are finding ways to squeeze more

***"THE CUP SERIES TEAMS  
LIKE TO COME OUT TO THE  
WEEKDAY EVENTS AS A WAY  
TO STAY SHARP."***

power out of these components, but we had sealed engines win races in 2023, so the rules are pretty close. And occasionally we will pull engines after a race and take them to an authorized engine builder to do back-to-back dyno testing on the different engine packages just to make sure that we still have parity."

Bryant explained that sanctioning bodies are trying to keep significant year-over-year rule changes to a minimum as a general rule of thumb. "To some degree, constant changes frustrate the racers. One thing we hear from them is, 'Quit trying to save us money. Every time you do, you end up costing us money!' So we're cognizant of that."

With that in mind, the majority of tweaks for 2024 have focused on safety, like requiring steel roll bars on the right side of the car rather than aluminum, minimum thicknesses for aluminum bumpers, and steel plate protection on the front and back of the fuel cells. But there are a few rule tweaks that could affect performance more directly, too.

"We're now requiring mufflers on the cars," Bryant added, as "many of the tracks have

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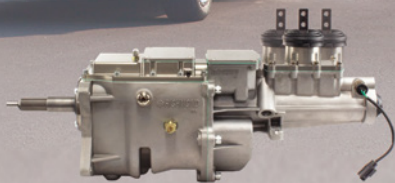
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## SUPER LATE MODELS



Super Late Model racing helps drivers across the racing spectrum. NASCAR stars visit the weekday events to keep their skills up, while up-and-comers see the series as a steppingstone into the higher ranks, SRL's Larry Collins said.

adopted pretty stringent noise regulations. On the engine side, we've disallowed a specific oil pump—a very high-dollar piece on a dry sump engine—and we had a valve spring change for 2024. They're relatively minor changes done in the interest of costs."

Although it isn't required, the ASA STARS National Tour is urging its competitors to use a 750-cfm four-barrel carburetor going forward. The 750 has long served as the standard for many events throughout the country, and series organizers are hoping to streamline things in the interest of parity and simplicity.

"It's the carburetor of preference," Sargent said. "What we've seen is that different sanctioning bodies and different tracks have tried to design rules so that it would give a lot of different carburetor options an equal playing field, but that's very difficult to achieve, so we want to focus on the 750. We think that's the best way to keep the playing field level for everyone at every event that they go to."

The introduction of a common Hoosier tire for asphalt Super Late Model racing follows a similar strategy of simplification in the interest of continuity and cost containment. "I

think that will be healthy for the sport," Bryant observed. "This is something that the racers have been asking for. When someone can go to a race track, unload their car, and do some practicing on the tires that they used at the last race—whether that was with the same series or a different one—they are going to save a lot of money over the course of the season."

## KEEPING THE PACE

Although ongoing challenges exist for sanctioning bodies and event organizers, there's a near-universal sense of optimism about the future of asphalt Super Late Model racing.

"Right now, there's this trend of promoters and tracks one-upping each other with bigger and bigger payouts and things like that," said Munro, who predicted December's Snowball Derby was on track to be one of the largest events in Super Late Model history, when interviewed just prior to the event. "It seems like a lot of it is being inspired by what's going on in the dirt world—events like the Eldora Million, where those drivers are racing for a million dollars to win. I think a lot of folks in asphalt Super

Late Model want to get these events into that realm.”

With an increased presence through streaming services like FloRacing, that level may be within reach sooner rather than later. “The amount of exposure that’s available even at the local level is unprecedented,” Collins said. “The streaming services have been a game changer in terms of how people follow the sport, and how fans can access the races even if they can’t get to the track. When it was first introduced, people had mixed feelings about streaming. There were concerns about it hurting ticket sales and that kind of thing. But it’s part of the sport now, and as far as we’re concerned, the results have been overwhelmingly positive. It creates more exposure for our teams and our events.”

Bryant cited another similarly important trend as well. “The developmental teams are coming. The drivers have gotten younger. A lot of that goes back to karting and quarter-midget racing. These kids are getting a really early start, and by the time they’re 13 or 14 years old, they’re ready to step into a Late Model. We’re seeing a lot of that, and many of them have their sights set on the higher levels, so they want to run the marquee events and make a name for themselves. That used to be kind of an anomaly in this type of racing, but it’s almost becoming the norm. I think that as long as the economy stays healthy and there’s funding out there for these younger drivers, it’s a trend that’s going to stick around for a while, and we’ll see even more of it.” **PRI**

## SOURCES

**All American Speedway**  
allamericanspeedway.com

**ASA STARS National Tour**  
starsnationaltour.com

**Five Flags Speedway**  
5flagsspeedway.com

**SRL National Super Late Model Tour**  
srlsouthwesttour.com

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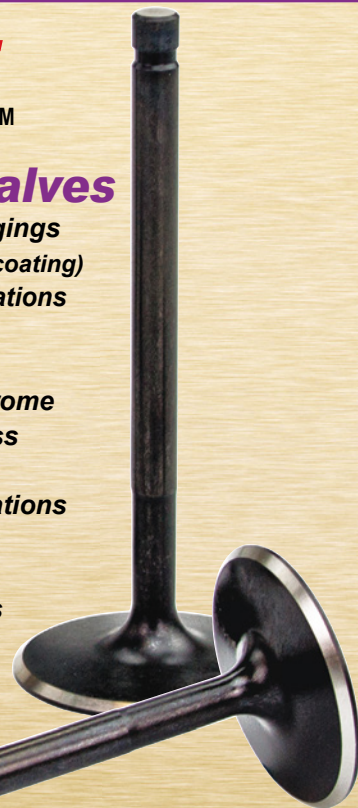
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By Drew Hardin





**“W**e like to experiment,” said Tim Bryant, who, with his brother Randy, operates Five Flags Speedway in Pensacola, Florida. “We like new things. We don’t like to just do the same things over and over—with the exception of the Snowball Derby, which we want to do over and over for many years to come.”

We spoke with Bryant while he was in the thick of preparing for the 2023 Snowball—the 56th running of the track’s marquee event—but he generously took the time to share his vision of the Speedway and its place in the racing world, both for his local community of racers and for those who travel much farther to visit the track every December to close out their traveling season.

Five Flags Speedway opened in 1953 and is named for Pensacola’s “City of Five Flags” nickname, which represents the various governments that have ruled the city during its history. The track’s paved half-mile, with 15-degree banking in the turns, provides what Bryant described as “a short-track fan’s idea of what short-track racing should be. It’s a fast track. It yields good side-by-side racing. And I believe it showcases a driver’s talent equal to the car’s technology. The best car with a mediocre driver isn’t necessarily going to always win out over a mediocre car with the best driver.”

Five Flags is known as a Super Late Model track, Bryant acknowledged, largely due to the influence of the Snowball Derby. “But we try to have a diversified schedule. We have a strong local contingent of different levels of racing.” In a busy schedule that runs from March through December, the track hosted the ASA Southern Super Series several times, Alan Turner Pro Late Models, plus events for sportsman,

pure stock, Crown Stock, Outlaw, pro truck, and other divisions.

And then there’s the “other different activities,” as Bryant described them, that take place at the facility, like drifting, monster trucks, and car shows. “During COVID-19 we had a drive-in theater in the parking lot,” he said. “We try to keep the place busy.”

For most of its regular-season races, Five Flags Speedway draws competitors primarily from the Southeast, East Coast, and Midwest, Bryant said. For Snowball, on the other hand, “we’re coast-to-coast. We’ve got several Canadians entered, one racer from Mexico, and we’ve got California to Maine to the tip of Florida to Colorado.”

## ENHANCE THE EXPERIENCE

The Snowball Derby, which started as a 100-lap event in 1968 and now runs for 300 laps, was the brainchild of the track’s then-owner, Tom Dawson. “I’m always quick to say that, when my family took over the race track in 2004, we inherited a marquee event,” Bryant said. “We take very little credit for what the Snowball Derby is, but we’ve worked really hard to enhance it. We know that each and every year we need to do something a little different, to try to enhance the experience. Especially for the fans, so their experience is more than just coming to a race.”

***“I’VE ALWAYS BEEN A BELIEVER THAT  
ACTIVITY SPURS ACTIVITY.”***



To that end, the Snowball Derby is now nearly a week-long festival. It starts with a kick-off party on Tuesday evening attended by the racers and livestreamed on Racing America. "People can get out and actually mingle with the drivers," Bryant said, "and we do the same thing at the track on Wednesday night. We make a bit of a production about our qualifying drawdown, which signifies the qualifying order for the Snowball Derby. We put a stage in the pits and bring the drivers up, do short interviews with them, and let them do a draw. We have a local charity come in and serve chili, and we have live

Tim Bryant describes Five Flags Speedway as "a short-track fan's idea of what short-track racing should be. It's a fast track. It yields good side-by-side racing. And I believe it showcases a driver's talent equal to the car's technology."

music. We have a lot of fun with that."

Four nights of racing lead up to Sunday's main event. "We're fortunate to get some participation from NASCAR drivers each year, which is big for the fans," Bryant said. He also believes those big-name drivers motivate "some of the short-track guys to go out and compete and beat those guys. We bill this race as the best-of-the-best of short-track racing. Certainly, we like the NASCAR drivers, but the tried-and-true short trackers are what this race is about."

Much of the lead-up to the Snowball Derby is designed "to make our local drivers who race with us all year long feel a part of it," Bryant added. That includes The Alan Turner Snowflake 100, the Pro Late Model race run

the night before the Snowball. "This is its 20th year, and it has turned into a huge event in its own right," he said. "It's certainly one of the five biggest Pro Late Model races in the country. We're pretty proud of that."

"I've always been a believer that activity spurs activity," he continued. "The more we can draw in these guys, so each event for each division is their pinnacle for the season, that builds excitement. When guys come back to racing next March and start the new season, they're already talking about Snowball. So we're fortunate that we've been able to maintain that enthusiasm."

## AFFORDABLE FOR RACERS

Encouraging local racers to participate in the star-studded Snowball Derby is one of several strategies Bryant employs to help his regulars, and those who don't have the budgets of a national touring team.

"We work really hard to come up with ways to make racing more affordable for the racers, and that's probably the biggest challenge we have, because costs are escalating at a rapid pace." For example, Bryant elected to

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maintain the limits he set on tire purchases during the pandemic-related shortages. "We're cognizant of the costs to these teams to be on the road for multiple-day shows, and we found out that we can conduct races and still limit the amount of tires people can buy—except for the Snowball Derby."

Bryant also "works hard on rules packages to keep costs more affordable," he added. "We work well with other sanctioning bodies, and we're tightly affiliated with the new ASA group and involved in several committees within the ASA organization. We try to communicate with them and other sanctioning bodies outside of ASA and make sure that our rules are consistent. If there's a new widget that comes on the market that costs a gazillion dollars, we try to make sure that we can keep that off of these cars. It's hard to deny the fact that the better funded teams are always going to have a little bit of an advantage. But we pay close attention to the underfunded teams. We need them to continue coming to the race track, so we want to make sure that we do anything within our powers to help that happen."

Those strategies appear to be working.

Bryant said that car counts have remained "pretty steady this year. And our Southern Super Series that we also manage has averaged 30 cars a race. We're pretty proud of that."

When asked if he and the Five Flags team did anything differently than other tracks in the area, Bryant said, "I don't know that I can put my finger on anything that we do differently, especially with neighboring tracks. Mobile Speedway to our immediate west; Stan Narrison, who runs Montgomery Motor Speedway just to the north; Scott Menlen, who runs the Fairgrounds Speedway at Nashville; Ben Sumner, who runs Crisp Motorsports Park in South Georgia, we all talk enough and work well enough together that we're all kind of doing the same things. Even though our tracks are different, and our programs may be different, our philosophies are the same. I think that's what racers like. They want some consistency wherever they go."

That level of communication is very helpful in avoiding conflicts when it's time to schedule races, Bryant said. "We work extremely close with the tracks in our region during the



Tim Bryant (seen here) and his brother Randy took over Five Flags Speedway in 2004. "Our mission statement, if we had one, would be simply to make everyone's experience, regardless of which gate they go through, a good one," Bryant said.

offseason. We make sure that if we do run on the same weekends, we're running different divisions. And for the most part, we work with other series, even on a national level. We respect big events. We make sure that we don't schedule an event of any size on top of an established marquee event for another track, and it doesn't matter where it is."

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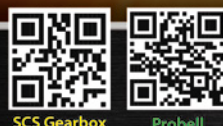


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His relationship with neighboring tracks even extends to his crew pitching in when needed. "It's not unlikely to see us helping at a neighboring track, and it works both ways. They come in and help us, too. We feel very good about the relationships that we have with other tracks."

