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PERFORMANCE RACING INDUSTRY MAGAZINE

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WHY DRAG-AND-DRIVE EVENTS
HAVE BECOME SO APPEALING TO
SPONSORS, RACERS AND FANS



ATHLETES IN MOTION

HOW PRO BALLERS LIKE
EMMITT SMITH ARE
IMPACTING MOTORSPORTS

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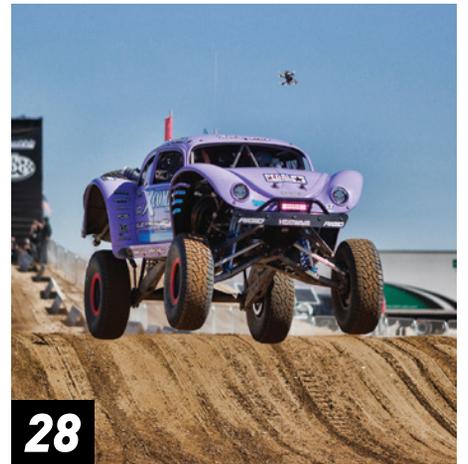
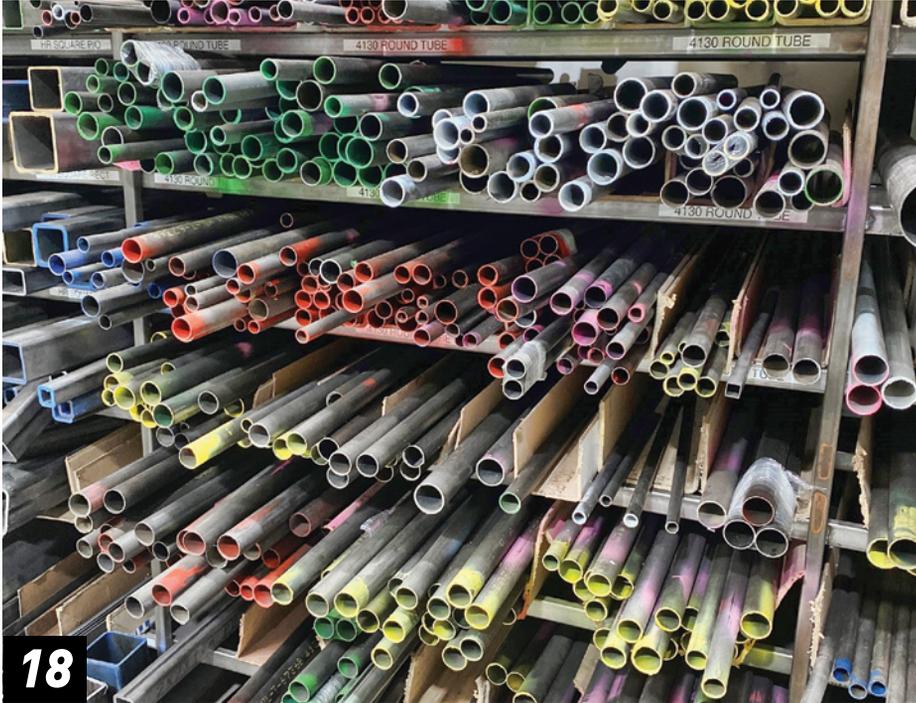
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JANUARY 2023 VOLUME 38, NUMBER 1

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FROM THE EDITOR

Two things I think as we turn the page to a new year filled with opportunity for motorsports professionals:

1) I THINK THE ANNUAL PRI TRADE SHOW

is usually a good measuring stick for the state and relative well-being of our industry; a vibrant Show typically bodes well for the coming season. So if the feedback we've received from last month's event is any indication, then racing and performance organizations by and large should be on sound footing for the foreseeable future. Over three-plus jam-packed days we witnessed some 1,000 exhibiting companies showcasing scores of new parts, equipment, technology, and solutions designed to help racers go faster and businesses work smarter. Speed secrets were shared and discovered not just throughout the aisles of the Indiana Convention Center and Lucas Oil Stadium, but in conversations and connections made into the evening at activities like the PRI Happy Hour and Exhibitor Reception, and venues like PRI's unofficial after-hours headquarters, St. Elmo Steak House (and its magnificent ribeye). But I digress. As always, we'll present full coverage of the Show in next month's issue of PRI Magazine. But for a more immediate fix we invite you to visit our social media pages, in particular Facebook and Instagram, where our team currently is—and will continue—rolling out exclusive video, galleries, and more from an unforgettable week in Indianapolis.

2) I THINK CHANGE CAN BE A GOOD

thing, especially when it challenges deep-rooted beliefs that may only serve to preserve a status quo. For context: Not long ago I had the opportunity to talk racing with an all-time great. This legendary sports figure wasn't a hero of the oval, drag strip or road course, though. No, this was three-time Super Bowl champion and NFL Hall of Famer Emmitt Smith, who also co-owns the Xfinity Series team Jesse Iwuj Motorsports. Our private sit-down, made possible through the efforts



DAN SCHECHNER
dans@performanceracing.com

of SEMA Education Director Pamela Brown-Matthis, was arranged so that PRI could gather further insight and information for our Special Report in this month's issue. Titled "Advantage, Athlete," it focuses on professional ballplayers' involvement in motorsports, but with two distinct goals. First, we wanted to learn more about why pro ballers past and present were attracted to racing to begin with. What is it about the sport that draws people like Smith, Michael Jordan, and others in? Second, we sought to gauge what impact these figures had—or *could* have—on helping to grow the industry beyond its present reach. While the lion's share of reporting and writing was handled by regular contributor Steve Statham, we did get to incorporate some thoughtful commentary from Smith, who I found to be extremely passionate about not just racing, but also about expanding the sport into new, more inclusive spaces. He made a number of salient points, in fact, several of which you'll find in Statham's piece beginning on page 42. One in particular that stuck with me was his response when asked where motorsports could advance the ball, so to speak: "It hasn't really tapped into the diversity of thought, which has not been attractive to the whole of the masses," he said. "In order to attract the whole of the masses, the masses have got to feel like they are appreciated and welcome and wanted. If you stay on the same path, well, you're going to get the same results. But if you change, you may take a little risk, but the risk could be worth the reward when you start... to bring more visibility, more eyeballs onto the sport. So leveraging the sport to really what it can become, and bonding it to the vision of what it can become, is extremely important." **PRI**

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Christen D'Alessandro

ASSOCIATE EDITOR
Laura Pitts

COORDINATING / PROJECTS EDITOR
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CONTRIBUTORS

David Bellm, Jim Donnelly, Dana Ford, Drew Hardin, Bradley Iger, Jim Koscos, Mike Magda, Bruce Martin, Steve Statham, Jeff Zurschmeide

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Marel Del Rio

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ADVERTISING COORDINATOR
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ART

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Paul Graff

GRAPHIC DESIGNERS
John Cabral
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PHOTOGRAPHERS

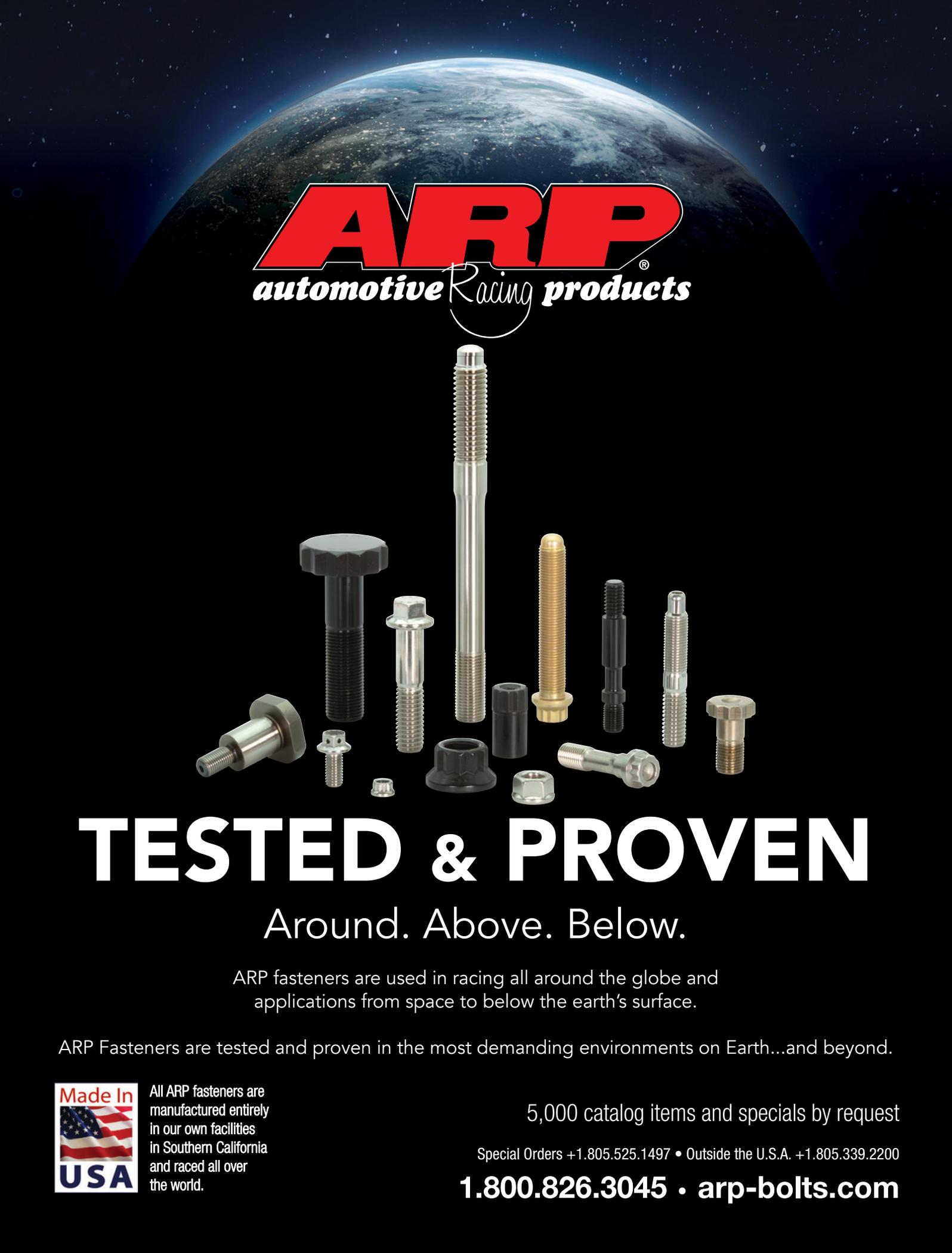
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ACCOUNTING