## COMMUNITY-MINDED BUSINESS

The Speedway's relationship with its neighbors is somewhat unique because the track has been there for 70 years. "Our community has kind of built up around Five Flags Speedway," Bryant pointed out. "We're

a very community-minded business, and we participate in a lot of things locally. We contribute, and we make our facility available for a lot of organizations of a charitable nature. So we have a good relationship with our local community. Based on what I know some tracks have to deal with, we feel very blessed that we've got that kind of relationship with our community."

And vice versa. Businesses in the area realize "how important, especially an event like the Snowball is to the local economy," Bryant added. "Our county tourism bureau

While best known as a Super Late Model track thanks to the popularity of the Snowball Derby, Five Flags Speedway has a diversified racing schedule "with a strong local contingent of different levels of racing," Tim Bryant said. The track has also hosted drifting and monster truck events, among other activities.



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"We inherited a marquee event," Tim Bryant said about the Snowball Derby, and the Five Flags team has since then "worked really hard to enhance it." Snowball's Super Late Model main event now caps off almost a full week of activities and races.

helps us with some marketing efforts for the Snowball, because they know it fills up a lot of hotel beds at what would normally be a down season for a tourist town. So they're willing to help us, and we're grateful for that."

At other times of the year, though, being in a tourist town means the Speedway has to compete for the entertainment dollar. "During the summertime, we scratch and claw, like most tracks, to draw an adequate number of spectators to help us pay for our events," Bryant said. And then there's the competition from the digital world. "Like most tracks, we're streaming most of our events, so it's our job to make the experience at the track even better than before, so that people don't just decide to stay home and watch it on TV."



Facility improvements are among the ways he's working to keep fans in the stands, but he admitted that's "a work in progress. We couldn't make all the improvements that we wanted overnight once we took ownership, but every year we put something back into the track. Over our 20-year run we've made a ton of improvements. After we purchased the track we put in some new grandstands, and we've built some hospitality suites. We're continuing to upgrade as we go. And we think that has

worked in our favor. If we had made all the improvements on Day One, once the new wears off, you've got to find something else to get people's interest. So out of necessity, I think slow, steady growth has been our friend.

"You know," he added, "our mission statement, if we had one, would be simply to make everyone's experience, regardless of which gate they go through, a good one. We do everything and to the best of our ability to make sure that happens." **PRI**

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# OLD CARS FAST TIMES

Nostalgia drag cars are getting faster and drawing bigger crowds, but is the rest of the industry paying attention?

By Steve Statham | Photo courtesy of Nostalgia Drag Racing League



Attending a nostalgia drag racing event may seem like stumbling into a time warp, but it would be wrong to assume that nostalgia racing is simply some sort of historical replay, like a Civil War reenactment on a battlefield. The cars keep getting faster, the crowds keep getting larger, and hidden yet modern technology is making the cars safer.

It's a dynamic scene, but what does that mean for a motorsports industry that has traditionally preferred to look forward, not backward? Track-level anecdotes suggest there are plenty of opportunities for savvy racing suppliers to make inroads in this growing market.

Wayne Ramay of Performance Forge in Montebello, California, drives the fastest blown A/Fuel dragster in the nation. "Most classes have grown, although some have not. As for what is different today, the current racers seem to be more serious about performance, while two decades ago the early racers were more about barbeques and socializing," Ramay reported. "The bracket classes, the slower classes, there seems to be a lot of growth in Nostalgia Eliminator, 7.0 Pro, the drag racing classes that race against an index, so it makes it a little easier to be competitive.

"Recently I've seen even Top Fuel and Funny Car growing," he said. "Top Fuel had two fields at this last race, a top-half field and a bottom-half field. And Funny Car just had gobs of cars. There's definitely some



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Many nostalgia drag race cars, like Mike Ruth's Bob Glidden Fairmont, balance their nostalgic look with contemporary parts in the interest of safety. Ruth installed a Funny Car cage in the Fairmont "because I'm going faster than what the rules require. Most people don't even notice."

growth going on with people building cars. My class, unfortunately, A/Fuel, that's not the case. We've shrunk a little bit, so not all the classes are growing, but a good majority of them are."

Nostalgia drag racing is steadily raising its profile among a more general automotive audience as well. In late November, "we were at the Muscle Car and Corvette Nationals, the largest indoor show of its kind in the country," said Mike Ruth, who drives a Bob Glidden Ford Fairmont with the Midwest Pro Stock Association. The Muscle Car and Corvette Nationals is held every November in suburban Chicago, and features hundreds of the finest restored and original vintage muscle cars and Corvettes. "When I left after the show, the organizer shook my hand and said, 'Your group, your display, was the talk of the whole show. You hit it out of the ballpark.' We were mobbed the whole time."

## SPEED AND BALANCE

One thing keeping the sport interesting is that the cars keep getting faster. "I know we

have increased significantly," Ramay said. "Even just over the last five years, we've taken off another tenth or two-tenths of a second. It keeps getting faster. We made some rule changes last off-season to try and slow us down a little bit. I think people are afraid to join the class because it just looks like it has run away and it's hard work and going to be hard to compete."

Merritt Snyder, with the Pennsylvania-based Mid-Atlantic Nostalgia Drag Racing Association (MANDRA), has seen more cars hit milestone ETs. "I think we had more 8-second cars this year than ever before," Snyder said. "At the end of the year we do acknowledge the low ET for the year. This year I believe there were at least four cars that had run 8-second runs. There have been a lot of years where there was only one person with an 8-second run. But they are not causing problems in the class. I did kind of see this coming when we passed 1982 [on MANDRA's 40-year cut-off], because now all of a sudden, an '82 Camaro Pro Stocker is a nostalgia car, theoretically."



A major factor behind those quicker times is the adoption of modern speed parts. That creates a potential conflict in striking a balance between new-generation technology and true nostalgia, but the racers and organizations we spoke with didn't see it as a problem.

"Most of the changes we make don't have an impact on the appearance," Ramay said. "They're much more hidden, like the transmissions or the torque converter, or internals to the engine that people aren't seeing. There are some electronics on the car. We're allowed to run electronics in my class. Learning how to get the most out of those electronics is just something that we learn. Some people are better at that than others, and it maybe shows in their performance a little bit."

Ramay pointed out an example of hidden parts on his car that improve performance but don't ruin the nostalgic affect. "I've got some brand new pistons that are a new, recent design," he said. "They're using them in Top Alcohol Funny Car and Top Alcohol Dragster. It's a great design that really stabilizes the piston. I've started running those in my car and it's really helped."

Butch Hill, with the Nostalgia Drag Racing League (NDRL) in Mooresville, Indiana,

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"There's nothing old in my car," said Wayne Ramay of his A/Fuel dragster, which is powered by a "brand new Alan Johnson billet Hemi and the best parts you can buy anywhere. It's not that you have to have old parts to sell to us."

acknowledged some concessions that have been made in incorporating modern technology. "We have let Grids into the program. Guys can now use an electronic Grid. But that Grid can't control the car going down the track. It can control the car in the pits, and you can set your timing and so

forth in the pits, but you can't have things like traction control to control the time on the track," he said. "With that, we're trying to stay true to the old way as best we can with the technology that's out there."

Safety, of course, is a primary reason for incorporating newer parts that aren't strictly period correct. "My car, originally when it was raced in 1979, did not have a Funny Car cage in it. Because I'm going faster than what the rules require, we put one in," Ruth said. "A lot of the guys did that. Most people don't even notice. I have a little bigger wing on my car than was used back then. The big thing that they notice is the bodywork—the tires and the wheels, the hood scoop, and the wheelie bars. The fans want to see the period-correct hood scoops, they want to see tunnel ram carburetors, the big Holleys, and they want to see the Lenco transmission."

Fortunately, safety upgrades in the nostalgia ranks haven't been controversial. "They're definitely doing restrictions, whether it's fire suits or SFI tags on wheels. If you go too fast, they're most definitely making more requirements on us for safety," Ramay said. "And none of us really fight that. I have a beautiful two-piece fire suit that's good for the next five years, but it's not good after the first of the year. My class now requires



MANDRA's Merritt Snyder, who races this 1965 Comet, acknowledges that getting younger participants into nostalgia racing is a challenge. However, the series has implemented a 40-year cut off, which now allows cars manufactured up to 1982 to compete.

a one-piece suit. So I went out and bought one. It's just part of the deal.

"I actually have a spreadsheet for my car that lists every piece of safety equipment on the car, who made it, what the number is, and when it's due for recertification, so I don't lose track," he added.

"Our rules, as far as the safety part of it, are extremely strict," Ruth said. "All of our cars are NHRA certified. All of our drivers are NHRA licensed. We had HANS devices long before anybody thought about having them. There are fire extinguishing systems in the cars. We're all about safety. Nobody wants to get hurt or hurt anyone. The caliber of cars in this group is top-notch. They're all high-dollar cars driven by people who have been driving these things for 20, 30, 40 years."

If striking a balance between modern parts and nostalgia appearance hasn't been too much of a challenge, the bigger adjustments surround generational issues. After all, what qualifies as "nostalgic" is a matter of perspective. "The age group is changing. The nostalgia guys are nostalgia. The age group is higher," Hill said. "At some point we're going to have to move it up just to keep the crowd involved and keep the car counts up."

One of the boundaries in nostalgia drags is the shift from carburetion to fuel injection in production vehicles and race cars, and all the technology associated with EFI. But it is inevitable that as the EFI cars age, they'll become an increasing part of the nostalgia scene. "The 1995 car used to be brand new, and now it's considered more of a nostalgia car, an antique vehicle. We keep going forward with these things," Ruth said. "Originally it was all 1960s and '70s cars. I'm of that era. I remember Bill Jenkins and Sox and Martin, all of that. But you get a guy that's in his 30s or 40s? He doesn't know who they are. That was way before his time. So we have it all. We're doing everything from the 1960s up to the mid-1990s. I think we're doing something right. We have more bookings than we know what to do with."

For MANDRA, flexibility with rules is one way to attract new competitors to the sport. "A problem that we really do see is getting younger members, because it takes significant money to get an older car and

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get it back in good condition and prepare it for racing. That's a problem," Snyder said. "What we're trying to do is be a little more lenient on rules. Ten years or so ago, if a car had an aero scoop or a wing, no chance. Now we're kind of going by the three strike rule. If you have a car that has an aero scoop, a wing, and 33-inch tires, we're probably going to turn you down. But if your car has a wing, and this guy has an aero scoop, and everything else is okay, yeah, we'll overlook that. We don't want to chase people away."

### OPEN FOR BUSINESS

With the growth in nostalgia racing, there are opportunities for aftermarket companies. It's not hard to make a case that nostalgia drag racing is an underserved market.

"Watching a lot of drag racing this weekend as it finished up its season of the Big Show stuff, we don't have a fraction of the advertising," Ramay said in November. "People are just not marketing to us as racers, for whatever reason. I don't know if it's their view of nostalgia racing, what they think that is, from years ago maybe? Years ago, it was a bit different. In fact, they've recently changed the name of the last nostalgia race of the year, the Hot Rod Reunion, because they didn't want it to be a reunion anymore. They want it to be a race."

"Most of our cars, with the exception of some of the slow classes, are all brand

new. There's nothing old on my car," Ramay continued. "I'm not racing an old car with a picked-up, warmed-up old engine. Mine has a brand new Alan Johnson billet Hemi in it and the best parts you can buy anywhere. It's not that you have to have old parts to sell to us."

When it comes to both the drivers and the audience, there is considerable crossover between nostalgia racing and a more current, mainstream racing market. "The way I look at it, every guy that's in nostalgia racing, a lot of them have a more modern race car as well," Hill said. "When they're not racing with NDRL, they're racing in another program of some sort that's the modern EFI type stuff."

Some of the names that served the racing market when these vintage cars were new are discovering opportunities once again as the cars age into the nostalgia ranks. "I've had several really good conversations and meetings with the lady who runs Hairy Glass. Back in the day, that was where everybody got their fiberglass," Ruth said. "She's actually giving the guys a discount, and she's selling the stuff. As more people start to build these cars, why not? She has the original molds for, say, a 1979 Camaro or all the Glidden cars except for mine—they started with Glidden with the EXP. It's really good stuff, and she's noticed an uptick."

The view from the track is that nostalgia drag racing has a long way to go before

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One thing keeping nostalgia racing interesting is the fact that the cars keep getting faster. "Even just over the last five years, we've taken off another tenth or two-tenths of a second," said A/Fuel dragster competitor Wayne Ramay.

peaking. "We've had a lot of people who've come up and shown us pictures on their phone and tell us, 'Hey, I've got this Comet that I'm doing,' or 'I've got this Chevelle, I'll be out next year,'" Ruth said. "Whereas a couple of years ago, everybody was saying, 'Nah, it's too expensive,' or 'It's a fad, it's going to go away.' Nostalgia is not going to go away. Not just racing, but everything. Everybody thinks that whatever it was back when they were a teenager or 20 years old, that was the best. So why not ride the wave if you can? We're about giving everybody a good time and letting them relive what they feel were the best years of their lives." For nostalgia drag racing, the best years may still be ahead. **PRI**

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# HEAD KNOWLEDGE

Advances in design, materials, and construction methods are producing helmets that are safer, more comfortable, and more versatile than ever before.

By Bradley Iger

**L**ike many aspects of motorsports, helmet design is largely a balancing act between features, function, and cost. If one of these aspects is allowed to run wild, it typically comes at the detriment of the other two, and that makes breakthrough innovation a tricky proposition.

But thanks to advances in development and production technologies, helmet manufacturers are finding ways to innovate that simply weren't feasible a decade ago. As a result, racers are getting advanced protection that's increasingly dialed in to their specific needs.

"Today we're using software like Fusion 360 and Solidworks for development, and 3D printing tech for prototyping," said Gary Peters of Simpson Race Products, New Braunfels, Texas. "It really speeds up the development process, but we also still use clay modeling for some ideas. Sometimes that ends up being a quicker way to create something or make a change. The construction materials have evolved significantly in recent years as well, and those have led to improved manufacturing methods with more consistent results. For example, in the past we used composite fabrics, and we would coat in the resin by hand after each piece of material was installed. Now we're using more pre-preg materials, and that reduces excess resin in between the layers, which results in lighter shells with better fit and finish."

Technical advances have also ushered in other improvements in aspects like aerodynamics and visor sealing, and that in turn has allowed manufacturers to put a greater focus on comfort and modularity while still ensuring that their products meet the latest safety standards.



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## HELMETS



Impact Racing has been able to achieve safety certifications while also minimizing the size of its helmets, which improves driver comfort. "Anyone can pass those tests if they build a big enough helmet," said Ben O'Connor. "The challenge is achieving those safety targets while keeping the helmet small."

## PLUSH APPOINTMENTS

While safety is ultimately the top priority in helmet design, comfort is also a core development focus. Because of racing's physical demands, and the inherent need for a snug-fitting helmet to provide effective protection, manufacturers are continually on the hunt for ways to make wearing a helmet a less cumbersome affair for racers. Over the years, that's brought features like air venting and interchangeable cheek pads into the fold, and as Steve Russell of Pyrotech in Redmond, Oregon, explained, manufacturers are now taking those concepts a step further.

"We've now designed the inner liner of the helmet into a four-pad system, so you can essentially re-size the helmet to get an absolutely perfect fit," Russell explained. "You can change any one of those pads, or all four of those pads, with different

thicknesses to essentially tighten or loosen the helmet as needed to better fit the shape of your head." Separate from the interchangeable cheek pads, this four-pad system focuses on the crown of the head to additionally improve fitment.

Danilo Oliveira of G-Force Racing Gear in Acworth, Georgia, noted that the company has adopted a similar approach across its helmet lineup. In an era when the majority of helmet purchases are made online rather than in-store, this adjustability made it much easier for racers to purchase a helmet that feels custom-made.

"Someone might find that a medium-sized helmet is too tight, and a large helmet is too loose, so they don't really have an ideal solution either way," he said. "With a system like this, we can suggest trying the large helmet with more padding or using the medium with a little less padding.

*"WE'RE USING MORE PRE-PREG MATERIALS, AND THAT REDUCES EXCESS RESIN IN BETWEEN THE LAYERS, WHICH RESULTS IN LIGHTER SHELLS WITH BETTER FIT AND FINISH."*

Sometimes it's not the shell of the helmet that is the issue, it's the padding inside. If we can provide the opportunity to the customer to make those small adjustments, it can really improve things if they're in between sizes. Two millimeters can make a difference when it comes to comfort."

Russell said that while Pyrotec was developing its crown pad system, it also took a closer look at how air flowed into and out of the helmet to further improve comfort.

"Years back, at the very top of the inside of the helmet, you'd have a smooth crown pad and a smooth headliner, and some manufacturers would pump in air through a couple of ports at the top of the head, but the air had nowhere to go," he explained. "You've got to have air movement in order to have a cooling effect, so we spent a lot of time looking at that. Our design utilizes a double inner EPS core: Air blows in through certain ports and is routed through channels in the liner and the head pad. We also use exhaust vents at the back of the helmet to ensure that the air has to go over the top of your head and then out of those vents. Creating a place for the air to go provides that flow."

Ben O'Connor of Impact Racing in Indianapolis, Indiana, said that comfort is being improved through weight reduction



G-Force Racing Gear is improving helmet fit through the use of interchangeable pads inside the helmet. They allow racers to make small adjustments, "which can really improve things if they're in between sizes," said Danilo Oliveira. "Two millimeters can make a difference when it comes to comfort."



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Given the array of different accessories that a helmet can be outfitted with, manufacturers are now making a stronger effort to offer these options right out of the box. That way racers don't have to do it themselves and risk compromising the helmet's integrity.

as well. "The size of the helmet affects that. We don't want a large helmet, and ours is significantly smaller in diameter than the majority of what's on the market today while still achieving the same safety certifications. Anyone can pass those tests if they build a big enough helmet. The challenge is achieving those safety targets while keeping the helmet small."

Oliveira told us that material improvements have been the key to bringing that mass down. "When you reduce a helmet's weight by, say, 100 grams, it's going to make a noticeable improvement in driver comfort," he explained. "The driver's head is being subjected to significant G-forces in a race car dozens—or even hundreds—of times during a race. So, if you can reduce weight by even that much, it's going to make a difference in fatigue, and in turn overall comfort, throughout the race. For us, the materials are still primarily fiberglass and carbon. The difference is that, in the past, a carbon helmet might have actually been 70% carbon. Now we have helmets that are 100% carbon. Before you had to have some fiberglass involved in order for the helmet to provide enough protection, but with the

latest materials that are available, we're able to provide that protection entirely with carbon. That makes the helmet much lighter as a result."

## TAILORED TO THE TASK

Manufacturers typically offer a range of different shell types to provide racers with a helmet that's specialized for a given application, whether that's the aerodynamic needs of open wheel racing or the environmental concerns of off-road competition. While these design elements address some of the key requirements of various use cases, recent development efforts have seen an increased emphasis on modularity as well.

"The goal is to get these helmets to accept a wider range of electronics, and more ear-cup capable," said Peters. "There's got to be room in there to make ear cups work, so you've got to have cheek pads of different shapes, and relief in the EPS to provide that space. And, of course, all of that has to be tested to ensure that the helmet still provides proper protection."

With the array of different accessories that a helmet can be outfitted with, and racers' potential concerns about

compatibility and aftermarket installation hassles, O'Connor said that manufacturers are now making a stronger effort to offer these options right out of the box.

"The big thing for us is that we want to offer all of that in one turn-key package," he explained. "So if you're racing in the Baja 1000 and you want to have a helmet skirt, FHR posts for a HANS device, and you're planning to run PCI wiring in the helmet with ear cups as well as a FluidLogic hydration system, we can send you a helmet that's immediately ready to go. That means you don't have to send it out to five different companies for retrofitting, or risk your safety by doing it yourself, which could potentially create a dangerous situation if the helmet is

*"THE GOAL IS TO GET THESE HELMETS TO ACCEPT A WIDER RANGE OF ELECTRONICS, AND MORE EAR-CUP CAPABLE."*

modified in a way that it shouldn't be."

Greater modularity is being designed directly into the helmet shells as well. "We make a helmet that has a mid forced-air attachment, and it also comes with a side forced-air attachment," said Russell. "So if you're driving a car with low head clearance, you can take the top air piece off, put the cover on that element, and use the side port instead. It also comes with a communications and drinking tube cover, which can be utilized to plumb your radio and hydration system. All of these attachments and covers come alongside the helmet in the box, and that allows the customer to configure the helmet to their preference once they've decided how they want to use it."

### UPPING THE ANTE

While the safety of modern racing helmets is largely dictated by Snell and FIA certification requirements, each manufacturer takes a slightly different

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## HELMETS



Simpson Race Products is using "Fusion 360 and Solidworks for helmet development and 3D printing for tech prototyping," said Gary Peters. "The construction materials have evolved significantly in recent years as well, and those have led to improved manufacturing methods with more consistent results."

approach in its mission to reach those targets. For its part, O'Connor said that Impact Racing's emphasis on minimizing weight with reduced shell sizes also provides safety benefits alongside enhanced comfort.

"The lighter a helmet is, the safer it is in terms of preventing secondary injuries like whiplash," he explained. "Some of the big differences with today's helmets are in the composites, along with different fabrics, resins, and different ways of laying the materials up. There are now more advanced techniques that ensure better penetration into the matting with the resin. That's not only going to help it absorb energy more effectively, but it's also going to allow you to create a stronger shell overall with less resin, which results in less weight."

Meanwhile Peters said that reaching these safety standards without compromising other aspects of a helmet's design requires some deliberate strategy. "The new standards force manufacturers to make changes. If they change the impact requirements, you may need to stiffen up the shell, or you may need to make the shell more flexible in combination with a certain density of the EPS foam. Weight is always

one of the biggest concerns, so we'll take different materials and produce different layups for the shells, and we'll try various combinations of materials placed in specific areas. There's a bit of trial and error to it; the testing doesn't always go the way you think it will. With some products, we'll work with aerospace construction companies to get their insight regarding the kind of strength we need in certain areas to reduce weight while still reaching those safety goals."

As the new Snell 2025 certification standard approaches, manufacturers like Impact Racing are now working to find ways to meet the elevated requirements without making sacrifices elsewhere.

"The idea is that each standard results in an incrementally safer helmet than the previous one," said O'Connor. "But there are always trade-offs in whatever you do. For example, maybe you need to bump the impact resistance by 20% but the only way to get there is to make the helmet 10% heavier. This time around the main focus is on reducing the G-forces that the head is subjected to in an incident. It's not a huge jump, but it's significant enough that there's going to be a little bit of development work involved. Some of the stuff we have is

already beyond that standard, so it's just a matter of re-testing it, but we like to stay ahead of the curve."

Looking ahead, Oliveira also expects more sophisticated technological integration in the helmets that we'll see a few years down the road. "A lot of companies are looking to improve radio integration at the moment. And there's a lot of discussion around headphones with noise cancellation features, so you hear the radio rather than the noise inside of the car. Bluetooth is also something that I expect to see more of in radio systems in the coming years. The technology hasn't been perfected for this type of an application yet, but there are benefits in terms of reducing the wiring that has to be hooked up to the helmet, so I think we'll see more development there, too."

But as Russell noted, the pace of innovation in the helmet world is heavily influenced by the safety standards that all manufacturers must adhere to. "If you're going to come out with a new helmet design, you want it to be something that will suit the market for a 10-year period. This is why some manufacturers don't make a XXXL helmet, or a larger shell helmet. If the market isn't there in the five to 10 years of the standard, you may not be able to recoup the development and production costs. That's why we try to do our big design changes every 10 years. I think that with the 2025 standard being more of an incremental change, the biggest leaps in design will probably be aimed at 2030." **PRI**

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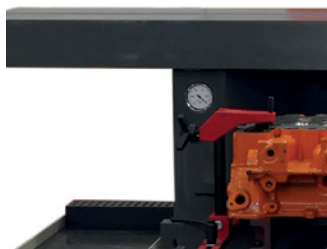


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# BEYOND THE ANVIL



## CURRENT CUTTING-EDGE TRENDS IN METAL FABRICATION AND WELDING ARE FOCUSING ON MORE COMPACT DESIGNS, AUTOMATION, AND IMPROVED EFFICIENCY.

By Mike Magda | Photo courtesy of Miller Electric

If there appears to be a rekindled interest in metal fabrication around automotive custom shops and race garages, especially from younger want-to-be craftsmen, then consider the prominent role of social media.

"You've got these old-school guys like Gene Winfield who didn't mind sharing their skills," explained Phil Heck of Woodward Fab, a division of Heck Industries in Hartland, Michigan. "But he's rare. Most of his generation were pretty secretive about how things got done in the shop. They didn't leave the doors open so people could wander in and see what they were doing. Now everything's being shared on YouTube. What might have been a secret years ago is now common knowledge. There's just so much stuff on the Internet that demonstrates how easy it is for anybody to do this work."