PAYABLES
Lily Huang

Performance Racing Industry (ISSN 1045 3024) is published monthly in the interest of the growth and development of the racing market, consisting of manufacturers, retailers and racing participants. *Performance Racing Industry* can be contacted at 27081 Aliso Creek Rd, Suite 150, Aliso Viejo, California 92656, 949/499-5413, Fax 949/499-0410. Periodicals Postage paid at Laguna Niguel, CA 92677, and additional mailing offices. **Postmaster:** Send address change to *Performance Racing Industry*, 27081 Aliso Creek Rd, Suite 150, Aliso Viejo, California 92656. No part of this magazine may be reproduced without written consent of the publisher who is not responsible for the unsolicited material. *Performance Racing Industry* is sent to the retailers, distributors, manufacturers and racing participants within the United States. Subscriptions are complimentary to qualified members of the racing industry. "Performance Racing Industry" is a trademark owned exclusively by SEMA © 2023 Performance Racing Industry. All rights reserved. **Printed in U.S.A.**
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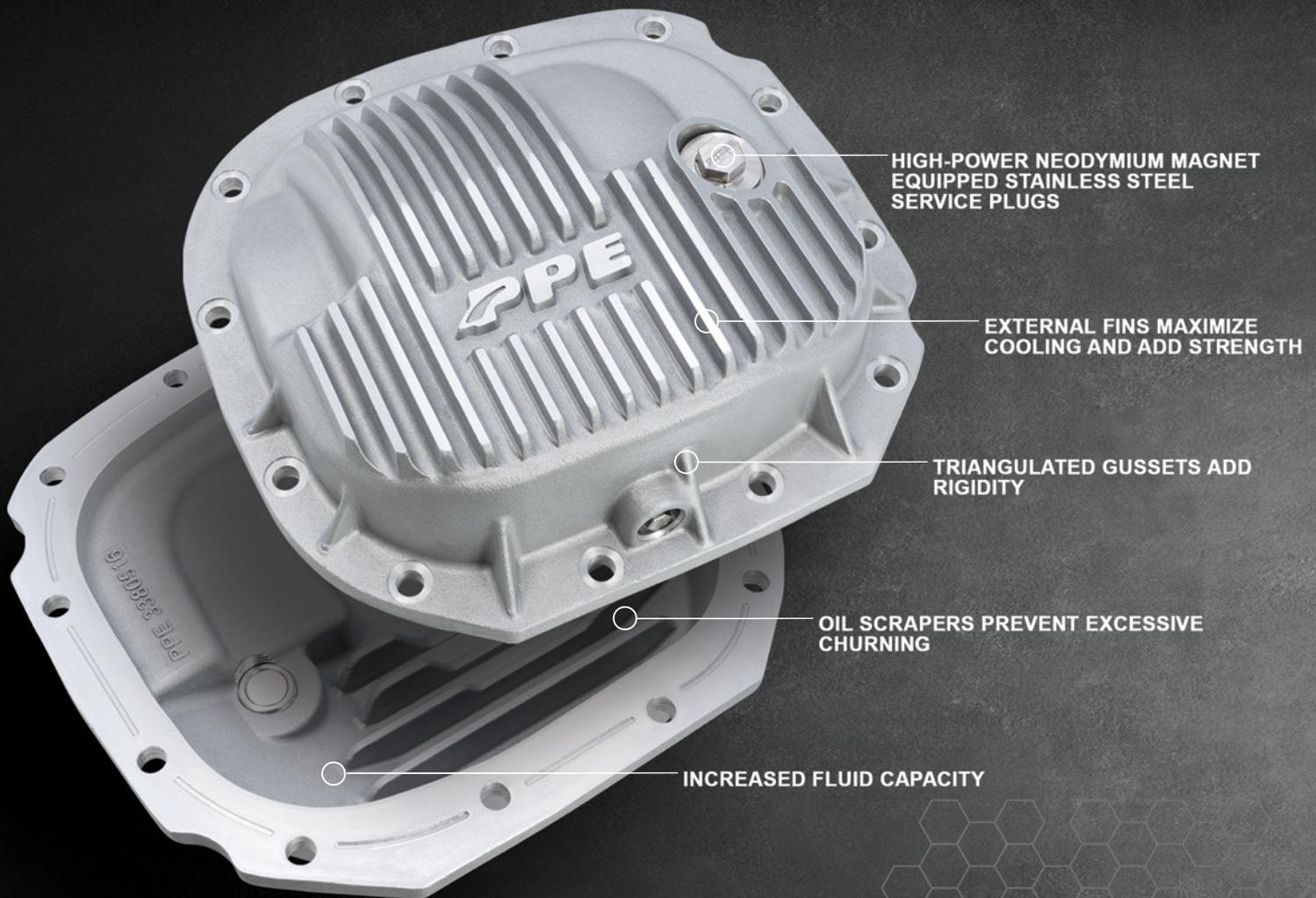
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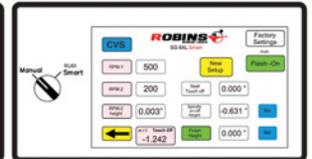
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FEATURED VEHICLES

An inside look at some of the industry's most intriguing builds, including a vintage chassis that sat for almost two decades, and a dragster turning heads in more ways than one.





1966 CHEVROLET CORVETTE

RANDY LARSEN

RACE SERIES/CLASS:

CSRG classic sports racing group GT1

ENGINE:

Small block Chevrolet 327 built by Randy Larsen

CAR:

Fabrication by Randy Larsen

FACTS:

The car was purchased about 20 years ago and painted, then sat in a field on Larsen's property for about 18 years. During COVID-19 Larsen took it out of the field, cleaned it up, and built it into its current condition.



2003 CNE DRAGSTER

NICK JANUIK

DRIVER:

Taylor Vetter

RACE SERIES/CLASS:

NHRA Top Alcohol

ENGINE:

461ci HEMI built by Nick Januik

FACTS:

Currently, Vetter is the only female racing a blown alcohol dragster in NHRA and the only female to go 280+ mph in a blown alcohol dragster.

ASK THE EXPERTS

HOW TO IMPROVE SEO

Paying attention to the details will help drive visitors to your business's website, which is invaluable in today's online economy.

By Drew Hardin

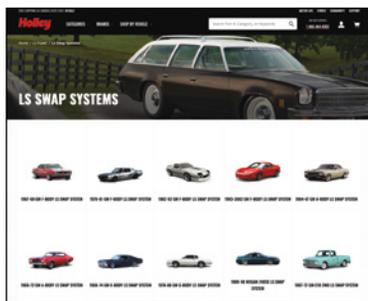
SEO, or search engine optimization, may seem like a website function that's a little too obscure, or mystifying, for a performance racing business to deal with when it's already at 10/10ths trying to fill orders and cope with parts shortages and supply chain slowdowns.

That would be a mistake, said Jordan Manavian of We Design LA in Los Angeles, California, an agency that helps companies improve SEO among other digital strategies. "The one way people find businesses nowadays is by [Internet] searching, whether it's for the product or the use case or the pain point. If your company doesn't come up, it doesn't matter how big you are, you're not there."

At BlackTruck Media + Marketing in Grand Rapids, Michigan, another firm focused on improving a business's online efforts, "we work to best understand what's going to make the most relevant sense for the brand to get them to show up higher in rankings to generate more traffic, generate more leads, and generate more sales," said Jason Dodge.

Dodge and Manavian offered several tips racing and performance businesses can use to improve SEO. It's not rocket science, but some of it may take a digitally savvy employee—or one of these firms—to make the most of a company's website features.

At the top of both of their lists was populating a website with quality content. "Google wants you to



answer a person's question with a quality experience in an informative and very detailed way," Manavian said. "Google values what's valuable for its user. Google's best success is when that user uses its search product the least amount. If you can pull someone in through a Google search, and they stay on your site, Google really likes that. Google also looks at: Do they stay on your site a long time? Do they look at lots of pages? Do they convert on your site? Now that person found you and bought something on your site or signed up for something. That's how Google values the most of what you're providing."

Creating that kind of experience is "less about creating tricks or gimmicks to get someone to come to your site," Manavian said. "It's matching your content and your services to the right people who actually really want to see or buy it."

Dodge tells his customers, "Don't try to be something you're not. Don't write a bunch of long-form content because it ranks better. Write content to the length that it needs to be to get the point across. You're not writing content to shove a bunch

Holley's website page for LS swaps demonstrates "good brand presence and focus on user intent and needs," said Jason Dodge of BlackTruck Media + Marketing. "Don't focus on the things that don't matter. Make sure you keep your audience in mind and understand who it is you are communicating with."

Jason Dodge cited the importance of merchants understanding "user intent," or the goal of the web visitor. "Are they looking for information on a subject, or do they want to buy? Those are two completely different search intents, because those users are at different points of their buying journey."

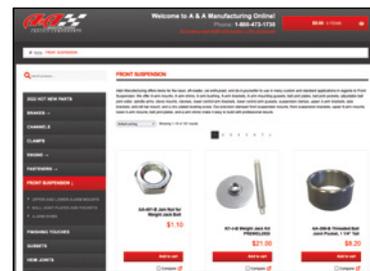
of keywords in there—you're writing content to make sure it connects with your audience, gets the point across, and resonates with them."

Keywords, Manavian explained, are those terms "someone types into Google search, so tying those search terms or phrases to what appears on your site is key. You want to have the keywords focused. If the content is about engine tuning, it should be in the title and used multiple times. Explain it from different angles. That's what they're looking for." But, he added, "if you're just saying the words 'engine tuning' 30 times in one sentence, they call that keyword packing or stuffing, and you'll get knocked down for that."

Cutting and pasting a manufacturer's new product information into a website also is a mistake, according to both Dodge and Manavian. Google will pick up on that as well.

"Write your own description," said Dodge. "Make it different. That will help you stand out in the eyes of the search engine."

"Focus on crafting good, unique content that hits on what your audience is looking for, and



make sure your content is structured appropriately," he added. That structure should include "a unique and compelling meta page title, the bolded text on the search engine result page that everybody clicks on. You also want to have a unique meta page description, which is the text that comes below that in the search engine results. The meta page description is not a ranking factor, but it's an opportunity to potentially own some more real estate in search and draw the user in." A site should have a unique meta page title and a unique meta page description "per page, per blog post, per product description or product category page, depending on the business."

Also make sure that content is "organized appropriately, with the various segments or subsegments, and that you're using heading tags appropriately," Dodge said. "That provides Google and the search engines direction on what this section is about within a page. Google is inherently lazy. It doesn't want to crawl an entire site. It wants that information fed to it. So sites still, to this day,

should have a sitemap XML file that can be fed to Google. The search engine is more or less going to look to that file, crawl it, and that will be its mapping guide to help navigate through the site faster."

Other tips from our experts: There is no set length for a website article to boost SEO, Manavian said. But while shorter used to be better, conventional wisdom puts the ideal length now at around 1,000–1,500 words per web page. "And don't do all copy," he added. "It should have images and, if possible, video as well."

"Search is still built on the foundation of keywords and links," Dodge said. "Make sure those links and those resources linking to you are of like industry or like topic. That's attribution, showing authority. Link building and links are ways the Internet functions, and search engines recognize that." A few years ago, "Google caught wind of the fact that there were SEOs doing things that were unorthodox. There was a lot of link buying happening, a lot of link spam, so the focus was on quantity of link versus quality." When

Google recognizes links that aren't related to a company's core business, the site's search ranking could actually be penalized.

Ultimately, improving SEO is not a short-term strategy, Manavian pointed out. "It might not yield a benefit or positive traction for six to eight months." Yet SEO "is absolutely one of the most underrated categories for companies to compete in, because essentially, if you have it built, it is yielding free traffic. I've seen large companies that spend a lot in advertising, that have big sales teams that have been around a long time, get beat by smaller companies that have an SEO strategy when they don't have one." **PRI**

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STOP DOING THAT...DO THIS INSTEAD

WASTING EXCESS METAL

As efforts to improve sustainability proliferate throughout the automotive realm, the industry is developing solutions to help ensure that leftover material gets put to good use.

By Bradley Iger

There's an array of different processes that can produce metal waste during the journey from raw material to a finished motorsports product. Although most manufacturers are continually on the lookout for ways to improve their production efficiencies and reduce their impact on the environment, some excesses are inherent due to the nature of the industry and the specialized components that support it.

That doesn't mean the extra material has to end up in a landfill, though. Here we're taking a closer look at how manufacturers, metal suppliers, and brokers are helping to reduce this waste in ways that can actually bolster a business's bottom line while benefiting the planet.

CUT TO ORDER

Stock Car Steel and Aluminum (SCSA) in Mooresville, North Carolina, got its start back in 1996 providing metal for chassis builders in NASCAR and other series, but over the last two-and-a-half decades the company has expanded into plastics, aluminum, sheetmetal, and other materials for a range of different industries. One particularly popular service that the company offers is the ability to do custom cuts. If a customer needs a material of a particular length or some other dimension, SCSA can trim the material down to size for them.

"It's something we've been doing



here since the beginning, and because of that, we were able to find a use for the excess material very early on," said Sasha Dierker. "Any extra material that we end up with because of a custom cut, a return, or some other reason ends up in our drop bins and racks, and that allows walk-in customers to check out what's available when they're at the shop. It's generally materials



Extra material left over from custom cuts, a return, or some other reason goes into drop bins and racks at Stock Car Steel and Aluminum. "That allows walk-in customers to check out what's available when they're at the shop," said Sasha Dierker, who noted these materials are usually sold at a discount.

Callies Performance Products works only with ferrous-based metals, "so we can recycle all of that material," said Heath Norton. "Selling that material to recyclers allows us to turn something that would otherwise be an expense for us into something that brings money back in."

like steel square tubing, chromoly, and welded DOM steel tubing that's 5 feet or less in length with a 1-inch to 2-inch outside diameter. Sheet ranges from 11 gauge to 22 gauge."

These 'drop' materials are typically discounted by 10–15%, depending on the type of material and size. If SCSA ever finds itself with an over-abundance of drops, the material is sent to the scrap yard for recycling.