In following this promising renaissance within the industry, Woodward has released two new English wheels, including a benchtop model that reflects one of many noticeable trends that's promoting smaller equipment in fab shops.

"It's actually designed in Australia. Originally, we thought it was a silly thing, but my customers explained that getting into tighter spots sometimes required the need of two English wheels," said Heck. "I know we've had some customers that travel conducting classes and seminars, and I think they put this in the trunk of their car."

Woodward specializes in metal fabricating and forming tools, offering products from \$15 up to \$15,000. While many factions of the industry are moving toward automation, Heck said his customer base is different.





The TruTool N 200 nibbler from TRUMPF helps speed up cutting duties in fab shops. Grant Fergusson said it was “probably our most popular tool” at the recent PRI Show.

“They’re working on a prototype or one-off basis most of the time,” he said. “For some of our tools, they can be manual or power. Manual is often preferable because it’s more controllable. Also, it’s impossible to make an English wheel or planishing hammer automated.”

## INCREASED AUTOMATION & ROBOTICS

Increased automation and the growth of robotics in the fab-tool industry is being driven by numerous factors, including the need for increased production at some shops in addition to continuing struggles in the labor market.

“As technology becomes more available and affordable, and labor becomes harder to come by, you can drive those two points closer together. So, automation is something that a lot of people are looking for, especially from bigger shops where they do a lot of volume,” said Bruce Van Sant of Trick Tools and Van Sant Enterprises, Pella, Iowa. “We’ve been selling more in the line of CNC tube benders, and this year we have a full three-axis CNC bender because there’s so much interest in that type of equipment.”

Manufactured in Germany by Transfluid, the CNC bender can churn out headers, roll cages, and other tubular parts up to 3,000-inch OD in 10-foot lengths. One of the keys to implementing such an expensive machine in any shop is proper training of the employees who’ll operate it.

“We’ve seen improvements in software and programming. There’s even collision-avoidance simulation. It will show a simulation of the bending on a screen to make sure you don’t have any problems or conflicts,” said Van Sant, adding that the ROI can depend on many factors. “We’re not trying to

replace humans, but there’s more need for automation because of labor shortages and less availability for hiring people.”

Bend-Tech in Osceola, Wisconsin, helps shops improve build times with its CNC tube and pipe plasma cutting machines. They can fabricate designs with holes and end cuts, plus mark all bending locations, rotations, and degrees on the pipe.

“Our product assists in automating the shop’s processes,” said Kyle Merry. “Our CNC tubing pipe processors are able to cut out all of your profiles, mark your part identification and your fit-up locations, and also give you all of your bending information as well.”

Models include the Dragon A250 that can handle four-inch-diameter round tubes up to 21 feet long, or there’s a smaller model designed for tubes up to 12 feet. The Dragon A400 handles 24-foot materials—including square, rectangle, angle, and channel—up to 6 inches in diameter and has a maximum capacity of 400 pounds.

“One of our shops recently said they took their projects from a three-week build to a one-week build,” added Merry. “We’re actually able to calibrate a bender and die in our software and give you your real bending

instructions. For example, a 12-inch leg with a 90-degree bend in another 12-inch leg—that’s not a 24-inch part, right? Material stretches and it springs back. We actually take all that into the calculation and put the real bending information on the tube for you.”

Tubing benders are a specialty at Hartford, Wisconsin-based Huth Benders, which offers Huth and Ben Pearson models in a variety of sizes and capabilities to meet the demands of different metals, intricate bends, and new end-forming proficiency.

“Stainless steel is always an area of interest, because it can be tricky and kind of a bear,” said Ken Murray. “But we’re also doing the tube forming to help them put tubes together. A shop may source mandrel bends from somewhere else, but they still have to put them together, and they need a tool that works really fast.”

One popular tool is the 1674 broad-range tube expander that can produce 25,000 pounds of expanding power through the 3.5-inch cylinder and 49,000 pounds through the 5.0-inch cylinder.

“It has two heads. Guys might be working with bigger stuff or a couple of different sizes, and they don’t want to do tool changeovers,” said Murray.

While saving time and money is on the minds of Murray’s customers, his product development strategy may seem cautious in an industry where technology is driving forward at a fast pace.

Huth tube benders can be used for a variety of chores in a fab shop.



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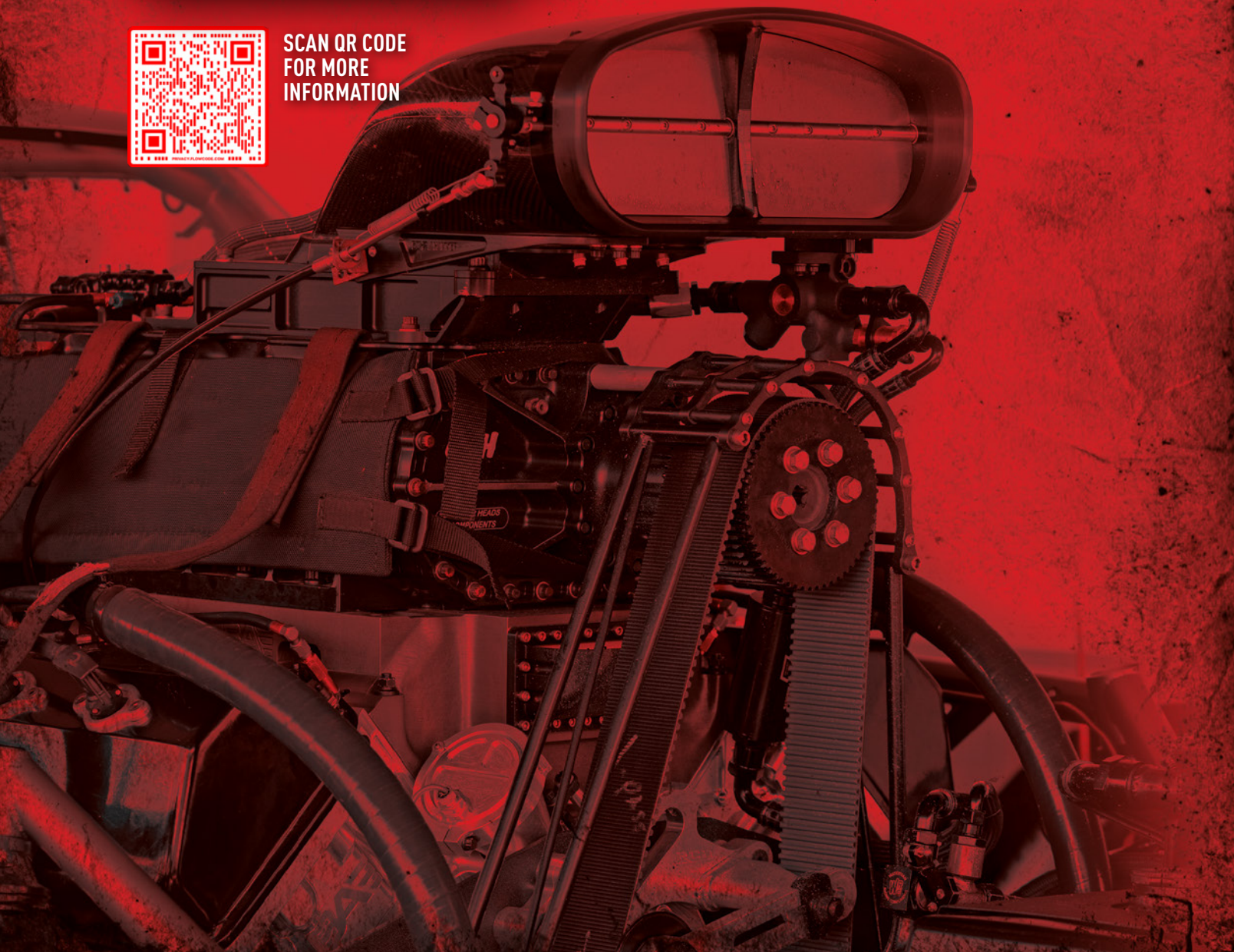


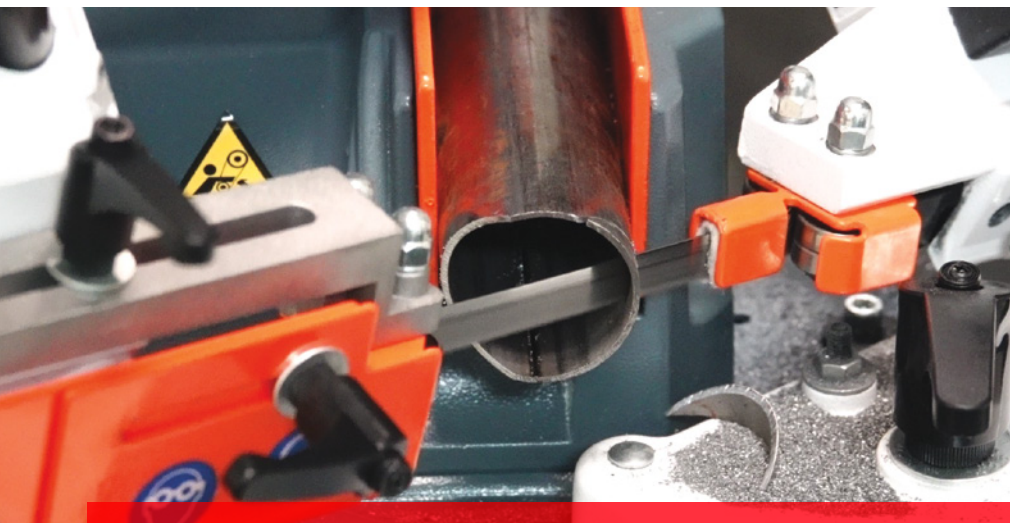
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The NG120XL saw from HE&M Saw can easily cut tubing and make notches. The model will also cut through a 2.5-inch solid steel bar.

"How can I do it quicker and better depends on who, right? It depends on whether it's a small manufacturer who's looking to produce more efficiently, or an operator who's actually doing his own stuff. Those are different worlds," explained Murray. "We might be a little slow on the automation because we're dealing with smaller guys, not the huge shops that need a CNC approach. We do have some models that incorporate PLCs [programmable logic controllers], and we'll be doing more of that as we go forward."

Robotics is another advancing technology edging its way into the industry to help counter labor shortages and improve production. Training and programming are also key considerations in those purchase decisions by a fab shop.



"We've come out with a new robot called the Copilot that is very user-friendly," said Andy Weyenberg of Miller Electric, Appleton, Wisconsin. "People may shy away from automation because it's expensive, but the big problem is trying to find somebody who can program it."

The Copilot's advantage is that programming time can be as little as 15 minutes. In the past, programming for a run of five or 10 parts could take longer than the actual production.

"You can teach it simply by moving its torch to the piece. When you're in the learning mode, you can press a button to set a start point, you can move the torch down and set another point, and that would be your ending point. I mean, basically an 18-year-old kid and a 68-year-old man could have the thing programmed in the same amount of time. It's just super user-friendly," explained Weyenberg.

Another company promoting advanced welding stations is TRUMPF based in Farmington, Connecticut. Its TruArc Weld 1000 is a fully equipped tool that includes an exhaust system and other critical safety equipment.

"Two of the biggest benefits for a

Benchtop English wheel models from Woodward Fab are growing in popularity for small metal-shaping shops.

performance race shop are speeding up high-quality production and freeing a shop's skilled welders to focus on more complicated tasks," said Tommy Zoladz. "The TruArc Weld is so easy to use that anyone on the shop floor can program the machine and run it, even without much welding experience."

Zoladz also said automation helps create consistency in welds, which is a selling point in the aftermarket. The station is also designed to allow the operator to load or unload one side while the other side runs production. On the smaller side, TRUMPF offers a cordless 18-volt TruTool N 200 nibbler.

"It's probably our most popular tool at PRI," said Grant Fergusson. "Race shops can make templates and easily do repeats on regular parts. They can also make cuts outside the shop since the tool is cordless and fast. Also, it does not create sparks or dust, which makes it safe for working around fuels or oils."

## TIME SAVERS

There are other trends in the industry that suppliers are noticing. Miller Electric has a new Millermatic 142 welder that features an inverter engine, which has been a staple in the larger units, yet it is small and lightweight, runs on 120 volts, and still offers a 60% duty cycle.

"So it's not just a hobby machine with that kind of rating. Inverter engines open you up to a lot more versatility in your welding processes," added Weyenberg.

Welders at race and fab shops are getting a lot of love these days, and not just from advanced technology. Miller has the ArcStation series of tables, including a small folding unit with a thick metal top and larger models with wheels that can easily be moved around the shop.

"It's very relevant to our industry because it's hard to have a nice, sturdy platform with 500 pounds capacity at the race track that doesn't take two men and a small boy to move," noted Weyenberg.

Over at Trick Tools, modular fixture tables have grown in popularity. "We saw a lot of welding tables where everybody used to have dedicated jigs for each part they needed to build," recalled Van Sant. "Now the systems are much more modular and can be reformatted and repurposed for different things. So you can have one table that gets quickly changed over from one part to another."



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As a result of COVID-19, some shops had to downsize, whether due to loss of sponsorship or lack of racing opportunities during the pandemic. That prompted some fabrication equipment manufacturers to offer versions of their products with a smaller footprint.

"They've had to utilize their space more efficiently, because maybe they've brought multiple race cars in one program and had to combine shops. So space is always a consideration," explained Paul Beha of HE&M Saws, Pryor, Oklahoma. "That's where our bench-top saw series comes into play. They don't take up much room, but they have a lot of benefits."

Just in the portable bench-top series, HE&M has eight models available. "It's basically what fits the customers' needs. The 782, which is the smallest model, will stand upright and can be utilized as a vertical saw. Some people have that need," said Beha. "The other thing would be capacity. Some saws there have a 6-inch capacity, some have a 4- or 3-inch."

The small saws also have dry-cutting ability, so there's no mess, and they can be utilized at the track where there will not be any environmental problems with the fluid. At first, the small saws were not a hit with the company brass, which was happy

selling larger industrial saws. However, at automotive venues, the big saws were not an easy sell. Beha then tried out a line of smaller saws made in Italy.

"I couldn't believe how fast you can cut a solid piece of steel in under 20 seconds," he recalled. "The blade doesn't even get hot. The two things that fatigue a blade are vibration and heat. And the design of these saws, for example, the NG120 and several of the other models, have 10 roller guides surrounding the blade on two sides and the top. So they're securely held, they're dry cutting. And the precision is amazing. We can cut slices .005-inch thick, and they'll remain true top to bottom."

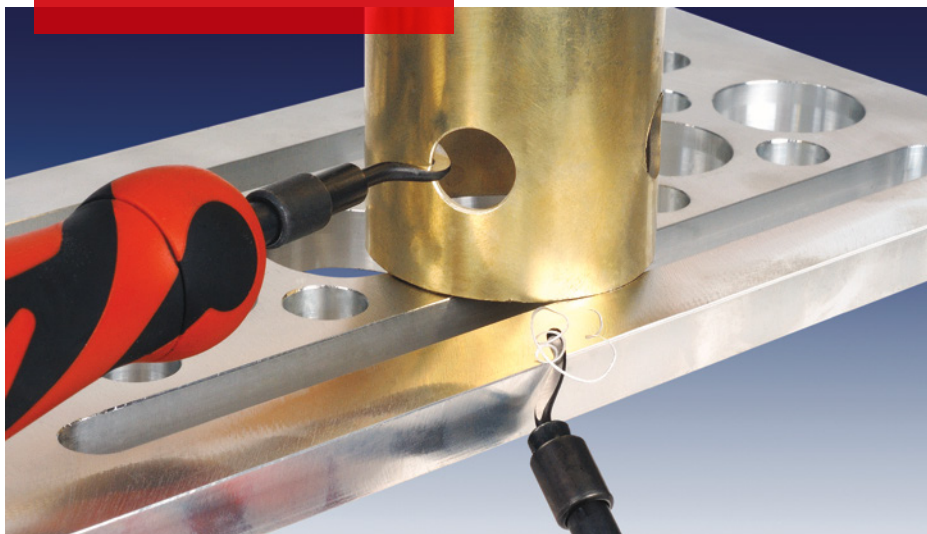
Not all advancements in fab tools have come in big-ticket items. Bad Dog Tools in Bristol, Rhode Island, recently released 5.0-inch flat and 7.0-inch flange versions of its HDII line of Endless flush grinding and cutting wheels.

"DeWalt just came out with a new 7-inch FlexVolt angle grinder, and it's a super-cool combination with our Endless cutting wheel," said Ann Strong. "It has cordless ability, and you have 6 1/4 inches of cutting depth. You can do frames, body panels. It's great for metal, carbon fiber, fiberglass, Plexiglas. Even if it's concrete and you have to grind down the apron in front of your garage."

The flange version allows for flush sanding and grinding. For really tight spots, Bad Dog has cutting wheels down to 1.25-inch diameter.

"I have a mid-engine Porsche 914. Once I had to cut a bolt off the engine. I don't know if you've ever seen the engine compartment on a Porsche 914, but it's not for the faint of heart," recalled Strong. "We used the inch-

Shaviv USA offers numerous tools to debur and finish metalwork. "We offer the quick and cost-efficient solution that many shops rely on," said Nick Prohl.



and-a-quarter to reach down and cut that bolt. You could not do that with a larger blade because it just would not fit. So, each of the versions of the HD2 has its own sort of niche, tools that it works on or operations that it can do. We always advocate using the right tool for the job."

## FINESSE

While hardcore cutting and grinding may seem like very aggressive and heavy-handed actions in the shop, there are elements of finesse required for some racing operations. Richard Orlikowski of Goodson Tools and Supply in Winona, Minnesota, pointed to clutch grinders who are looking for more accurate products to help them maintain consistent launches.

"They want to keep all of those things the exact same, so they need a grinding wheel that's going to give them the same finish for each and every pack that they have," said Orlikowski, noting that Goodson sources a very specific CBN abrasive stone in two sizes just for that market.

Recently, Goodson has expanded that focused strategy for the wide-open market of sanding belts. The company now purchases jumbo rolls in bulk and then cuts them down to specific sizes for each customer base.

"If they have some weird, old size that they're looking for, we make them custom in-house, so the belts are usually out within two to three days," said Orlikowski. "Everybody wants the brand-new stuff. But some of the older tools and machines still work great. The problem is everybody's discontinuing the product lines for those machines. So, we are still able to make the grinding and sanding belts for those machines, because we don't have stock sizes. We make whatever size you're looking for. It's benefited those guys because they don't have to spend the money to buy new machines and new supplies."

As noted earlier, many factions of the industry are seeing the need for more compact or miniaturized products, and Goodson is trying to keep up with many of those demands from race and fab shops.

"The newest stuff in machining seems to be getting smaller. You're not seeing a lot of the three-eighths and eleven-thirty-seconds stuff anymore. Everything's going to five mil or four-and-a-half mil. Some of the equipment needing to be repaired is all smaller

dimensional," said Orlikowski. "It's making it harder for us to try to find those specific tools that the customers are looking for."

Even with automation and more precision in the fab shop, there remains the need for simple hand finishing with basic traditional tools. Shaviv USA in Bolingbrook, Illinois, offers a wide variety of deburring tools that have been used for decades.

"Over the years, there have been plenty of advancements in the cutting of metals and other materials directly from machining. Unfortunately, no matter how precise the fabrications seem to get, no one has yet to perfect machining to a degree where our tools have become obsolete," said Nick Prohl. "On brand-new production parts, even the slightest burr can cause fittings to misalign. Rather than redo these parts from scratch, we offer the quick and cost-efficient solution that many shops rely on."

"You also have to take into account that a lot of fabrication and work takes place not just on newer builds, but older rigs in the automotive sector," added Prohl. "There has always been a great restoration aspect that goes hand-in-hand with what we do. We help 'finish' that workpiece." **PRI**

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# POWER ENHANCEMENTS



EXPLORING SALES OPPORTUNITIES  
FOR ANCILLARY PRODUCTS IN  
ADDITION TO THE POWER  
ADDER ITSELF.

By Drew Hardin

No power adder works in a vacuum (if you'll excuse the lame pun). Adding a supercharger, turbocharger, or nitrous oxide injection to an engine is an increasingly easy way to make power, but those adders require a number of other components to not only attach them to the engine, but also to get the most from their power-making potential. We spoke to experts across the power adder segment to find out what ancillary products are needed to make these systems work, as well as some nice-to-have options to make tuning easier. These products represent sales opportunities for manufacturers and installers that will not only improve their bottom line but also their clients' satisfaction with these systems.

## TURBOCHARGERS

Reggie Wynn of Precision Turbo & Engine of Crown Point, Indiana, started his list of accessory products with the basics. "Some of the things that are an afterthought, that racers forget about, are flanges and clamps. The flange/clamp that mounts your turbo on the exhaust manifold and then the downpipe flange/clamp for the exhaust."

Next on his list were wastegates, "or if the turbo you're buying has an internal wastegate, those are called actuators. There are some aftermarket actuators that guys go with that can outperform the stock ones, which allow you to run more boost than the actuator the factory turbo comes with."

Wynn also suggested the use of a boost controller, either manual or electric, that "hooks to the wastegate and allows you to fool the wastegate to open later to help you run more boost."

Hart's Turbo of Fayette, Missouri, doesn't sell ancillary products other than flanges and clamps, but the company is a master distributor for Turbosmart of Ontario, California, and has done much R&D work with racers using Turbosmart's wastegates, particularly its new electronically controlled versions. "Their products are a game changer in the turbo market for what we're doing and where we're going," said Roger Conley of Hart's. "Turbocharging is in the midst of changing over the last two years, migrating to controlling boost on what we call the 'cold side,' where we take boost and vent it to atmosphere on the compressed side of the engine package. It gives us the ability to keep the shaft speed of the turbocharger up, and it responds quicker."

Conley has seen, "in the last 14 months, cars are running their 60-foot with the kinds of short numbers the centrifugal supercharger cars are running. They're keeping their shaft speeds up, and there's no lag." He cited one example, working with no-prep racer Larry Larson, where replacing a pair of conventional Turbosmart wastegates with a pair of the electronic wastegates "made two more pounds of boost on the starting line just because the E-gates were holding the gate shut from the pulses and backfires trying to force those valves open."

Hart's also sells turbochargers to truck and tractor pullers, but "pulling is a whole different animal," Conley pointed out. "They don't run wastegates in pulling. We size the turbo based off the engine platform. A diesel doesn't even have a throttle body. It's all controlled by fuel. So we have to be even better at sizing the turbine wheel and compressor wheel the right way to not get into an overspeed situation."

Ryan and Deena Salenbien of Salenbien Performance of Maybee, Michigan, developed their hub-free Apex turbochargers for drag racers and truck and tractor pullers. They see some of these ancillary products as power adders themselves.

"An intercooler is definitely a power adder," Ryan said. "Intercoolers

*"TURBOCHARGING IS IN THE  
MIDST OF CHANGING OVER THE  
LAST TWO YEARS."*



Precision Turbo's Reggie Wynn said some racers forget about ordering a few of the basic components needed to set up the turbocharger system, like "the flange/clamp that mounts your turbo on the exhaust manifold and then the downpipe flange/clamp for the exhaust."

take the hot compressed air and shrink it down as it gets colder to go into the intake manifold. It definitely makes more power, whether it's an air-to-air or water-to-air cooler. There's performance advantages to running them." He did point out, though, that "not all divisions or classes allow for an intercooler." So even though Apex Turbo offers an intercooler "that works really well with our turbocharger," it's up to the racer to determine if it's legal in their class.

The Salenbiens have also designed velocity stacks for their turbochargers. It's a concept any old-school hot rodder will recognize: "It's a cone-shaped device that helps gather and re-align the airflow and direct it to the compressor inlet of the turbocharger," Ryan said. "It will provide more flow through the turbo and will increase the performance of the turbocharger."

While most accessory products will help improve the power adder's performance, the Salenbiens also mentioned products to improve a turbocharger's safety. "We're working with Suncoast Products on a turbine containment ring for turbochargers," Deena said. "It's designed to support the turbo in a way where if there was a turbine wheel failure, it would get stopped so that none of those turbo components could enter into the engine or atmosphere and wreak havoc."

Guards in front of a turbo are also products that can safeguard a turbo, like those from Turbo Guard. Turbo Guard supplies "a screen mesh that you put on the face of the turbocharger compressor inlet to keep any foreign materials from hitting or sucking into the compressor wheel," Ryan added.



Turbo Guard supplies “a screen mesh that you put on the face of the turbocharger compressor inlet to keep any foreign materials from hitting or sucking into the compressor wheel,” said Ryan Salenbien of Apex Turbo.

Turbocharger service, “inspection after use and also keeping up with the latest advancements,” is also something offered to Apex customers, Deena said. “We have a whole department that does service and refurb work. We advise all our customers to not take the turbo apart and send it back to the manufacturer to have it professionally looked at, cleaned, inspected, and rebalanced” and repaired if necessary.