"That hasn't really been an issue lately," Dierker said. "Sometimes people will buy entire bins of material. And if prices on materials keep rising, I think it'll only become more popular over time. Cup teams can contend with the costs; the people who really benefit from this are the ones who don't have huge budgets to work with."

RECYCLING RESOURCES

As one of the leading manufacturers of motorsports-grade crankshafts, connecting rods, and camshafts, Callies Performance Products in Fostoria, Ohio, machines and processes a vast amount of metal to produce its products. Rather than tossing out those metal shavings and chips—and in turn bearing the cost of disposal—the company has developed a storage and categorization system that makes recycling the materials a hassle-free proposition.

As Heath Norton explained, it's part of a larger effort at Callies

to operate the business in a way that's sustainable and cognizant of potential environmental concerns. "We're pro-racing and pro-environment," he stated. "We recycle scrap parts, return parts, damaged parts, the chips and shavings that come off in manufacturing, cardboard waste—anywhere there's an opportunity to do so. It's something we've done since the beginning of the company, and I think anyone who wants to run their business responsibly should be making an effort. By now there's a well-established path for this sort of thing."

To help reduce metal waste, Callies Performance Products divides up chips and shavings by material type and stores them in an enclosed area outside the facility to prevent any potential groundwater contamination from rain. "Everything we do at Callies is ferrous-based, so we can recycle all of that material," Norton noted. "Selling that material to recyclers allows us to turn something that would otherwise be an expense for us into something that brings money back in. Throwing stuff away is expensive, so anything we can do to avoid adding to landfills is going to be advantageous."

CASH FOR SCRAP

Scrap metal processor J. Solotken & Co. in Indianapolis, Indiana, buys excess materials from factories and demolition companies as well as machine shops and other motorsports-related businesses. As Bob Schneider explained, the company's close proximity to Indianapolis Motor Speedway has given it a direct connection to auto racing and has provided greater awareness of the services it offers in turn.

"This is the 'racing capital of the world,' so of course a lot of race teams have facilities here," said Schneider. "As these teams machine materials on a mill, lathe, or whatever else they might be using, they produce turnings from that process. They also have a lot of end pieces and material that's had sections cut out from sheet, bar stock, plate stock, and so on. I think that because of concerns about things like global warming and other environmental factors, folks are becoming more aware of the need to keep this stuff out of the dump. At the

same time, they're also realizing that the material has value. Every now and then I'll talk to someone who tells me, 'Oh, we're just throwing that stuff away.' And I'm like, 'Don't do that—I'll pay you for it!'"

As Schneider noted, trashing this material rather than selling it to a broker tends to move a business's money in the wrong direction. "Trash services will charge you to dispose of it, so what we're offering is income rather than an expense," he added. "It's good for the environment, and it's also good for the overall perception of the business."

J. Solotken & Co. also works directly with companies to advise them on how to collect and sort materials, along with ways to minimize material contamination when using different types of metals on the same piece of equipment. "Let's say they're working with a steel part and then they're going to switch over to an aluminum part," explained Schneider. "If they don't clean the machine out properly, they'll end up with steel in their aluminum turnings, and that can turn something with value into something with little or no value."

He noted that virtually all metal material can be recycled, and that the recycling process has actually been an essential part of metal production for decades. "Generally speaking, about 40% of the material that goes into making new metal comes from scrap," he added. "Depending on how the metal is going to be used, sometimes recycled material can be preferable to new raw material because of potential differences in things like hardness and resistance to heat. It really all comes down to the application." **PRI**

SOURCES

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callies.com

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jsolotken.com

Stock Car Steel and Aluminum
stockcarsteel.com

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Dealers & Distributor Inquiries Welcome

EDITORS' CHOICE

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

PROGRAMMABLE ELECTRONIC IGNITION DISTRIBUTOR

PROGRESSION IGNITION

progressionignition.com

A drop-in distributor that can be programmed with a smartphone and offers race-specific features such as nitrous retard and launch rev limiter is now available for popular V8 engine platforms from Progression Ignition in Edgewater, Florida.

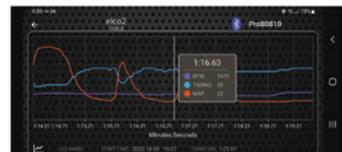
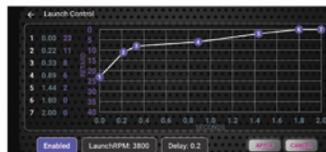
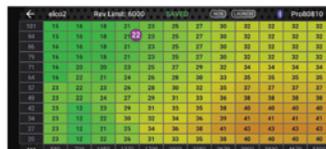
"The primary market for this product was muscle car guys," said Ted Regier. "Then when we showed it at SEMA 2019, we started getting calls from dirt track guys. They wanted to know if timing could be reduced coming out of the turns. Timing can be reduced whenever you want. Then drag racers wanted it, so we started developing more race features."

A Bluetooth wireless connection to a smartphone app allows timing adjustments with the engine running or off. There's also a real-time data streaming provision. All the electronics are contained in the distributor under the cap—there are no external boxes. There is an easy-to-use basic setup program, but more sophisticated programming is available in the app for fine tuning.

Racer-friendly features include a main rev limiter, boost-retard timing, nitrous retard and adjustable release delay, and launch retard tuning.

Also included are data logging, automatic start retard, and automatic dwell control.

Current applications include Chevy, Ford, Pontiac, Chrysler, Oldsmobile, and Buick. The price is under \$600, and the product is available only from the company website. —Mike Magda



LEFT- AND RIGHT-HAND DRY SUMP FOR LT ENGINES

AVIAID

aviaid.com

The new LT engine family is likely to be just as popular for engine swaps in the coming years as the LS architecture, and packaging can always be an issue—especially if you want to step up to dry-sump oiling. Aviaid in Chatsworth, California, can help solve those problems by offering a block-hugging system that is available for both left- and right-handed installations.

“Typically, the pump is mounted on the right or passenger side of the engine,” noted John Schwarz. “Unless you’re in Australia where the steering shaft comes down that side with a right-hand drive.”

There’s no denying the performance benefits of dry-sump, including eliminating power-robbing windage and assuring constant supply of lubricant during acceleration and cornering. Also, the low-profile oil pan allows for lower engine placement.

Aviaid’s new kits are available with three- to six-stage pumps, and adapters can be ordered for pumping fuel or power-steering fluid.

“The system can also work with an external wet-sump pump,” said Schwarz. “The gerotor oil pumps on LS and LT engines can lose effectiveness after certain rpm levels—say 7,000 rpm and they’re done. There are drag racing guys that 7,000 rpm is where they start!”

The Aviaid external wet sump is designed to provide a constant flow of oil for more than 10,000 rpm. —Mike Magda



SMART-TECH TH400 DRUM MODULE

SONNAX

sonnax.com

Sonnax in Bellows Falls, Vermont, has reengineered the forward/direct drum system with lighter and strong parts to help give drag racers running a TH400 transmission an edge at the track. Weighing 3.3 pounds less than an aluminum direct drum, the module’s direct-clutch components take 68% less energy to operate than others in the aftermarket, according to Sonnax’s Gregg Nader.

“For a bracket racer, the improved consistency helps dial in the number,” said Nader. “Racers at different levels of competition have reported ET gains of .010 to .020 second. Some noticed more consistency and smoother runs. Others noticed more power to the wheels and adjusted accordingly. Also, there are reports of quicker reaction times from trans-brake release.”

Prototypes first hit the track in 2020, and production units were available in early 2022.

“From the very beginning, the reports have all been positive,” said Nader.

An all-in-one kit, the Smart-Tech module includes all parts necessary for the upgrade. The module is easy to assemble and install with compatible 28-spline input shafts, including Sonnax heavy- and extreme-duty shafts. Due to its design, the Smart-Tech drum module is suited only for drag racing applications that do not use a front band. —Mike Magda



BOLT-IN QUADRALINK REAR SUSPENSION

DETROIT SPEED

detroitsspeed.com

Trucks keep showing up more often in drag racing, drifting, and autocross competitions, and performance suspension modifications are quickly being developed to handle the increased numbers.

"With the amount of attention GM trucks have received in the last few years, it only made sense for Detroit Speed to offer a performance suspension system," said Evan Perkins of the Mooresville, North Carolina-based company. "Many of these trucks actively see the autocross, and our track-tested suspensions offer better handling on the track and the street."

The kit shown is a bolt-in version for the 1967–1972 Chevrolet C10 pickup as well as the GMC C15 for the same model years. The kit replaces the trailing-arm/coil-spring setup that came from the factory. It includes double-adjustable shocks with remote reservoirs and brackets that can be bolted to the factory axle.

"One of the benefits of these kits is that they are offered in bolt-on or weld-on configurations. That allows for the professional or the hobbyist," added Perkins.

The kits allow an adjustable ride height of 5.5 to 7.5 inches of drop to set up the desired stance, depending on wheel-and-tire combination. All the major components are powder-coated for appearance and corrosion protection.

Other features include C-notched plates for additional axle clearance at low ride heights and laser-cut brackets that work with the original wiring and brake lines. —Mike Magda



DYNASTY 300 WITH WIRELESS FOOT CONTROL

MILLER ELECTRIC

millerwelds.com

Making welds in tight quarters, such as a roll cage, is much easier with the new Miller Dynasty 300 AC/DC TIG/stick with wireless foot control.

"The wireless foot control makes for easy welding around large fixtures where movement is critical," said Andy Weyenberg of the Appleton, Wisconsin, manufacturer. "There's no cable to get caught on obstructions or limit reach."

Weighing just 55 pounds, the Dynasty 300 can weld up to .375-inch thick material. Other features include Pro-Set to eliminate guesswork when setting weld parameters and program memory to save and recall favorite weld settings.

"These pedals are not just simple RC technology. They have to be shielded from the electrical noise interference and magnetic fields that welding creates," noted Weyenberg. "They also have to be digitally married to the receiver so other wireless pedals don't cross-control other machines in a congested work environment."

Included in the complete package are the Dynasty 300, runner cart, Weldcraft W-280 torch kit, coolant, 8-foot primary cord, Coolmate 1.3 water cooler, and wireless foot control.

"So far race teams like the new operator interface, which makes it easier to set the machine through various scroll-and-press-to-set screens," added Weyenberg. "Each set-up screen also gives the operator a graphic representation of what the arc will look like, eliminating guess-and-set." —Mike Magda



HEAD-STUD KIT FOR LS ENGINES

POINT ONE MANUFACTURING

p1mfg.com

A new head-stud kit for Gen III and IV LS engines is now available from Point One (P1) Manufacturing in Rogersville, Missouri. Constructed from 8740 chromoly steel, the studs are rated at 190,000 psi tensile strength.

“We are a full-service fastener manufacturer with design, all machining operations, heat-treat, and finishing in-house. Our metallurgy and metrology labs ensure every part we produce meets or exceeds the customers’ requirements,” said Kevin Feeney.

Finished in black oxide to prevent corrosion and boost longevity, the kit includes 20 MJ11-2.0 x 7/16-20 x 5.115-inch studs, 10 MJ8-1.25 x 5/16-24 x 2.500-inch studs, 12-point nuts and stud washers. The kit fits 2004 and later GM LS engines.

“The feedback we have received from our customers has been incredible,” added Feeney. “They are impressed with the attention to detail not only on the quality of the product but the care we take in packaging it and ensuring they have everything to complete their installation.”

Future fastener kits include head and main stud packages for additional late-model engines in addition to a dedicated line for the diesel market.

“Point One was founded with the core principle that in high-performance engines 99.9% is often simply not good enough. We strive to exceed the customers’ expectations through our products and superior customer service,” said Feeney. —*Mike Magda*



REAPER STILETTO LEFT-HANDED COBALT DRILL BITS

RODMAN DRILL & TOOLS

rodmandrill.com

Removing broken bolts or studs can cost any engine build or chassis fabrication valuable time. The new Reaper Stiletto left-handed cobalt drill bits from Rodman Drill in Canoga Park, California, will help remove stubborn right-handed fasteners with torque applied through the left-handed bit.

“Our race shops love the Stiletto lefty drill bits. They’re made from our patented cobalt-tungsten alloy, as opposed to common M2 high-speed steel,” said Jon Epstein. “These offer superior performance in fouled parts that have been exposed to excessive heat. The aggressive Stiletto step-tip style allows faster and cleaner removal of broken parts than 135-degree split-tip bits on the market, especially when the clock is ticking and time is of the essence.”