## SUPERCHARGERS

Nearly every supercharger manufacturer we spoke to put fuel system upgrades at or near the top of their list of ancillary product requirements, whether it was for a Roots-style or centrifugal blower. “For the average guy who’s building 1,500–2,000 horsepower, you buy your blower and then you’re looking at your fuel system,” said Jimmy Martz of Vortech Superchargers, Oxnard, California. Whether that means upgrading just the fuel pump or the pump and fuel delivery device(s) depends on the application, he added. “But the PRI crowd is probably going to need both. You’re looking at a minimum to replace your fuel injectors and, depending on your horsepower goal, you will need a fuel system to match that.”

For Blower Drive Service (BDS) in Anaheim, California, fuel system recommendations are based on “whatever the setup of the customer is doing, as far as

the engine size and rpm,” said Kurt Gordon. “We typically tell them what CFM they need, whether it be a carburetor or throttle bodies.”

“A lot of our kits come with fuel injectors,” said Dan Bronsten of Magnuson

Superchargers, Ventura, California, “but they’re only good to a certain power level. Beyond that folks would upgrade fuel injectors, and then the next thing is the fuel pumps.”

“Once you build your fuel system, now you’re looking at, who are you going to use for your ECM?” Martz added. “Are you going to use FuelTech, Holley? You should use whoever you’re familiar with. Then you’re going to need to add bypass valves, depending on the horsepower you’re trying to make. We have three or four different sizes to choose from.”

Kurt Gordon of BDS recommended racers lean on the expertise of the supercharger manufacturers when building a system. “It would be very, very hard for them to try to put together something because they don’t know, for instance, how far the crank snub or the standoff or anything lines up to the drive accessories and things like that.”



***“WE HAVE TO BE EVEN BETTER AT SIZING THE TURBINE WHEEL AND COMPRESSOR WHEEL THE RIGHT WAY TO NOT GET INTO AN OVERSPEED SITUATION.”***

As with turbocharging, the use of an intercooler with a supercharger is dependent on class rules. Racers will likely need “some sort of really large, custom, air-to-water or air-to-air cooler,” Martz said. “And then there are guys who will cool with fuel instead. They’ll run methanol, M1, or E85, and that has a cooling effect of its own.” But, he cautioned, “now you’re looking at very large injectors, corrosive fuel, and all the things that go with running an ethanol-based fuel.”

All of Magnuson’s kits come intercooled, said Bronsten, “and most of our systems are specific to an application where we’ve designed the biggest intercooler we can fit in there.” Magnuson’s position in the market is different from the rest of the sources we spoke with in that it has chosen to focus on manufacturing supercharger kits that are EO certified, explained Kim Pendergast. So the company doesn’t recommend end users who are driving their cars on the street to upfit a kit with anything that isn’t EO certified.

But Magnuson does work with racers, and with tuners and upfitters with racing clients. One such company is VF Engineering in Anaheim, California, which offers as its “flagship system” a Magnuson TVS 2300-based supercharger system for Lamborghini Huracán and Audi R8 models.

“We create a supercharger kit that incorporates the power adder,” said Nik Saran. The kit’s primary components include the intake manifold, “either a one- or two-piece aluminum manifold, which is bolted to the engine’s intake system and also incorporates the heat exchanger for the after-cooling system we include”; the FEAD, or front-end accessory drive, which revises the belt-drive system to drive the supercharger by the engine’s crank pulley and keep the internal speed of the supercharger rotors within an optimal range for power delivery and volumetric efficiency; an air-to-water cooling system, “a separate water system isolated from the engine’s water system with

its own reservoir and a pair of radiators in the stream of incoming air from the vehicle’s side vents”; a larger fuel pump, “as we do need more pressure to deliver the volume of fuel that we’re requesting through the software for the fuel mixture required to keep EGTs within the range we want”; and the ECU calibration, “which we gave extra attention to detail, knowing how essential it is for reliability,” Saran said. VF Engineering’s calibrations “do not disturb” the engine safety system tolerances—ignition retard, temperature systems, and NOx systems—to prevent the engine from going into limp-home mode.

With the proper fuel octane and ignition timing, these kits can produce “a gain of 180 hp at all four wheels,” Saran said. Currently the kit is in the EO testing process, so it is for off-road use only in emissions-regulated states like California.

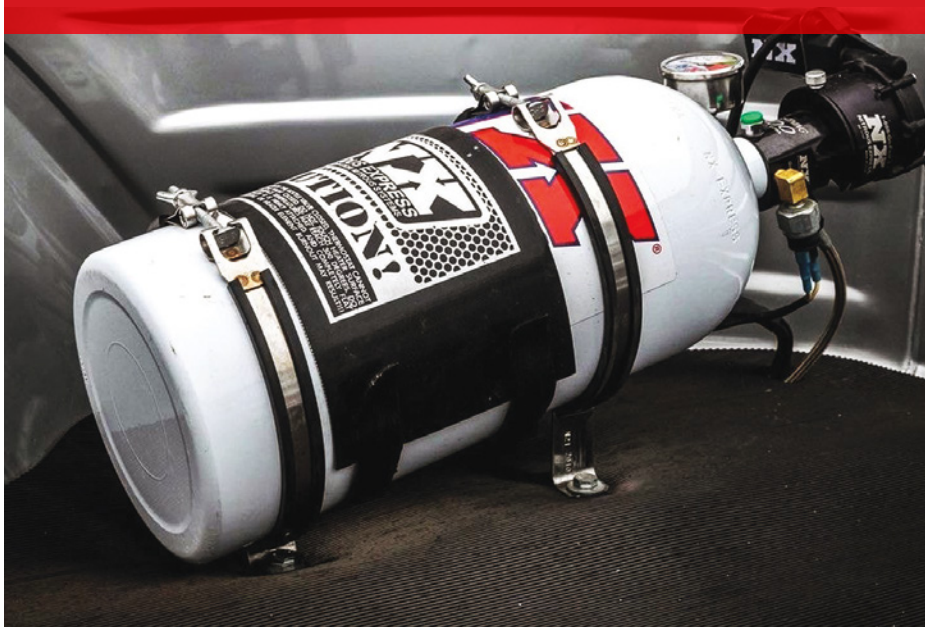
## NITROUS OXIDE

As nitrous oxide injection is fundamentally different from the forced-air power adders mentioned above, so too are its accessory components. Chris Isbel of Nitrous Express in Wichita Falls, Texas, ran through a list of what he termed “necessity items” as opposed to components racers could consider as options.

First was a nitrous controller of some kind, “whether it’s a window switch or our progressive controller. Those would give you the ability to activate and deactivate the nitrous.” The window switch is essentially “straight on-off activation,” he explained, while the company’s Maximizer 6 progressive controller can activate up to four different nitrous stages based on rpm, mph, throttle percentage, or boost pressure. It also allows the racer to save multiple tunes. (On Isbel’s not-mandatory but “nice to have” list is the company’s touch-screen display for the Maximizer 6 “for making changes on the fly.”)

Next on the list were a nitrous pressure gauge and a bottle heater. “Nitrous is run off bottle pressure,” he pointed out, so the gauge “allows you to monitor that pressure, and the heater is there to maintain that pressure.”

**“Nitrous is run off bottle pressure,” said Chris Isbel of Nitrous Express, so he recommended a nitrous pressure gauge to monitor the pressure, and a nitrous bottle heater to maintain the pressure.**





Nitrous oxide systems don't require a lot of maintenance, and if they do, a nitrous solenoid is something a racer can check themselves. Should maintenance be needed, nitrous system suppliers offer rebuild kits.

A purge kit would "round out a good, core setup," and then options might include billet bottle brackets instead of the standard stainless brackets, and dual vents for the purge kit.

There are several places a racer can go to refill nitrous bottles. One is Airgas, an industrial supplier "that has a store in every major town in the country," Isbel said. Likewise, some welding supply stores offer nitrous oxide in addition to oxygen and acetylene. There are also local race shops that do refills, and this could provide an additional revenue stream for a business not currently offering the service.

*"WE GIVE YOU EVERYTHING IN THE KIT SO YOU CAN PRETTY MUCH JUST BOLT IT ON AND THEN PICK OUT WHATEVER FUEL YOU'RE GOING TO PUT INTO IT."*

Nitrous oxide systems don't require much maintenance, Isbel said, depending on how much and how hard the racer is running. "I have customers who have been using the same solenoids for five, six years now with no issues whatsoever. But then a racer who's racing every Friday night making five, six passes, going again on Saturday making another six or seven passes, they can get about two seasons easily, maybe more." The solenoids are something the racer can check for themselves. "Just open it and see how dimpled the piston is and go from there." Should repairs be needed, Nitrous Express offers solenoid rebuild kits.

### KITS OR COMPONENTS?

Many power adder manufacturers sell their products as complete kits, with many or most of these accessories packaged with the adder itself. Or they try to take some of the guesswork out of the process by researching the ancillary products for the customers. On the day we called him, Gordon of BDS was "placing a big order with MSD to get distributors, coils, and boxes in for us to sell as an add-on to our blower. I will try to find what goes with it so we can put it on our website. That way, when they order the blower, they can just purchase these other components at the same time instead

of having to take another step and go on Summit or JEGS to try to find something."

While some racers might prefer to scour websites, forums, and fellow racers' opinions to craft a system of their own, Gordon didn't recommend it.

"It would be very, very hard for them to try to put together something because they don't know, for instance, how far the crank snub or the standoff or anything lines up to the drive accessories and things like that. In the kit, we give you the spacers, we give you the V-groove pulley, the manifold, the snout, the belt, the idler, we give you everything in the kit so you can pretty much just bolt it on and then pick out whatever fuel you're going to put into it." **PRI**

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# PRI TECH

## WIRING TIPS AND TRICKS

Cross that finish line confidently as a result of following this useful yet often overlooked wiring advice.

By Cory Villani

**“D**on't tell me to check my ground, my wiring is fine!”

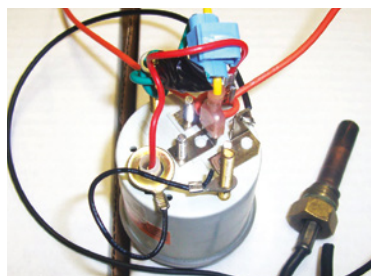
While the photo to the right is somewhat of a joke, it represents many situations that we at Auto Meter see daily. How many times have you heard of a lost race due to an electrical malfunction? Whether you are wiring an Auto Meter gauge, an ignition system, a trans brake, a nitrous controller, or rewiring your entire car, here are some basic wiring tips to make your job go as easily and successful as possible.

### GROUND

This is first on the list. Even though manufacturers and even magazine tech articles have been screaming it for years, ground relocation is still the number-one fix for electrical-related issues. Just because something is metal does not mean it is a good ground. Because it is a good ground for something else, such as a radio, a light, or a power outlet, does not always mean it is a good ground for what you are adding.

Due to the gauges' constant reference ground, we recommend grounding your gauges directly to the engine. Why?

- Any self-grounding (engine) senders will be grounded to the engine.
- If the engine is not very well-grounded, the starter will not crank, and the spark plugs will not fire. Therefore, you will be more worried about solving that issue before you ever see a gauge reading.



- The engine generally ends up being a “cleaner ground” than the body, chassis, or even the battery.
- Grounding to an aluminum intake manifold or cylinder head is okay. I typically look for an unused accessory mounting hole in the block, head, or intake.

Remember, the battery is the return path for everything electrical in the engine, and therefore certain sensitive devices, such as air-fuel-ratio gauges or pyrometers, can be affected by this return current flow if connected to the battery.

Some manufacturers recommend direct battery ground, and most times for their own good reasons, so we recommend following the manufacturer's recommendation for where to ground your electrical device. For Auto Meter, this would be a direct engine ground.

### IT HAS A GOOD CONNECTION (OR DOES IT?)

Just because two wires look like they are connected, they can still present a problem. There are many ways to connect two wires (or to install a connector). Here are some examples of various connection types:

- Twist wires together and tape
- Twist wires and install a wire nut
- Twist wires and solder
- Insulated crimp connector
- Non-insulated crimp connector
- Non-insulated crimp connector with solder
- Scotch Locks
- Weather Pack connector
- Deutsch connector

There is a different purpose for each connection type listed, just as there are more connection types than listed above. In the automotive and racing world, remember that the wiring needs to survive bouncing, vibration, extreme cold, extreme heat, moisture, and dryness, not to mention various amounts of current flow.

*Twist and tape:* I never recommend twist and tape, as over time the twisting can loosen and cause a high-resistance connection or intermittent/failed connection.