The 15-piece set includes drill bits from 1/16-inch up through 1/2-inch in 1/32-inch increments. Additionally, the lefty Stiletto bits feature a shortened length for greater access in hard-to-reach areas. Sizes 3/16-inch and larger have shanks with three ground flats that prevent slippage in drill chucks.

“There’s no need for predrilling or heliarc fussing,” added Epstein. “The precision-ground flutes and wide web design facilitate fast chip removal, thus preventing the bits from overheating and becoming brittle.”

The Stiletto left-handed drill bits can be used to remove busted head bolts, manifold studs, and other stubborn fasteners. They also drill through stainless steel, spring steel, and Grade 8 bolts. —*Mike Magda*



FAST MOVERS

An up-close look at some of the country's in-demand products and services by region and racing segment.

Edited by Laura Pitts

Motorsports retailers and service providers are constantly tracking the latest parts and trends to give their customers a competitive edge. For the latest on which products and services are moving the retail needle, we present the following sales snapshot from shops across the US.

CAROLINA RACING SUPPLY

Carolina Racing Supply—the circle track parts provider in Mooresville, North Carolina—told us that one of its bestselling products is an air cleaner specifically for Holley carburetors.

“The TomCat Performance Flat Base Air Cleaner Assemblies give a dyno-proven bolt-on horsepower increase and have been very hot the last two years. They're predominantly used on circle track dirt cars and pavement modifieds but are most popular among crate engine classes,” said Tom Sandal.



“A tech story in a publication brought a big boost to this product,” he said when asked about marketing efforts behind the part. “Other than that, they are sold through our nationwide network of dealers.”

PERFORMANCE MOTORSPORTS

Although Performance Motorsports in Whitelaw, Wisconsin, couldn't narrow down its fastest-moving products—stating customers may need hundreds of its available components to build a complete race car—Jesse Fuller did note the shop often serves as a popular gathering spot for local dirt and asphalt circle track and drag racers.

“We have a retail storefront where customers like to have discussions—or debates—on why this part may be better or why a car is faster. It's always in the fun of the sport of racing along with the competition. Most of these people are friends outside the track, so a friendly discussion is always entertaining to listen to,” said Fuller.

RACE DAY SAFETY

When we spoke with Kevin Shaw from Race Day Safety—the performance parts retailer in Dallas, Georgia—about his shop's bestsellers, he pointed us to the Alpinestars Kart Race Shoes along with Karting and SFI 3.2A/5 Auto Race Gloves made exclusively for the retailer by K1 RaceGear.

“The kart racing market seems to reemerge in the cooler months,”



Shaw said. “Plus, both male and female drivers like to show their support for Breast Cancer Awareness in the month of October.”

Customers of these products are predominantly dirt and asphalt oval track racers, he added, as well as karters on road courses.

THOMPSON RACING FABRICATION

Thompson Racing Fabrication in Cedar, Michigan, is kept busiest by its arrive-and-drive rally customers following the American Rally Association (ARA) national schedule, a segment the company has been serving for more than 15 years.

“We crew for cars at events and do all the prep, re-prep, and repairs between events to keep them ready to compete,” said Ryan Thompson. “We work on a wide variety of vehicles, but many would fall into the sport compact category like Ford Fiesta ST, Subaru STI, Honda Civic, or Dodge Neon SRT-4 that compete in Limited 2WD, Limited 4WD, and Open 2WD classes. For the 2023 season, we're also building two cars to compete in RC2, an FIA classification.”



The biggest driver of marketing ROI for Thompson is simply attending rally events and supporting its customers. “It's obviously desirable for potential customers looking on to want to be part of a successful team. But it's also common for us to sponsor the events we go to,” Thompson said. “For the past 5 to 8 years, our challenge has been building resources fast enough to keep up with demand. As it is, we've grown in almost every regard by a factor of 10 without serious marketing.” **PRI**

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NEWLY APPOINTED

SCOTT DIEHL

Total Seal's new head of business development values the personal connection with customers and plans to expand into new markets via old-fashioned relationship building.

By Jim Koscs

Scott Diehl joined Total Seal Piston Rings in October 2022 after many years with Joe Gibbs Racing and its specialty lubricants business, Driven Racing Oil. On the racing side, he had worked on the #20 car with driver Tony Stewart. While at Driven, he worked with Lake Speed Jr., who joined Total Seal at the end of 2019 as vice president of sales and marketing.

Diehl's mission is to expand the manufacturer's reach in both performance and motorsports, as well as in other industries. The company, which invented the Gapless piston ring more than 50 years ago, sees potential wherever piston engines are used.

Speaking to PRI about his goals at Total Seal, Diehl emphasized his focus on relationships, which drive his business approach.

PRI: How did your previous experience with Joe Gibbs Racing and Driven Racing Oil prepare you for the new position at Total Seal?

Diehl: I worked on the racing side before moving to the lubricants side of the business. I saw everything from the development phase through competing with the products—engine oils, gear oils, etc. I worked with Lake Speed for 10 years. So, I bring that history with me.

PRI: Total Seal's slogan is, "If it takes a piston ring, we can build it," which suggests a broad view of the

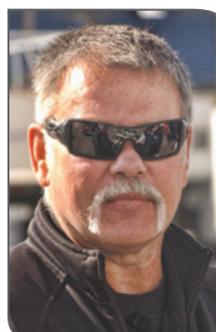
company's business. Where do you see opportunities for growth?

Diehl: Most of our business has been performance-engine related and racing, so that's not an untapped market. But we have opportunity in the diesel world. We're already doing some, but there's potential for more. There are others we can pursue. Lots of industries need piston rings, such as compressors and generators.

"WITH ENGINE BUILDERS, I'M A BIG BELIEVER IN FACE-TO-FACE. I DON'T THINK RELATIONSHIPS CAN BE BUILT OR NURTURED OVER THE PHONE OR THROUGH EMAIL."

PRI: What are your near- and long-term goals in this position?

Diehl: The long-term goal is to grow business in the industries we're involved in, and new ones. Near-term, I want to further enhance relationships with existing customers. With engine builders, I'm a big believer in face-to-face. I don't think relationships can be built or nurtured over the phone or through email.



SCOTT DIEHL

TITLE: Head of Business Development

ORGANIZATION: Total Seal

HOMETOWN: Fenton, Michigan

FAST FACT: Michigan-born Diehl said, "I'm a huge outdoors guy. And I love, love, love snowmobiling. I'm happiest where it's snowing and cold. I've spent a lot of time in Wisconsin and upstate New York, but my favorite place is Michigan's Upper Peninsula."

Our sales team has a lot of direct contact with our engine builders. I'd say they talk to half of them monthly. But I know we have a lot who buy our products through distributors, so we don't get to talk to them much. I want to make sure they know how much we appreciate and value their business and that we make sure they're up to speed on our new stuff.

While I was traveling in Wisconsin to see customers, some builders were telling me, "This is great. We don't see manufacturers anymore." So, I know they appreciate the person-to-person approach.

PRI: What's the biggest challenge facing your business, or race parts manufacturers in general, and how is Total Seal working through it?

Diehl: As an industry, we're all still in some state of recovering from the pandemic and getting plenty of inventory on the shelves. Like most, we had raw material issues for a while. Most of those are solved. We're in a strong place, close to what I'd call 'pre-pandemic' levels and ready for the new season. We're hearing from engine builders that we're doing a good job, but that's not to say we can't do even better.

PRI: What is one mistake you've learned from? It could be yours or someone else's.

Diehl: This is kind of a general statement. When you're in the sales world, it's imperative to spend more time listening and less time talking. If we listen long enough, the

“WHEN YOU’RE IN THE SALES WORLD, IT’S IMPERATIVE TO SPEND MORE TIME LISTENING AND LESS TIME TALKING. IF WE LISTEN LONG ENOUGH, THE CUSTOMERS WILL TELL US ALL WE NEED TO KNOW.”

customers will tell us all we need to know. But if we’re talking too much, we can’t listen. We all need to work on listening skills.

PRI: If you could have a conversation with anyone in racing, living or passed, who would it be and what would you ask them?

Diehl: That’s a tough one. I’ve had the good fortune to meet a lot of great and interesting people, like Dale Earnhardt and Richard Petty. I guess I’d like to sit down over coffee with Robert Yates. He was a true engine builder who did a lot of good for the sport and the transitioning in the NASCAR world where I come from. I’d love to talk to him about the early days and learn from his experiences.

PRI: Excluding your cellphone/tablet/computer, what’s one thing you can’t live without? Why?

Diehl: Relationships—I use that word a lot. These are critical to building business and keeping it. As good as we think we are, we’re always going to make mistakes or have issues. If we have a strong enough relationship with a customer, we’ll be able to get through those. **PRI**

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INDUSTRY INSIGHTS

MATT MARTELLI

Drawing on decades of experience creating captivating online content, this industry veteran and producer of the famed Mint 400 shares why he is “excited about the future of off-road racing” while walking hand-in-hand with government agencies and appealing to a younger demographic, all with the focus of securing the sport for future generations.

By Jeff Zurschmeide



Sometimes it takes new eyes to see opportunity clearly. That was the case for Matt Martelli, who found himself the new guy in a field dominated by long-established competitors. Martelli had founded Mad Media in the early 1990s, just in time to catch the reinvented Internet revolution, producing content that went viral before anyone thought to call it viral.

In the decades since that time, Martelli has continued to lead in the competition to create engaging and exciting events and content. Working with his brother Josh, Matt’s successes include The Gymkhana Series of videos starring Ken Block, which have racked up more than 550 million views, as well as the XP1K series of videos featuring the Polaris RZR XP1000 side-by-side UTV performing impossible stunts.

In 2010, Martelli took over as CEO of the Mint 400 off-road race in the Nevada desert. This event is one of the most popular off-road competitions in the world, pulling more than 65,000 on-site spectators and 550 racing teams to the Las Vegas, Nevada, region every March. Trading on his experience with viral video, Martelli now livestreams the Mint for those who can’t be there, further extending his reach and the appeal of the sport.

Martelli and his team added the inaugural California 300 Off-Road Race in Barstow to their list of events this past October, with more than 200 race teams joining the action.

We caught up with Martelli to talk about his recipe for success.

PRI: How did you get started with Mad Media and then promoting the Mint 400?

Martelli: We were working in off-road as a media group, and lot of the promoters were in their early to late 70s. They were just antiquated with their business practices, especially when it came to content marketing. We helped get sponsorship when the Mint 400 was resurrected, and we put together a television show that really kind of stunned everybody. It was the first time RED [digital cinematography] cameras had been used in the field, and we captured some really remarkable content. The promoter ran it for a couple of years, and it just got a little over their heads. So we purchased the Mint 400 from them with the idea that we could turn it into X Games for off-road.

PRI: Do you have problems working with government agencies and to get access to lands to make your events happen?

Martelli: No, I wouldn't characterize it like that. I think there's a line that blurs between recreational off-road and off-road racing. With the rise of UTVs, there have been a lot of people out on trail systems doing dumb things, frankly. That's putting pressure on off-road in general. But as far as off-road racing goes, no, we've had really the opposite experience. Yes, we have to work with the Bureau of Land Management (BLM) and state parks and different governmental organizations, but my only complaint is they just don't move as fast as we want them to. But we've had good relationships with all the government agencies.

PRI: You have a new event called the California 300 in Barstow. Does that continue your story of good relations with government?

Martelli: It's funny, because the stereotype in California is, "Oh man, this is going to

"WE WANT TO LEAD, AND DO OUR PART, AND SHOW PEOPLE THAT OFF-ROADERS ARE RESPONSIBLE LAND USERS."

Matt Martelli and his team keep the racers and spectators—on site and on social media—in mind when laying out the off-road race courses for the Mint 400 and now the California 300. "I want the vehicles to be doing dynamic things, and I also want to put them in an environment that's beautiful, that showcases the juxtaposition between the violence of what we're doing in racing and the beauty of the environment," Martelli said.





“We’ve been doing desert cleanups and cleaned more trash out of the desert than any organization that I know of,” Matt Martelli said. “The whole point of why you off-road is to get away from the destruction, and the stress, and the trash, and all that. We don’t want to see that stuff in our environment.”

be even harder than Nevada.” But it was actually easier. We have a very good reputation. We’ve been doing desert cleanups and we’ve cleaned more trash out of the desert than any organization that I know of. Literally hundreds of tons. Information about that is on our Mint 400

website. So, we basically called the BLM and gave them our intent. Also, the way that we operate is we always do desert cleanups before we race, because generally 90% of the stuff that’s dumped out there is not from off-roaders, it’s from illegal dumping and shooters. We’ve had to clean up washing

machines, RVs, boats, all of that.

It’s a stereotype where people looked at off-roaders as destroyers, but it’s the opposite. The whole point of why you off-road is to get out of the city, to get away from the destruction, and the stress, and the trash, and all that. We don’t want to see that stuff in our environment. And so, we want to lead, and do our part, and show people that off-roaders are responsible land users. That message is important to us. And we’re taking it even further with our events. We’re beginning to eliminate single-use plastic, to reduce our environmental impact to be carbon neutral, or carbon positive. People don’t realize, but a few years ago we tried

Matt Martelli now livestreams the Mint 400 to extend the appeal of the race, and off-road racing in general, beyond those who attend in person. Note the drone following Blake Wilkey’s VW.





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to measure the amount of land that we used in the Mojave Desert. It was such a small percentage of the Mojave that it wasn't even measurable. It was a fraction of a fraction of a percent.

PRI: How much do media considerations influence how you create an event?

Martelli: Oh, they definitely do. I can tell you, when we create a course, we think of it in terms of, is it good for the racer? Is it good for the spectators? But as media guys too, I don't want to go out and shoot boring stuff, I want the vehicles to be doing dynamic things, and I also want to put them in an environment that's beautiful, that showcases the juxtaposition between the violence of what we're doing in racing and the beauty of the environment.

“WHEN WE CREATE A COURSE, WE THINK OF IT IN TERMS OF, IS IT GOOD FOR THE RACER? IS IT GOOD FOR THE SPECTATORS?”

PRI: Do you think there should be better alignment with off-road class designations across promoters and sanctioning bodies?

Martelli: Yes, absolutely, 100%. One of the problems that we inherited is that there were a lot of classes that were created before we crossed over to being promoters. Then we have other promoters that allow modifications that I would deem unnecessary. Nobody likes to be the bad guy and say, “no.” But, when we launched our event, we went out and found the best people to make the best, most informed decisions. Our technical director, Bill Savage, literally wrote the book on off-road racing. Then we have a group of advisors that includes racers as well as manufacturers, and all have input on our decisions. We hope in the future to push more of a unified front, so that race leagues are on the same page. But to be honest, it's difficult for us.

PRI: Do you think there's a place for electric vehicles in off-road racing? How will you integrate EVs into your events?

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Martelli: Sure. Three years ago, we launched an EV class, and we invited all the different EV manufacturers to come race with us. We told them that we'd be accommodating, and that we are interested in working with them. In other words, we didn't want them to come and think, "Well, if I don't do all 400 miles, it's a fail," or, "If my vehicle can't do a hundred-mile loop, it's a fail." We have pits every 30 miles. We're more than willing to work with EV vehicles, or

disciplines can learn from the success of the events that you've done, in terms of getting media attention and social media attention?

Martelli: I really think it's content, and it's a compromise between action-based content and storytelling. Telling the stories of your racers, the race league directors, the whole gamut. Sometimes it's like they have an amazing character set, an amazing number of factories and teams that are involved, but you don't see hardly any of that in their



Matt Martelli became CEO of the Mint 400 desert race in 2010 "with the idea we could turn it into X Games for off-road." Today, the event draws some 65,000 on-site spectators and 550 race teams to the Las Vegas, Nevada, area.

for that matter, any other type of technology that wants to prove its value in off-road racing. I can speak for myself, and then also Dave Cole from King of the Hammers has really embraced EVs. He had one race with him last year that was a garage-build EV, and he allowed them to race a modified course to get their finish, which was really cool. So, we're really open to it. I think that we just haven't had many of the EV manufacturers step up and want to be involved. There's an EV motorcycle brand called Volcon that is planning to race with us next March. If they do, that'll be historic, because that'll be the first EV to finish a desert race. The beauty of it is, off-road racing is the MMA of motorsports. We don't care what style you have, just come and show its effectiveness.

PRI: What do you think that other racing

coverage, or in their social media. I think you have to free up the content and not be afraid of that. Obviously, the old mentality is to do all these TV deals, and their television numbers are great, but they're still fumbling with social media. It's because they carry that old mentality. But I don't think it's either/or. I think it's both. In this day and age, the more content you can put out, digitally and on social and make it free, make it



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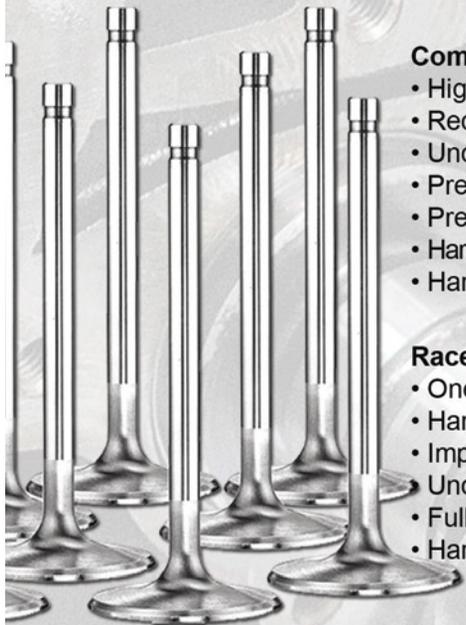
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PRI: What's coming in 2023 that we should be looking out for? Is there anything really exciting about to happen?

Martelli: I'm really excited about the future of off-road racing because we've never had what we have now, which is a generation of youth that have now been racing with us for a couple of years. During the pandemic, UTV sales exploded. That means we have a massive new user base that's never been exposed to off-roading or off-road racing. They bought these vehicles and they kind of don't know what to do with them. So I'm excited about the short-term future of off-road racing and the long-term future, because, like I said, this is the first time in the history of off-road racing that we've had kids

"WE'RE MORE THAN WILLING TO WORK WITH EV VEHICLES, OR FOR THAT MATTER, ANY OTHER TYPE OF TECHNOLOGY THAT WANTS TO PROVE ITS VALUE IN OFF-ROAD RACING."

being raised and racing since six years old. Right now, there's a tremendous amount of opportunity for us to gain new audience and grow the market.

PRI: How are you marketing your product to people under 40 and even more importantly, those people under 20?

Martelli: It's all social media, but we started youth racing at the UTV World Championship now eight years ago, and it's just exploded. The beauty of it is in that age demographic, I would call them super-users, because they're born with a cell phone in their hand and they're consuming content and producing content. From day one, they understand it. So it's not as if you have to wait until somebody's 20 years old to market to them. We almost don't have to market to them, because they're consuming from such an early age that they get it. The more content that we put out, the more that we



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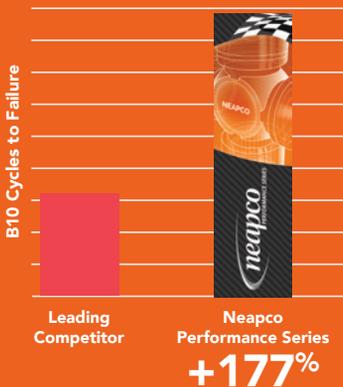


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include them. We've added youth racing to our big races, to the Mint 400 and California 300, because we want to make sure that those kids feel like they're part of the big show.

So to answer your question, how do you market to younger people? It's really social media, but it's the same type of content that's always worked. Number one: be authentic. Number two: don't be condescending. They know we want them to buy a product. You don't even have to tell them that, you just have to show them contextually what the product is. If it's a good product, they'll consume it. The sophistication level is higher than it's ever been from a very young age, but if you know that, then that becomes a good thing, it becomes empowering.

PRI: Do you think there are any new products or equipment that are coming in the near term that could materially affect your sport?

Martelli: There are a couple of things. One is, last year Polaris launched the Pro R, which is a new vehicle platform that is probably the most capable, race-ready, off-the-shelf, off-road vehicle that's ever been built. It's already being raced, but the more I think people realize that all you need to do is add some safety modifications to it, then it's

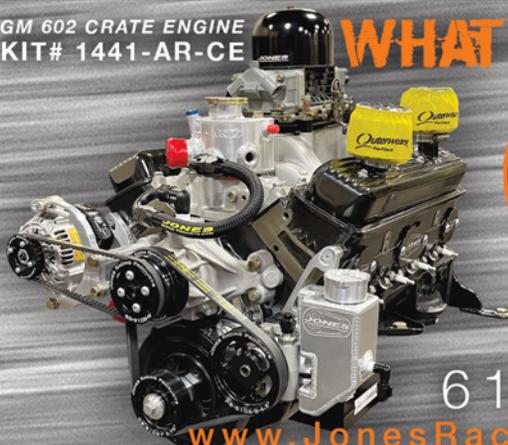
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a serious race car. When you look at being able to go 100 miles an hour over three-foot whoops, that's remarkable, right? For the price, it's a game-changer.

The other thing is, we have an evolution happening in real time right now at the top level of off-road racing with four-wheel-drive

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Matt Martelli is excited about the new California 300 "because it's the first time in 27 years that we've had a major desert off-road race in Southern California, which is the home of our culture. I think it's going to eclipse the Mint very quickly just because of where it's located."

Trophy Trucks. This technology right now is being proven out. They've been able to win most of the major races, but they haven't won the California 300, which is a rougher, more technical race that favors two-wheel-drive vehicles. So watching this evolution of technology happen in real time is really cool.

PRI: Who do you look up to, professionally? Do you have any off-road racers who you look at as that guy was the inventor or the archetype?

Martelli: Off-road racing is filled with people I would call unrecognized geniuses. I'm fortunate that a lot of these people have shared information with me and mentored me. But really, who I look up to in what we do would be Mickey Thompson. Mickey was able to achieve things in multiple genres and in off-road racing, track racing, circle track racing, as a racer, as a promoter, as a team owner, as a manufacturer. A lot of people don't know that he invented water barriers, harness systems, all kinds of stuff. So I would

say he's definitely the biggest influence on me and my brother.

Other than that, there are a lot of smart businesspeople in this culture, and we get the opportunity to pick their brains. Sal Fish, who retired as CEO of SCORE, is one of the godfathers of off-road racing. Another team that's had a huge impact on us as well is Cal Wells and PPI Motorsports. Nobody did it better. I could go down a huge list of people who have helped give us information and helped guide us along the way.

PRI: Is there anything else you want to say?

Martelli: We're really excited about the California 300, because it's the first time in 27 years that we've had a major desert off-road race in Southern California, which is the home of our culture. It's within a two-and-a-half-hour drive of 29 million people. It is the biggest off-road market in the world. We're really excited about that and growing the event and sharing with people how badass this race course is, right in our backyard in Barstow. It goes back to the days of the Fireworks 250 being a major race there, or other famous races like Barstow to Vegas. We're looking to bring that level of event back to Southern California, similar to what we've done with the Mint. Truthfully, I think it's going to eclipse the Mint very quickly just because of where it's located. **PRI**

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ADVANTAGE, ATHLETE

The pipeline between professional basketball, baseball, and football to motorsports is running at wide open throttle. But why is there such a strong connection, and what's the impact from this flurry of interest?

By Steve Statham and Dan Schechner

It goes without saying that reaching the top levels of professional sports requires drive, discipline, and a competitive fire in the belly. That same competitive spirit is also necessary to succeed in the front office of professional sports teams.

Increasingly, professional athletes from Major League Baseball (MLB), the National Football League (NFL), the National Basketball Association (NBA), and pro boxing are choosing to bring their competitive spirit to the motorsports arena. Some athletes are choosing the driver's seat, but more are buying ownership stakes or taking management positions.

Some of these moves have generated major headlines. Six-time NBA champion Michael Jordan made waves when he announced the formation of his 23XI racing team in partnership with Denny Hamlin, with Bubba Wallace as driver. Boxing champion Floyd Mayweather Jr. entered the NASCAR Cup series with his The Money Team Racing organization in 2022, and in September announced the signing of IndyCar driver Conor Daly to the team. New York Giants running back

Antonio Williams has stepped in to take a director of business development position with the Foley Lewis Racing NHRA team. Super Bowl-winning Philadelphia Eagles defensive tackle Fletcher Cox owns a team in Drag Radial competition. And three-time Super Bowl champion and NFL Hall of Famer Emmitt Smith has taken an ownership stake in NASCAR Xfinity team Jesse Iwuji Motorsports.