When twisting and soldering, it's best to twist the wires in-line to make a smooth, non-protruding connection. After soldering, cover the connection with a properly sized heat shrink.

**Wire nuts:** Wire nuts were designed for buildings and structures. Therefore, I do not recommend these in the automotive world. They are also not to be used in the weather.

**Twist and solder:** When done correctly, twisting and soldering is a great way to make a splice, though it is recommended that it be twisted inline to make a smooth, non-protruding connection, then the connection should be covered with properly sized heat shrink.

**Insulated crimp connector:** An insulated crimp connector is okay in the interior of the vehicle when properly crimped, using the correct tool and if the connector is also properly sized. For high-current loads, you should consider a non-insulated version and solder the connections after crimping.

The yellow crimpers shown in the photo far right are typical of inexpensive, parts store crimpers. These will typically crimp an insulated terminal; however, I suggest these go into your emergency tool kit for road-side repairs rather than when trying to do a professional, long-lasting wire repair.

The blue crimpers can do either insulated or non-insulated connectors and create a much more positive and tighter crimp than the yellow versions shown.

**Non-insulated crimp connectors:** Non-insulated crimp connectors are used when you want to solder the connection after crimping. These are also used when you simply do not want that bulky red, yellow, or blue plastic insulation protruding or bulking up a common connection point. Sliding a properly sized piece of heat shrink over a non-insulated crimp connection looks so much better than those colorful insulated versions. You can also use a more aggressive crimper with these that do a much better job of making a permanent crimp. This is even more important in high-vibration situations.

**Scotch locks:** Scotch locks (also referred to as vampire splices, quick splices, 3M Scotchlok connectors, trailer splice connectors, etc.) should never be used. They are quick and easy, but that is where the good ends. The bad is that they are not weather resistant, they loosen up over time, they can easily damage the individual wire strands, they can overheat from poor

connections, and they are quite bulky. Wrapping them in tape does nothing but seal in the moisture. Next to bad grounds, I have fixed more problems created by these pesky connectors. Don't use them!

**Weather Pack or Deutsch connector:** If you are doing professional wiring and wiring in something that might be unplugged for maintenance, such as an instrument cluster or engine that comes in and out often, you might consider using a Weather Pack or Deutsch connector. This involves a bit more time, special tools, and knowledge of the connectors. Plus, they are a bit pricey. When properly done, they provide a great weathertight connection and allow the component to be easily serviced without cutting wires or having to keep track of connection arrangements when dealing with more than one wire on a component.

## WHEN NOT TO SOLDER

First and foremost, do not solder any Type K thermocouple wire connection (commonly found with pyrometer gauge thermocouples). This changes the properties of the thermocouple wire, which can change the overall reading of the gauge.

High-vibration locations or locations where the wiring will be prone to a lot of movement can cause a soldered connection to crack or break. In the engine bay, I tend to use a non-insulated crimp connector, then slide the heat shrink over the crimp. The heat shrink will add a strain relief as well as weather protection (if using a good quality/sealing heat shrink).

## SUPPORT YOUR WIRING

Use your choice of wiring conduit to keep wires neat and organized. Choose routing paths away from moving parts or extreme heat. Do not route wires through your door jambs!

Use zip ties or electrical tape to keep the split-loom or wire conduit closed.

Do not route so tight that your wiring is being stretched.

Pre-map or measure how you are going to route your wiring to make sure you have enough wire and to help avoid surprises later. Take a lesson from your OEM vehicle manufacturer. Though the wiring is not done for looks, it is typically well organized,



The blue-handled crimpers, above right, can work with either insulated or non-insulated connectors and create a more positive, tighter crimp than the yellow-handled crimpers, which are typical of the inexpensive crimpers found at auto parts stores.

wrapped, sealed, and out of the way of high heat and moving components. It is typically pretty well strain relieved to avoid supporting its weight, the weight of other components, and from being pulled on from body flex, engine movement, and suspension movement.

With these simple tips, your wiring project can go a long way with fewer problems, whether the project is small or large, and you can focus more on going faster and winning races. **PRI**

*Engineering Lab Technician Cory Villani has been with Auto Meter Products since 2002, where he is currently involved with testing new and existing products, as well as the R&D installation of products. Auto Meter has specialized in providing performance enthusiasts, racers, and vehicle builders with instrumentation and vehicle electronics for more than 60 years.*



# ADVOCACY CORNER

Tracking legal, legislative, and regulatory developments impacting the racing and performance industry.

Edited by Jack Haworth

**P**RI's Washington, DC-based legal and advocacy teams work continuously to protect and support motorsports venues, sanctioning bodies, and businesses around the nation. We are tracking several initiatives this month, including a significant legislative victory in Ohio to secure consumer freedom, a successful event for the Performance Racing PAC at the 2023 PRI Show, and more.

## PERFORMANCE RACING PAC RAISES NEARLY \$20,000 TO SUPPORT THE FUTURE OF RACING

The Performance Racing PAC is thrilled to share the incredible success of the political action committee's event held inside Lucas Oil Stadium during the Ekarting Classic at the 2023 PRI Show. Your enthusiasm and support truly made it a night to remember.

With more than 100 passionate attendees, the event was a gathering of racing enthusiasts, industry professionals and racers, all committed to securing our beloved industry's future. Thanks to your generosity, we raised nearly \$20,000 for the Performance Racing PAC.

"It's always energizing to see new and returning PAC members come together to support the industry," said Alicia Steger, SEMA and PRI Political Action Committee Manager.

Where does this money go? PRI is prohibited from using association funds to directly support political candidates aligned with the industry's goals. Voluntary contributions from PRI members, however, can be used to go straight to supporting lawmakers, candidates, and legislation essential to the racing community.

"We have set high goals for this election cycle, and with turnouts like this, we will surely exceed them," said Steger. "Election years are the most impactful time to become visible and build relationships. Candidates need us just as much as we need them."

Your commitment and support have set the stage for a promising year ahead. Stay tuned for more updates on PRI PAC initiatives and future events. Together, we are making a difference.

For more information on how you can support PRI's government affairs efforts, please contact Alicia Steger at [alicias@sema.org](mailto:alicias@sema.org).

## OHIO SECURES CONSUMER FREEDOM IN VEHICLE MARKET WITH ENACTMENT OF H.B. 201

In a significant victory for consumer freedom, Ohio Governor Mike DeWine has signed PRI- and SEMA-supported legislation ensuring Ohioans, not the government, decide which vehicles best suit their needs. The bill, H.B. 201, prohibits any state or local government entity from restricting the use or sale of motor vehicles based on their power source, including internal combustion engines (ICE).

Following its passage through the state legislature, H.B. 201 was officially signed into law by Governor DeWine just before the new year. This bill represents a significant step forward for proponents of consumer choice, who believe individuals should have the right to select the vehicle that best fits their lifestyle and budget, regardless of its fuel type.

"This is a monumental win for Ohioans and the freedom to choose," said Christian Robinson, SEMA and PRI senior director of state government affairs and grassroots. "Governor DeWine's decision to sign H.B. 201 into law sends a powerful message that Ohio values individual liberty and empowers its citizens to make informed choices about their transportation needs."

The bill's enactment comes at a pivotal time in the automotive industry, with rapid advancements in alternative fuel technologies alongside ongoing concerns about affordability and infrastructure readiness. H.B. 201 safeguards the diversity of options available to Ohioans, allowing them to choose vehicles that align with their budget, driving habits, and personal preferences.

For more information, contact Kiley Chapley at [kileyc@sema.org](mailto:kileyc@sema.org).

## MAINE DELAYS VOTE ON PROPOSED CLEAN CAR RULE

Due to storm recovery efforts, Maine's Department of Environmental Protection (DEP) has delayed a vote on a PRI-opposed proposal requiring that 82% of new vehicles sold in the state be zero-emissions vehicles (ZEV) by 2032. As a result of the delay, the proposal cannot be implemented until 2028 at the earliest.

"This aggressive ZEV mandate is an overreach," said Christian Robinson, SEMA and PRI senior director of state government affairs and grassroots. "Mainers deserve the freedom to choose the vehicles that best suit their needs and budgets, not be dictated to by government regulations."

Drafted in response to a citizen petition from an environmental group, the rule aims to tighten emissions standards for new passenger cars, light-duty trucks, and medium-duty vehicles sold in Maine, aligning the state with California's latest clean car

rules, which the state has historically followed.

PRI believes that Mainers, not the government, should decide what vehicles are best for them and their families. We will continue to update PRI readers as the situation progresses.

For more information, contact Kiley Chapley at [kileyc@sema.org](mailto:kileyc@sema.org).

## TAKE ADVANTAGE OF DISCOUNTS FOR PRI MEMBERS

PRI Membership allows the racing community to showcase its passion and pride for the industry. By uniting motorsports professionals, PRI is actively addressing challenges and needs, such as providing support for race tracks to prevent them from closing, advocating for the racing community against current legal threats, and providing educational programs that help businesses and racers succeed. In addition, PRI Membership provides deals just for industry members.

An active PRI Membership is required to attend the PRI Show, so if you were at the recent event, you can access your deals and discounts on the PRI Member portal.

The PRI Member portal on [performanceracing.com](http://performanceracing.com) shows the latest benefits, discounts, and deals courtesy of PRI partners including Edelbrock, Goodyear, K&N, and many more.

Here's how to access the PRI Member Portal in three easy steps:

1. Visit [performanceracing.com](http://performanceracing.com) and click "Login" in the top right corner.
- Log in to your account with your email and password. FIRST TIME LOGGING IN? Click "Forgot Your Password" to create your account.
2. Select "My Profile" in the upper right corner and choose "My Benefits" under Account Links.
3. Claim your discounts, deals and benefits!

Contact [membership@performanceracing.com](mailto:membership@performanceracing.com) with any questions. **PRI**



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## WINNING TOGETHER



# INDUSTRY NEWS

## PULLING INNOVATOR DAVID P. SCHREIER, 84

David P. Schreier, who led World Pulling International (WPI) and the National Tractor Pullers Association (NTPA) for more than four decades, passed away on December 2, 2023, at the age of 84.

Schreier served as NTPA executive director and later as WPI president and CEO, from 1986 until his retirement in 2019.

He was inducted into the Pulling Hall of Fame in 2014 for both his on- and off-track achievements.

## DRAG RACING LEGEND DON SCHUMACHER, 79

Don Schumacher, NHRA team owner and Funny Car pioneer, passed away on December 20, 2023, at the age of 79.

In November 2022, Schumacher was presented with the NHRA's Lifetime Achievement Award. In 2019, he was inducted into the Motorsports Hall of Fame of America in Daytona Beach, Florida, and in May 2013, was enshrined into the International Motorsports Hall of Fame in Talladega, Alabama. He was also invited into the International Drag Racing Hall of Fame in 2007.

His teams have won 19 NHRA world championship titles and 367 Wally trophies, including the five he won while behind the wheel of a Funny Car.



Don Schumacher

## 2003 INDIANAPOLIS 500 WINNER GIL DE FERRAN, 56

Gil de Ferran, winner of the 2003 Indianapolis 500 and two IndyCar Series championships, passed away on December 29, 2023, near his home in Florida. He was 56.

In addition to his 2003 Indianapolis 500 victory, the Brazilian won consecutive IndyCar Series championships in 2000 and 2001, earned CART Rookie of the Year honors in 1995, and set the closed-course land speed record with a lap of 241.428 mph at California Speedway in 2000.



Gil de Ferran

## NASCAR CUP SERIES CHAMPION CALE YARBOROUGH, 84

Cale Yarborough, a three-time NASCAR Cup Series champion, has passed away at the age of 84.

Yarborough, a four-time Daytona 500 winner and a five-time victor in the Southern 500, won his three Cup Series titles consecutively from 1976–1978, and is tied for sixth on the Cup Series all-time wins list with 83 victories. A 2012 NASCAR Hall of Fame Inductee, Yarborough led more than 31,500 laps in his career.

## LEGENDARY NHRA TEAM OWNER ROLAND LEONG, 79

Legendary NHRA team owner Roland Leong, known for his Top Fuel and Funny Cars emblazoned with the name "The Hawaiian," passed away on December 29, 2023. He was 79.

As a team owner and tuner, Leong won the 1965 Winternationals and US Nationals with Don Prudhomme behind the wheel of his Top Fuel car and repeated in both events in 1966 with new driver Mike Snively. In 1969, Leong switched to Funny Cars, winning the Winternationals in 1970 and 1971 with drivers Larry Reyes and Butch Maas.

## WHARTON AUTOMOTIVE GROUP LAUNCHES FTI PERFORMANCE PARTS

Wharton Automotive Group, the Anaheim, California-based parent company of McLeod Racing, FTI Converters, and Silver Sport Transmissions, has launched FTI Performance Parts.