This is not an entirely new phenomenon. The Minnesota Vikings' Alan Page dabbled in drag racing in 1971. Jack Clark, 1980s and early-1990s MLB slugger, formed his own NHRA Top Fuel team after retiring from baseball. NBA veteran Tom Hammonds raced NHRA Pro Stock while still playing basketball in the late 1990s, and had another Pro Stock run post-retirement in the early 2000s. He still races a 1969 Camaro in NMCA's Edelbrock Xtreme Street Series.

"I always enjoyed motorsports when I was a young kid, in particular drag racing, and that's what led me back to drag racing," Hammonds said. "With anything, it takes hard work and dedication, and I think being

Photo courtesy of NASCAR





NBA veteran Tom Hammonds races a 1969 Camaro in the NMCA. Drag racing “takes hard work and dedication, and I think being a professional athlete, we’re used to that. We’re used to doing what it takes to make it happen and make it work.” Photo courtesy of Kevin DiOssi/NMCA.

a professional athlete, we’re used to that. We’re used to doing what it takes to make it happen and make it work.”

What is behind this surge in interest from high-profile stick-and-ball athletes? Stephen D’Hondt is chief sponsorship officer at Spire Sports + Entertainment, a talent management and sports sponsorship consulting agency in Cornelius, North Carolina. He frequently interacts with athletes curious about the racing industry.

“While we have had an interest from athletes in motorsports for decades, we have experienced an increased interest in athletes from other sports in our industry,” he said. “I think it comes from a variety of factors, but probably the most decisive is NASCAR’s move toward diversifying the appeal of our sport. We have a lot of athletes who attend a race event as a guest or first-time spectator, and oftentimes they become curious about the sport. From there, some truly become fans, which we welcome.

“Others decide they want to become an active participant. They might begin networking and look for where they are best situated in our industry. Some try out to be a part of the pit crews. Others look to be a part of the front office. Some want to invest in ownership where opportunities are available. Some want to become a driver. Some even want to be a sponsor. But I think it all stems from becoming aware of

our sport on a deeper level, and NASCAR’s welcoming approach is bringing in new audiences,” D’Hondt said.

Christopher Harris, founder of the African American Racers Association (AARA), sees the arrival of these athletes as a driver of growth for the industry. “I have seen an uptick, and I think racing is an untapped market, especially for athletes of color,” he said. “It’s a place where a lot of them haven’t traditionally had eyes on it or participated in it, and now that there’s an opening as far as awareness and a need for more diversity outreach, they’ll take the opportunity to get in. You’ll see them as team owners, you’ll see them participating at the grassroots level. Individuals who have been in the sport, say like Antron Brown, they now have the ability to take ownership



NFL Hall of Famer Emmitt Smith, at left, has an ownership stake in NASCAR Xfinity team Jesse Iwuji Motorsports. “What drew me to motorsports was Jesse Iwuji himself,” Smith said. “His background itself was stellar, and I know what it’s like to have passion to do something, but maybe not have the resources to do it.” Iwuji is pictured at right.

of a team. It’s pretty cool to see the diversity of these athletes getting involved.”

SPEED READING

Athletes’ motivations for joining the racing industry run the gamut. For some, it’s a second career in a sport they love. “We as athletes, we’re used to being in team sports,” Hammonds said. “We’re used to playing and doing things at an ultra-competitive, ultra-high level, pretty much our whole life. We’ve always competed and performed at a high level, and a lot of times when we retire—at least I know from my situation when I retired—I didn’t really know what I wanted to do that would fuel that competitive spirit, as well as the team aspect of it that I could get.”

For others, the chance to back an impressive athlete at the start of a career is a motivating factor. Emmitt Smith sat down with PRI Magazine for an exclusive interview at the SEMA Show in November about his move into NASCAR. “What technically drew me to motorsports was Jesse Iwuji himself,” he said. “There was a race that was going on out at Texas Motor Speedway. This is prior to us becoming part of NASCAR, to where (team co-owner) Matt Casto reached out to a business partner of mine, wanting us to sponsor a kid that had aspirations of becoming a NASCAR driver. He happened to be a local kid, lived in Carrollton, former Naval Academy guy, and I thought it would be nice for us to do it. So my partner and I decided to do it, and it was one race. I met Jesse for the first time and his brothers.”

Smith was impressed with the aspiring professional driver. “His background itself

was stellar, and I know what it's like to have passion to do something, but maybe not have the resources to do it. And that's when we decided, that one race. Then later on, Jesse just decided to create his own motorsport team. I recently got a call from them to see if I wanted to be involved. You gotta understand what Jesse was trying to get accomplished in terms of the diversity, equity, inclusion component with NASCAR, and beyond that. With different programs that he wanted to implement in the community and reaching out to the community. I saw it and I'm like, yes, I can get behind this. I told him, 'I want you to be the guy. I'm here to help support you because I want to help your dreams become reality. If your dreams become reality, then I benefit by just being associated with you. But most importantly, it's about you.'"

Not all athletes making the switch to motorsports are household names launching a second career or seeking investment



"You gotta understand what Jesse (Iwuji) was trying to get accomplished in terms of the diversity, equity, inclusion component with NASCAR, and beyond that, with different programs that he wanted to implement in the community and reaching out to the community," Emmitt Smith said. "I saw it and I'm like, 'Yes, I can get behind this.'" Iwuji is pictured here.

opportunities. Some are just starting out. "We've worked with a couple of college athletes over the years on our pit crews, and their motivations are largely connected to being part of a sport with an extremely competitive environment, while also being able to start a career at the same time,"

D'Hondt said. "We are a happy medium in that sense. Say you aren't drafted in the NFL. Where do you go? In some cases, those players seek out NASCAR, become a fan—and as such begin the journey of finding their way in our sport. Sometimes that ends up being places like our pit crews."

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RULES OF THE GAME

For any athlete making a shift into racing, the crucial first steps involve learning the rules of the road. As with any sport, nothing happens overnight. "I think the biggest thing is helping them gain a more complete understanding of how this industry works economically, as well as fundamentally," D'Hondt said. "Motorsports is structured much differently than stick-and-ball sports, so there is a learning curve to fully grasp how the business mechanics of motorsports operate before anyone can begin marching forward on their mission."

"I talk to a lot of individuals, and one thing I ask them is, 'Do you want to get into racing, or are you passionate about it?' Because it's two different things," AARA's Harris said. "Somebody might want to get into the sport just to get into racing, but once they understand the grit and grind that's part of this business, they may not necessarily want to get that deep into it. Versus somebody



Emmitt Smith, at right, allows Jesse Iwuji, left, and Matt Casto, "Jesse's right-hand man, to lead the charge," Smith said of his role as co-owner. "I add in thoughts, conversation, and bring in certain relationships where necessary." Smith's years in the NFL taught him about sports endorsements and leveraging brands, experience he can bring to Iwuji's team.

who really wants to do this, who really wants to get into the business of motorsports. And I tell them, 'This is going to be very similar to how the grind would be when you were trying to go through the NBA or MLB. You're going to have to start from the bottom and really push your way through and work through the hardships, because it's not easy. You've got to find your team and build your

team and then you'll start to see the results. This isn't a one-person operation. One man can't do it all and succeed in this business. They have to be willing to go through the grit and grime to be successful."

Those athletes who learn to navigate the new sports terrain often bring with them a mindset for success, along with the unique experiences that can only be acquired at

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the top of a profession. “This depends on where they fit into our ecosystem,” D’Hondt said. “However, generally speaking the most common denominator I see is the hunger to be competitive and win. It is a similar, yet different kind of hunger. Whether it’s racing or stick-and-ball sports, we all want success, but something I really respect is the discipline athletes have when focused toward being the best version of themselves. It is uniquely impressive.

“We’ve hosted Olympic medalists, popular college sports coaches, as well as professional athletes from major stick-and-ball sports at our races,” D’Hondt continued. “They are almost always impressed at the amount of planning and choreography that goes into a race team’s efforts on race day. I think they draw comparisons between NASCAR and their respective sport, and it allows them to gain a sincere appreciation for the effort it takes to be competitive in motorsports.”

For those who do successfully make the leap to racing, there is a significant potential upside for the racing team. Most top athletes are experienced in dealing with sponsors and advertisers, including those advertisers that have never investigated motorsports. Even if they don’t take a leading role on that front, as in Emmitt Smith’s case, their advice in the background on securing sponsorship has high value.

“Matt Casto is Jesse’s right-hand man. And Matt and Jesse, I allow them to lead the charge,” Smith said. “I add in thoughts, conversation, and bring in certain relationships where necessary. Introduce folks to them that I believe could be a good fit for what we do, to the team. And, I give them my thoughts around what I think could actually happen, how we should approach it. That’s through experiences of sports endorsements myself, leveraging brands and unique opportunities through the lens of the Dallas Cowboys and what they do best,

and help out that way. I can’t teach Jesse how to drive. I can’t do that. I’m not going to do that,” he added with a laugh. “But I can also just understand that what we need as an organization, we need to create a pathway for him to get better. And resources are the only way that does help him get better—by getting experience on tracks when tracks are closed.”

Although Smith is focused on the race team’s immediate success, he also has his eyes on larger issues in the sporting world around access and inclusion. “The giveback is important in terms of reaching back to the community and exposing the community that we come from to something that they might feel is out of reach, out of touch. They may not know a pathway to get there, but benefiting a lot of folks in the process. Because I’m a firm believer that if you don’t see it, sometimes we don’t believe it’s achievable, or it doesn’t happen. Or it doesn’t even exist because no one has been



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Tom Hammonds sees “a lot of crossover from the professional sports fanbase to motorsports specifically because of the athletes. I’ve had fans come up to me who remember me playing at Georgia Tech or remember me playing in the pros, or they come out specifically to see me race.” Photo courtesy of Kevin DiOssi/NMCA.

team and as an organization to continue to build on that.”

PATHWAYS TO GROWTH

For the racing industry, the chance to attract new fans and sponsors is the biggest potential upside that comes from teaming up with established stars from other sports. But using the athletes to attract new sponsors is not a simple cut-and-dried affair. “I would not say they are more likely [for sponsors to expand their support], but rather it is another potential offering in the race team’s toolkit that may help them secure or grow or extend a sponsor. It really depends on the sponsor and what they value,” D’Hondt said.

“If they are in NASCAR for the purposes of generating brand favorability, they may really welcome this if they can secure intellectual property rights to the athlete as part of their sponsorship so that they can affiliate their brand with the athlete in addition to the driver and team.

shown a clear pathway. Now in NASCAR, it’s a very expensive pathway,” he said.

“Hell, even being on the circuit is expensive, so I understand why there’s limitations with African-Americans and so forth in this particular space,” Smith continued. “But just because I understand

it, doesn’t mean that it has to be so. Having a passion to bring change—to a place that’s seeking change, too—is wonderful. You gotta be in a place where you want it. And I think Jesse and I and what NASCAR is trying to get accomplished is the first part of being wanted. Now we just gotta do our part as a

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"If they are here because they want to use the sport for customer engagement via hospitality, they may want to welcome this if they can secure appearances from the athlete at their hospitality tents, suites, or motorhome, etc.," D'Hondt continued.

"It also comes down to who the athlete is, what sport they are in, how popular they are, and if there is any other factor that may tie them closer to the sponsoring company. Is the athlete from the hometown of the corporate headquarters of the sponsoring company? That might be a plus. Has the athlete had any trouble in the past that may create public relations challenges down the road? That may not be a plus," he added.

AARA's Harris has witnessed enthusiasm for African-American racers relatively new to the racing scene such as Sage "Donkmaster" Thomas and motorcycle racer Dystany Spurlock, and how fans like to follow their progress. "That's the key to the future of motorsports—these companies getting

involved on the grassroots level and building loyalty to the fans that are attached to some of these racers on that level. Sometimes at the top of the sport it's not easy to just enter and get new fans. These individuals want to follow the growth of the racer," Harris explained.

Hammonds, as both basketball player and racer, has watched the fan base expand firsthand. "They're crossing over to a different demographic that motorsports could not reach," he said. "You have a lot of professional basketball, football, and baseball fans that follow professional athletes and teams across the country that don't necessarily know anything about motorsports. But they know that Michael Jordan played for the Chicago Bulls, and now Michael Jordan has a NASCAR team, and they're going to follow NASCAR because Michael Jordan has a team. I do see a lot of crossover from the professional sports fanbase to motorsports specifically

because of the athletes. I've had fans come up to me at NMCA races who remember me playing at Georgia Tech or remember me playing in the pros, or they come out specifically to see me race. And that makes me feel good. To some extent we are expanding the base for people to come out and enjoy motorsports." **PRI**

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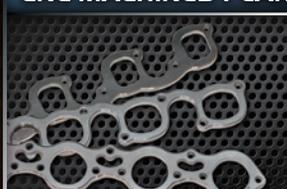
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Coming in **HOT**

A brand-new sanction, ownership changes, and a renewed emphasis on working-class sportsman competitors are among the developments expected to make this year's drag racing season one for the ages.