The new company, operating out of a new facility near Philadelphia, Pennsylvania, will offer performance torque converter and automatic transmission parts. Greg Samuel, founder of FTI Converters, and Ken Kelly Jr. will lead the new brand.

## STANDARD DRIVETRAIN ACQUIRES PRECISION INDUSTRIES

Standard Drivetrain in Wilmington, Delaware, has acquired Precision Industries, a torque converter supplier based in Whiteville, Tennessee.



Precision Industries offers a full lineup of driveline products.

Founded by Terry Hedrick, Precision Industries is recognized for developing a multi-clutch performance torque converter and a one-piece billet back cover, according to a company source, and offers a full lineup of driveline products.

## CIRCLE D SPECIALTIES ACQUIRES REID RACING

Circle D Specialties, a manufacturer of high-performance torque converters and driveline components, has acquired Reid Racing, a provider of driveline products, such as transmission cases, bellhousings, steering knuckles, and more for drag racing, off-road racing, and circle track applications.

Reid Racing's Concord, California, operations will be consolidated into Circle D's existing facility in Houston, Texas.

## KREIDER FAMILY PURCHASES ROBISON RACING PRODUCTS

The Kreider family, a New Jersey-based family with ties to the racing industry and current USAC Silver Crown racer Mike Haggenbottom, has purchased Robison Racing



**Dawn Kreider (left) and Jeff Kreider**

Products. The company will begin operating under a new name, Robison Race Products by Kreider Manufacturing, following the acquisition.

The new company, helmed by Jeff and Dawn Kreider, will relocate from its former headquarters in Dublin, Pennsylvania, to the Kreider's 3,300-square-foot machine shop in Whitehouse, New Jersey.

## LUCAS OIL ADDS TO EXECUTIVE AND LEADERSHIP TEAMS; EXPANDS INTO BRAZIL

Lucas Oil Products of Indianapolis, Indiana, has announced two appointments to its executive and leadership teams, hiring Joel Feldman as vice president of product development and promoting Brandon Greene to vice president of customer solutions.

Feldman, with 26 years of experience in fluid systems, chemical engineering, and product development, will lead the creation and development of new products, overseeing all phases from conception to manufacturing. Greene will lead efforts to improve order processing and fulfillment, implementing new technology to enhance customer interactions and expedite shipping.

In related news, Lucas Oil is expanding into the Brazilian market through an exclusive distribution partnership with Comercial Lucar, a Brazilian wholesale distributor specializing in lubricants and filters for the automotive, industrial, and heavy equipment markets.

The partnership will introduce the American brand and its products to the Brazilian market, the world's 10th largest economy and home to more than 83 million automobiles, according to a company source.



**Joel Feldman**

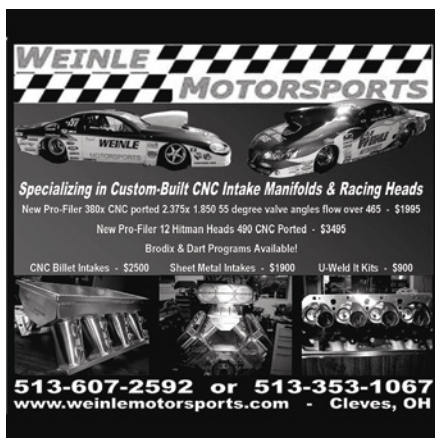


**Brandon Greene**

# SEE YOU IN INDY!

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## QA1 ACQUIRES SPEEDTECH PERFORMANCE USA

QA1 in Lakeville, Minnesota, has acquired substantially all the assets of Speedtech Performance USA, a Utah-based provider of chassis and suspension solutions for the pro-touring and restomod markets.

The Speedtech Performance brand will continue operating out of its St. George, Utah, facility with its existing team. Co-founder Roger Maniscalco will remain with the company to lead the sales and marketing efforts for the brand.

## RADFORD RACING ANNOUNCES TEAM ADDITIONS

Radford Racing School, located in Chandler, Arizona, has named motorsports veteran and professional drag racing instructor Chuck Sundstrom as its new general manager.

Sundstrom will manage the Radford Racing School team and operations on the seven-track campus and will be tasked with optimizing the automotive experience for students and guests of all levels.

In addition, industry veteran Mark Valentino

has been named as Radford Racing School's new director of business development.

Valentino will help expand the school's industry presence through promotional campaigns, strategic partnerships, and special events. He will also lead the development of its latest program, the Radford Motorsports Club.



Mark Valentino



Chuck Sundstrom

## ATLANTA MOTORSPORTS PARK RECEIVES OUTSTANDING FACILITY AWARD

Atlanta Motorsports Park (AMP) in Dawsonville, Georgia, received the 2023 Outstanding Facility Award, presented by SPEED SPORT, at the Race Track Owner's Conference held in conjunction with the PRI Show.

The accolade recognizes AMP's commitment to excellence and innovation in the high-performance driving and racing industry, setting a high benchmark for facilities worldwide, AMP representatives said.

## UTV WORLD CHAMPIONSHIP EXPANDS

The UTV World Championship will expand from one to three races as part of the newly formed UNLTD Off-Road Racing Championship Series.

The three-part series schedule includes the Parker 400 in Parker, Arizona, the Mint 400 in Las Vegas, Nevada, and the California 300 in Barstow, California.

## USAC RELEASES 2024 NATIONAL EVENT SCHEDULE

United States Auto Club (USAC), the Speedway, Indiana-based sanctioning body, has revealed its national event schedule for 2024.

Featuring races in 15 different states, the 2024 schedule consists of 98 total events for its Silver Crown, sprint car, and midget series. The slate includes 54 sprint car, 30 midget, and 14 USAC Silver Crown National Championship races.

## 2024 EXTREME E SCHEDULE INCLUDES FIRST-EVER US EVENT

Extreme E, the global off-road, electric vehicle racing series, has revealed the schedule for its 2024 season, which includes its first-ever event in the United States.

# PERFORMANCE INDUSTRY REPS

The all-electric off-road series will make its US debut when it hosts the season finale for its 10-round championship in Phoenix, Arizona, November 23–24.

Beginning in February in Saudi Arabia, the series will also make stops at a yet-to-be-announced location in Europe and Sardinia, Italy.

## XTREME OUTLAW MIDGETS, POWRi NATIONAL MIDGETS PARTNER FOR 2024 CHALLENGE SERIES

The Xtreme Outlaw Midget Series, based in Concord, North Carolina, and POWRi National Midget League, headquartered in Belleville, Illinois, have renewed their partnership for the 2024 season with 10 co-sanctioned races in the second iteration of the Xtreme Outlaw-POWRi Challenge Series.

The series will award a \$2,500 check to the champion and cash prizes for the top-five finishers in the season-long standings.

## DRAG ILLUSTRATED WORLD SERIES OF PRO MOD ADDS PRO 10.5 CHALLENGE

The Drag Illustrated World Series of Pro Mod has created the new Pro 10.5 Challenge to run in conjunction with the 2024 Drag Illustrated World Series of Pro Mod, March 1–3, at Bradenton Motorsports Park in Bradenton, Florida.

The Pro 10.5 Challenge will be an invitation-only, \$25,000-to-win, 16-car shootout utilizing PDRA Pro Street rules. More than 20 drivers will attempt to qualify.

## NHRA ARIZONA NATIONALS TO RETURN TO RENAMED FIREBIRD MOTORSPORTS PARK

The NHRA will return to Phoenix during the 2024 NHRA Mission Foods Drag Racing Series season for the Arizona Nationals at the recently renamed Firebird Motorsports Park.

The NHRA previously announced that the Chandler, Arizona, facility—then Wild Horse Pass Motorsports Park—would close after the 2023 event.

The new moniker refers to the original Firebird International Raceway, the name of the track when it opened 40 years ago, according to the NHRA.

## FIA SELECTS HOOSIER RACING TIRE FOR WORLD RALLYCROSS CHAMPIONSHIP

The FIA has selected Hoosier Racing Tire, based in Plymouth, Indiana, as its exclusive tire supplier for the FIA World and European Rallycross Championship.

Hoosier and the FIA have entered into a three-year agreement. The deal extends from 2024 to 2026.

## HPD COMPLETES REBRAND TO HONDA RACING CORPORATION USA

Honda Performance Development (HPD), Honda's United States-based motorsports arm operating out of Torrance, California, has officially changed its name to Honda Racing Corporation U.S.A. (HRC US) to reflect its new role in Honda's global racing efforts.

With the change, HRC US will take on an increased role in Honda's global motorsports activities, including the company's Formula 1 power unit development program.

## MEYER DISTRIBUTING OPENS GEORGIA CROSS-DOCK

Jasper, Indiana-based Meyer Distributing has opened a new cross-dock in Savannah, Georgia.

The cross-dock will have a direct feed from Meyer Distributing's Orlando, Florida, distribution hub, which houses an inventory of automotive accessories, off-road parts, and RV products.

## THE DALE JR. FOUNDATION RAISES \$1.3M IN 2023

The Dale Jr. Foundation, the charitable organization founded by former NASCAR Cup Series driver Dale Earnhardt Jr., raised \$1.3 million in 2023, an organization representative announced.

Nearly 70 groups, organizations, and charities benefited directly from those funds, according to the Mooresville, North Carolina-based foundation, while an additional 59 organizations received in-kind support.

**For all the latest motorsports industry news, visit [primag.com/industrynews](http://primag.com/industrynews).**



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# SOCIAL STATUS

Using social media platforms to build and promote your personal brand.

The sponsorship game has changed over the years, and social media now plays a large role in racer funding. Learning how to utilize social media to build your personal brand can help increase your chances of attaining sponsorship for your race program.

Driver Davey Hamilton Jr. indicated that having a strong social media presence is perhaps more important than winning races when it comes to sponsorship. "Winning races is fantastic, and it certainly doesn't hurt, but what's more impactful to brands that want to sponsor you is showing that you are a marketable brand. Be an asset to them with an active and large reach to an audience who they can advertise and sell to.

"Many big-name female racers out there, regardless of their results on the track, have a very large social media presence and gain tons of sponsorship because they are aware of the appeal of females competing in a male-dominated sport," he continued. "They can be role models to other young girls, and if they can look good doing it, it's even more marketable, which goes for anybody, man or woman."

For new racers trying to build their social media following, Hamilton recommends strong visuals and action shots, along with utilizing photographers and/or videographers who will make you look good, in and out of the race car. "It's important to look good out of the car and take care of your appearance and your brand. Show off the exciting parts of your life and what goes on behind the scenes of your career because people are interested in that and want to see it," he explained. "If you do these things and stay consistent with it, sponsors will want to be part of that exciting lifestyle you portray."

Hamilton has built his following by being versatile in his life. Through racing, DJing, promoting events, etc. he has created unique and engaging content to grab people's attention.

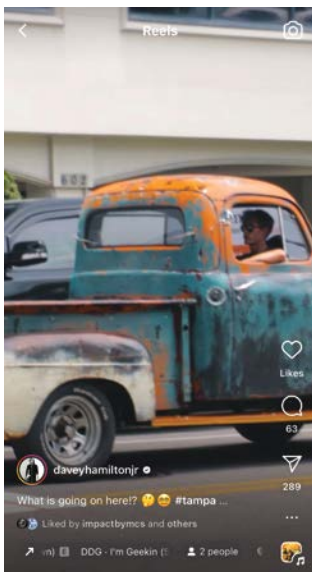
After you've started to build a following and have attained sponsorship, you then need to get creative with how you highlight those companies on your platforms. It's important to make sure the sponsor is happy with the coverage but also that the content aligns with your personal brand. "I will post pictures wearing branded

materials from my sponsors, sometimes with a humorous caption," noted Hamilton, "such as a photo I did wearing my Impact Racing helmet designed by List Designs, juxtaposed by my long-sleeved undershirt.

"If my sponsor is a person, like artist Ron Burkhardt, I will take a photo with him in an interesting environment with a lot of activity and a nice description, tagging that person," he added.

Develop out-of-the-box ideas to incorporate your sponsors into your social media content seamlessly, rather than just a simple product shot that potentially won't get much engagement.

To sum things up, create a consistent image that shows off your personality. And participating in fun, exciting interests, regardless of what they are, will attract more followers and gain the attention of sponsors, Hamilton suggested. "I like to be creative and spontaneous with my posts. Diversify your posts and you'll engage a wider audience. And don't be afraid to be funny and be yourself so people get to know you. It becomes more personal that way and allows potential sponsors to put a personality to a name." **PRI**





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