By David Bellm



Photo courtesy of ProMedia

It's a good time to be a drag racer. Besides the wealth of innovative technologies that are flooding all levels of the sport, drag race sanctions are ramping up for what looks to be an exciting 2023 season for fans and racers alike.

To find out what to expect, we talked to a wide variety of sanctions to hear what they have planned for the months ahead. What we found is a vibrant scene that stands poised to bring more excitement than ever to the sport.

Several series are returning to well-liked venues for the first time in years, following a generally strong 2022 season for car counts and spectator attendance. At the same time,

some sanctions are celebrating noteworthy anniversaries, which speaks volumes for the longevity and staying power of these vital organizations.

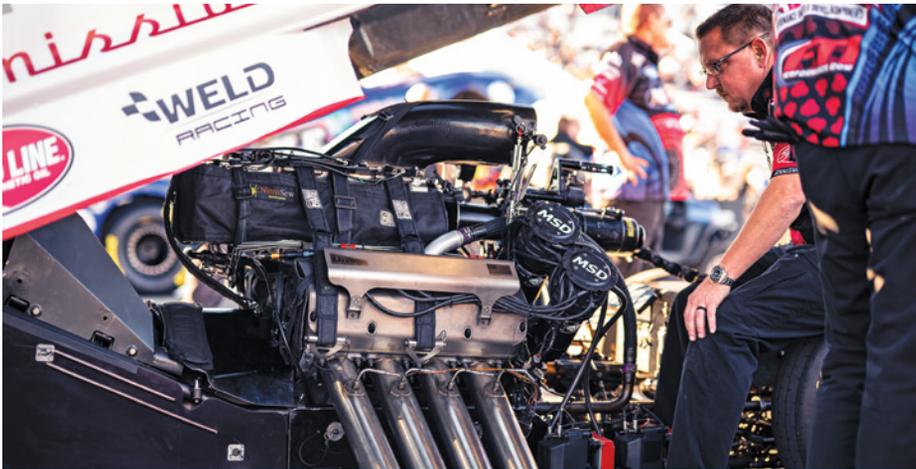
Along with this, many sanctions are shifting their attention toward the popular, working-class sportsman segments of drag racing, with plans to give those competitors even better choices and more opportunities to race. Specifically, small-tire classes are becoming more important, and a number of sanctions are shifting attention to actively attract these racers.

Taking this trend even further, a long-running sanction with origins that stretch back to nearly the beginning of the sport

is reinventing itself as a lively renegade for the online crowd. Meanwhile, another storied sanction is in an exciting moment of transition, with its purchase by a respected member of the motorsports community.

But perhaps most compelling of all these trends is the launch of an all-new sanction that has ambitious aims to rethink every aspect of organized drag racing, culminating in plans for a series that stretches across the nation and into Canada.

Fresh faces. New ideas. Bold energy. It's too early to say for sure, but it's quite possible this could be the start of an exciting new era for the sport, one in which drag racers of all types will have more



While best known for its Camping World professional series, NHRA has 20 competition categories and 120 sanctioned tracks across North America, offering something for just about every type of drag racer. A big change for 2023 sees the season kick-off at Gainesville, Florida, rather than Pomona, California, to “make things more efficient and more affordable for teams,” said NHRA’s Joshua Hachat.

opportunities, better competition, and greater rewards for their efforts.

NHRA

Drag racing’s biggest sanction moves its season opener across the country for 2023 and returns to a popular Midwest venue for the first time in several years. The San Dimas, California-based National Hot Rod Association (NHRA) has 20 categories of competition and 120 sanctioned tracks across North America. Although best known for its marquee Camping World professional series—which rivals NASCAR and some major-league stick-and-ball sports in some metrics—NHRA offers something for just about every kind of drag racer.

For 2023, the NHRA Camping World Series will start the season at Gainesville, Florida, instead of Pomona, California, as it has for years. According to NHRA, the move was driven in part by the uncertain economy, which prompted the sanction to look at ways to ease the logistical burden on teams. “In 2022, we started in Pomona, went to Phoenix, came back to Gainesville, and then went back to Las Vegas,” said Joshua Hachat at NHRA. “That added another trip out west for everyone. Starting in Gainesville makes things more efficient and more affordable for teams.”

The series will, however, return to Pomona later in the season, with the famed California track retaining two spots on the 2023 roster. Also on the schedule is a stop at Route 66 Raceway for the first time in several years. This well-liked Chicago-area venue had fallen from the tour in 2020 and has been missed by fans and racers alike. “We hadn’t raced at Route 66 for several seasons because of the COVID-19 pandemic,” said Hachat. “The track hadn’t been touched in three years, so we ran a divisional race there as a test run to see how it would work. That gave us the confidence that we could run a national event there again. It’s exciting



Under new ownership by Larry Jeffers, IHRA plans to increase purses, add tracks to its roster, and bring more publicity to its sportsman racers. “Ninety-nine percent of our racers do it for the love of the sport, not for the money,” said Mel Roth. “A photo, a mention, or a high five can mean more for them than round money.”

to have a major market like Chicago and this wonderful facility back.”

IHRA

The International Hot Rod Association (IHRA) begins a new chapter in its history after being bought by race-car builder Larry Jeffers in 2022. Included in its immediate priorities under Jeffers’ direction are increasing purses, adding tracks to the roster, creating a separate championship class for motorcycles, and bringing more publicity to individual racers.

Based in House Springs, Missouri, following the change of ownership, the IHRA is strongest in the South, Southeast, East, and Midwest regions of the US, as well as parts of Canada. With a wide array of classes, including junior dragsters, door cars, and dragsters, it has plenty to offer drag racers of all types.

For 2023, IHRA is evaluating its payout structure for races. Although no specifics were available when this issue went to print, the sanction hopes to increase purses significantly. “We’re going to revamp all of the team final purses and the World Finals purse,” said Mel Roth at IHRA. “The World Finals already paid \$20,000 to win with \$300 tow money. So everyone that earns the right to run for the world championship gets a \$300 check. We’re looking to increase that as well.”

At the same time, the sanction is working to recruit more tracks, while keeping its current roster of venues intact. “We’ve added new tracks,” said Roth. “Wilkesboro

Dragway in North Carolina is a new one for us, and then we're adding a brand-new track that just opened in West Virginia called Almost Heaven Motorsports Park."

Along with these changes, the sanction will integrate its motorcycle classes into the overall National Championship structure. "Before, if you were a motorcycle racer and you won the points championship at your track, you'd get invited to the World Finals, but you'd have to run against cars there," explained Roth. "So motorcycle racers had no incentive to run a whole season or try to run for a championship."

Rounding out IHRA's changes for 2023 is a renewed emphasis on publicizing and promoting its sportsman racers. "You know, 99% of our racers do it for the love of the sport, not for the money," said Roth. "So a photo, a mention, or a high five can mean more for them than round money. For us, racers aren't just another name—we're going to make sure they're first and foremost."



PDRA marks its 10th anniversary in 2023 with plans to celebrate during the year. It is expanding some classes and returning to favorite venues, including US 131 Motorsports Park in Michigan.

PDRA

The Professional Drag Racers Association (PDRA) will celebrate a major anniversary in 2023, while growing some recently added classes and returning to

a well-liked venue after a hiatus. Based in Fredericksburg, Virginia, PDRA typically holds nine events a year, in the Midwest, Upper South, and East. Classes are offered for door cars, dragsters, and motorcycles,



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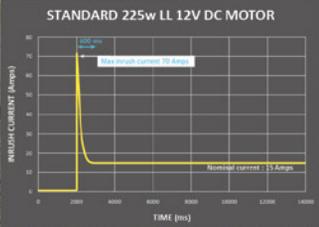


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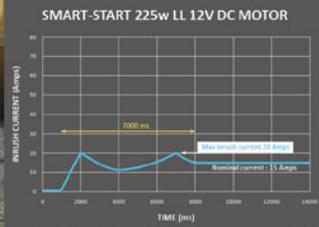
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The upcoming season marks the 10th anniversary for the PDRA. Although our source at the sanction couldn't yet reveal how they are going to celebrate it, plans are in the works to commemorate the occasion with plenty of flair.

For 2023, PDRA will expand its Pro Street and Super Street classes, making them part of the sanction's top SUMMIT Racing ProStars Championship, instead of being stand-alone classes. Besides making the classes more appealing for racers, the move is expected to attract new competitors to the PDRA ranks.

"Both classes will have six races next year and race for a championship," said Tyler Crossnoe at PDRA. "That adds a different clientele to PDRA—brings in a small-tire group. A lot of those guys and girls are looking forward to racing with PDRA next year. Some will be chasing championships for the first time in their careers."

At the same time, the sanction is making an effort to return to some tracks that have been off the roster for a while, including US 131 Motorsports Park in Martin, Michigan, and possibly others.

NMCA & NMRA

The National Muscle Car Association (NMCA) is among the longest running major organizations dedicated to drag racing street-legal cars. The sanction offers national event competitions for a wide range of racers, from grassroots sportsman to all-out Pro Mod competitors. Although headquartered in Santa Ana, California, NMCA and NMRA (National Mustang Racers Association) race primarily in the Midwest, Upper South, and Southeast.

For 2023, the NMCA and NMRA season opener moves from its traditional spot at Bradenton, Florida, to Orlando, Florida. "This is the 25th anniversary of the NMRA series," said Rollie Miller at NMCA and NMRA.



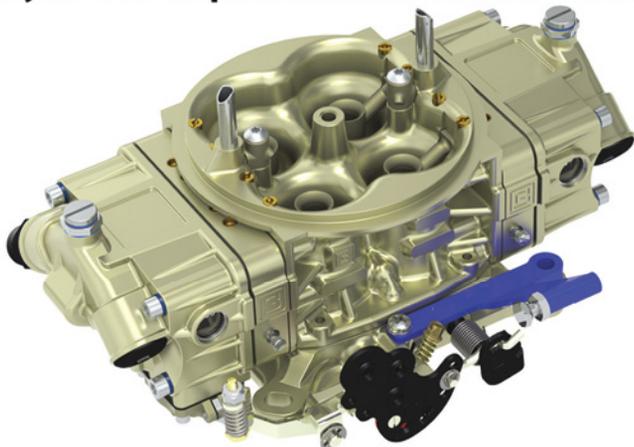
NMRA and NMCA move their season opening rounds to Orlando, Florida, from Bradenton, in 2023, as NMRA also celebrates its 25th anniversary with special activities to be announced soon in honor of the silver milestone.

"We're going to kick that off at Orlando Speed World in March with our Spring Break Shootout event. We're planning on a lot of special activities to celebrate that occasion."



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WDRA

Kicking off its inaugural season in 2023, World Drag Racing Alliance (WDRA) is a new sanction that was created with the aim of completely reinventing the business of drag racing, from concessions to tech inspection and more. Founded by drag racer and medical-device business owner Don Scott, this Springfield, Illinois-based sanction plans an ambitious national roster, with the goal of racing throughout the continental US and parts of Canada.

The sanction's focus is primarily on bracket sportsman racing, with regional champions going on to compete in a national championship at the end of the season. At the time of publication, WDRA had signed more than 40 tracks for 2023. The sanction plans to have a solid mix of grassroots tracks and big venues lined up. "We're hoping for a third of our tracks to be the so-called 'mega-facilities,'" said Scott. "Those are the guys who are on our track advisory council with



Last year AHRA launched the No Name Nationals, a drag competition for YouTube content creators designed to encourage Internet influencers to chronicle the buildup of cars for the race and the actual competition itself. "This thing can make a big impact," noted Dallas Brown.

me and they're driving this. But if a third of our tracks are the big ones, that means two-thirds of our race tracks will still be Saturday night, grassroots bracket-racing tracks. So we'll have more grassroots than we do premier facilities as a percentage."

AHRA

The American Hot Rod Association (AHRA) plans to build on the success of its innovative No Name Nationals for 2023, while at the same time refining its "everyman" appeal. The AHRA is one of

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the oldest sanctions in the US but has undergone sweeping changes over its history. The current iteration of the AHRA is based in Lascassas, Tennessee, and focuses on bracket competition for sportsman racers.

In 2022, the AHRA launched the No Name Nationals, a drag competition for YouTube content creators. The event was created to encourage Internet influencers to chronicle the buildup of cars for the race and the actual competition itself. Central to the No Name Nationals format are wild, creative classes that encourage originality. “We had a class we created just for the Coleman CT100U mini bike, which we called the Monkey Bike Challenge,” said Dallas Brown of the AHRA. “We had stuff from the Monkey Bikes all the way up to motorhomes participating in the event.”

For 2023, AHRA will continue to evolve this event, with plans to refine the format and attract an even broader range of content

creators/car builders. “At the first No Name Nationals, 85% of the participants had never gone down a track before,” said Brown. “This thing can make a big impact.”

MWDRS

The Mid-West Drag Racing Series (MWDRS) will add a second race date to one of its tracks for 2023 and is considering rules changes for one of its top classes. Based in Broken Arrow, Oklahoma, this sanction was created to give Midwestern teams an alternative to East- and West-Coast series. Competitors can choose from a wide range of classes, including Pro Mods and Funny Cars, with an eight-race series through the Midwest and parts of the Southwest.

For 2023, MWDRS is taking a look at its rules for Funny Cars. “We’re talking about whether or not we’re going to allow some of the changes that NHRA has made,” said Keith Haney at Mid-West Drag Racing Series. “We’re considering allowing coil-over-



The Mid-West Drag Racing Series is reviewing its Funny Car rules for 2023 with an eye on some of the changes NHRA has made, said Keith Haney. The review may allow coil-over-plug ignition and other components to advance the technology of the cars.

plug ignition and a few other things to help advance those cars.” The sanction is also adding a second race in St. Louis for the upcoming season.

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OSCA

Outlaw Street Car Association (OSCA) is planning to reorganize its class structure, while putting more emphasis on small-tire cars for 2023. Based in Henderson, Kentucky, this sanction focuses mainly on sportsman door cars, in a six-race series that competes mostly in the Upper South.

For 2023, OSCA will pare down its classes, combining some and eliminating others in an effort to concentrate the number of competitors and keep purses high. "Everyone wants to race in a bigger field, and we all want to race for more money," said Brent Carver of OSCA. "I think when guys try this they'll say, 'Hey, now we're running for \$3,000 instead of \$600.'"

The sanction is also planning to continue increasing its emphasis on small-tire cars, a process that began in the 2022 season. "This year we've definitely had the best season we've ever had," said Carver. "We

have a class that we call Limited Small Tire. It's for that grudge car, that no-time car that runs at a lot of places but really can't compete with the big hitters when they go onto a prepped race track like ours are.

"We also have a class called Small Tire

5.30—no wheelie bars, 28x10.5 tires, factory roof and quarters, but on a 5.30 index. And that little class has really started to go. It's great racing because it's fast, it's still small tire, and it's still heads up. But there's a cap on it." **PRI**

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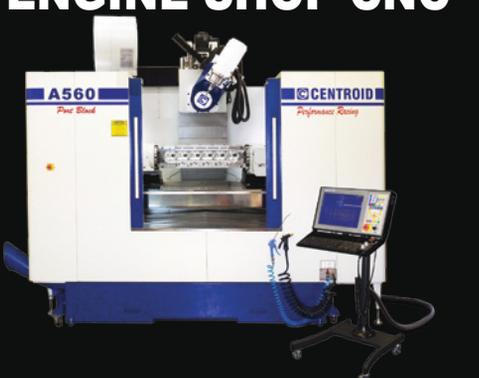
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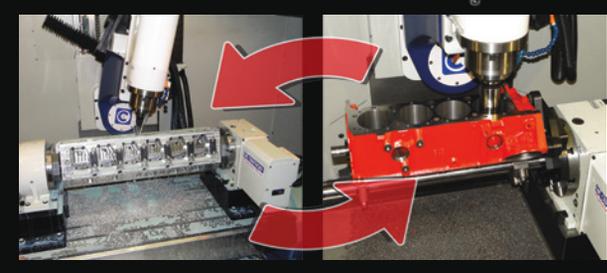
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ROAD TRIPPERS

The multi-day race format is more popular than ever, and unprecedented demand is poised to create a new niche for drag-and-drive events within road-legal competition.

By Bradley Iger

Photo courtesy of Scott Witty, 1320 Video/Rocky Mountain Race Week



Back in the early 2000s, hot rodding luminary David Freiburger was looking for a way to bring the challenge and intensity of Brock Yates' annual One Lap of America to the drag racing world. As the spiritual successor to the Cannonball, One Lap's cross-country, multi-day road racing format puts both man and machine to the test while also incorporating the pragmatic strategies that are required to make a race-tuned production vehicle reliable—and bearable—for extended periods of time on America's highways.

The concept led Freiburger to debut the first Hot Rod Drag Week in 2005, an event that sees racers compete at four different tracks over the course of five days while also doing the trek between those locations using the cars that they're racing. Competitors are required to drive anywhere from 700 to 1,000 miles on public roads over the course of a given Drag Week event, a factor that makes the car's street drivability a crucial element to a team's success.





Multi-day race events are attractive to sponsors, said J. Heid of the Summit Racing Midwest Drags. “For what it would cost Summit to buy two days at a national event, I can put on several entire drag-and-drive events. And while they might sell a dozen or so products that are relevant to a fuel car, the sky is the limit for a guy who is competing in his Camaro.”

“There’s a lot of debate about what’s considered a street car and what isn’t,” noted Hot Rod magazine editor-in-chief John McGann. “But if you can register it and you’ve got license plates on the car, you can compete at Drag Week. Originally that meant the fastest ‘street cars’ at the events were doing quarter-mile times in the 8s. Now we’re in the 5s.”

The event has become an institution for the Drag Week faithful and has convinced many racers to build cars specifically for the competition and its unique demands. That enthusiasm has in turn helped to foster the creation of new events that are inspired by its format and ruleset, a trend that is bringing this unique take on drag racing to new regions of the US and beyond.

RELATABLE RACING

“It’s really the ultimate test, and ultimate bragging rights come with it,” said Matthew Frost of Rocky Mountain Race Week (RMRW). “If you can complete one of these events it allows you to say, ‘My drag car runs such and such number, and I was still able to drive it a thousand or 1,200 miles in conditions that most drag cars will never see.’ The challenge of being able to build something that can do that is a big part of the appeal for racers. I think a lot of people

don’t realize what they’re getting themselves into when they initially sign up. Once they’re in, they discover how much strategy and critical thinking is involved.”

The street-legal element of drag-and-drive events makes them more relevant to would-be fans as well. “Part of it is the spectacle of seeing what are essentially Pro Mod cars driving down the freeway

towing a trailer,” McGann said with a laugh. “Someone looks at that and then they look in their garage and think to themselves, ‘OK—I’m not going to run 5s or 6s, but could I turn my 11-second car into a 9-second car and compete in Drag Week?’ One of the most popular classes we have is Street Race, and those cars are not allowed to run faster than 8.50.”

That relatable aspect also makes these events particularly attractive to sponsors. “It’s very affordable for them,” said J. Heid of the Summit Racing Midwest Drags presented by Mickey Thompson Tires in Westfield, Indiana. “For what it would cost Summit to buy two days at a national event, I can put on several entire drag-and-drive events. And while they might sell a dozen or so products that are relevant to a fuel car, the sky is the limit for a guy who is competing—or wants to compete—in his third-gen Camaro.”

The wide range of classes at these events also attracts a similarly diverse roster of cars and fans. While the 6-second machines might get the lion’s share of notoriety, racers on tighter budgets can still build competitive cars and enjoy the same sense of challenge and camaraderie at these events. “We have racers that show up with \$5,000 cars and other ones that show up with builds that are well into six-figure territory,” said Dustin Watts



The wide range of classes at drag-and-drive events also attracts a similarly diverse roster of cars and fans. It’s where budget builds can line up next to 6-second machines and enjoy the same sense of challenge and camaraderie as their deeper-pocketed brethren. Photo courtesy of Scott Witty, 1320 Video/Rocky Mountain Race Week.

of Miles of Mayhem in Red Deer, Alberta, Canada. "You can show up in just about anything and do one of these drag-and-drive events, and I think that has helped draw more and more people in."

REDEFINING THE STREET/STRIP SETUP

The fundamental strategies of building and tuning fast drag cars have been well known for some time now but adding hundreds of miles of driving on public roads over the course of a few days adds a significant twist to the formula. While a purpose-built drag car will spend most of its life running at wide-open throttle for a few seconds at a time in a highly controlled environment, the real world adds an array of circumstances that normally don't need to be taken into consideration. Events like Drag Week allow for a co-driver but forbid any kind of support vehicle, which means that not only are the journeys from track to track being done in the car you're competing in, you're also hauling all of your gear in the car or towing a trailer while contending with traffic and other real-world driving factors. That means a competitive combination needs to be able to perform at the drag strip while also remaining reliable and relatively comfortable for long stints behind the wheel.

"A two-speed Powerglide is the type of transmission that you'd typically find in faster production-based drag cars," said McGann. "We also see a lot of TH400 three-speed automatics. But if you were to gear a car for drag strip performance with a transmission like that without doing anything else, the rpm's on the highway will likely be way too high to be usable for this type of event. To get the best of both worlds, a lot of people will run an overdrive like a Gear Vendors' unit that they can engage when they get on the highway to bring the revs down."

Meanwhile, sportsman and grassroots racers will often opt to compete in a car with a modern automatic or six-speed manual transmission, both of which already have overdrive gears built into their designs, while others will simply opt to bring a set of wheels with tall tires that they can install on the car before they hop on the road in order to bring the engine speeds down to a reasonable

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level while rolling down the highway.

"We see a lot of cooling upgrades and people swapping in more comfortable seats," said Watts. "Radios for communication between the driver and co-driver are also common because the cars are so loud. And something we've been seeing a lot of lately are dual-fuel tank setups. One will be filled with methanol, E85, or something similar, while the other will be the normal pump gas tank, and they'll switch back and forth as needed between the track and the road drives."

The ability to create two distinct personalities for road and track use plays heavily into this type of setup. "A lot of folks are using Holley EFI systems and HP Tuners systems to create multiple tunes for the car," Heid said. That can tie into using two different fueling systems while also allowing racers to make adjustments based on track conditions and weather. But a lot of the setup ultimately comes from trial and error. "Novices will want to make the car as fast as possible. The folks who've been doing these types of events for a while will want to make the car serviceable on the side of the road at 3 a.m."

That typically means using less-exotic parts so it's easier to track down replacements or remembering to bring along

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It's typical for these events to allow co-drivers but not support vehicles, so the race car has to transport all of its gear and spares, whether inside the car or in a trailer. Photo courtesy of Scott Witty, 1320 Video/Rocky Mountain Race Week.

a wide variety of spares. "If you're stuck on the side of the road and you can't buy an alternator at the local parts store because you decided to use a 16-volt charging system, you better have an extra one with you," Heid added.

Frost told us that many of the parts that were problematic specifically in this type of event format have been sorted out over recent years, but drag racing-related parts failures are still common occurrences at the track. "Valvetrain issues aren't as big of a problem as they used to be. The major stuff is typically driveshaft and rearend failures," he said.

GETTING THE WORD OUT

While Hot Rod Drag Week has become a well-known commodity within the racing community thanks to many years of publicity and development, there are a number of newer annual events that are also starting to pick up momentum thanks to strategized promotion.

"We approach this in several different ways," said Heid. "The first way is that I'll go out to tracks, and when I see a really nice street car, I'll give them a card with a personal invite. We also have an aggressive social media campaign where we're targeting specific audiences, and I go to



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Officials with Rocky Mountain Race Week decided to offer added support to racers in the form of a welder that follows the route and helps make repairs to vehicles. There's also a support car that racers can use at the track to fetch parts as needed. Photo courtesy of Scott Witty, 1320 Video/Rocky Mountain Race Week.

similar events to help promote what we're doing and meet some of these racers as well. All of the other national events are part of my marketing budget."

Other organizers stand out from the crowd by offering elements that other drag-and-drive events don't. "Our event is a bit more family-oriented in a sense," said Frost. "We have something called Road Week, where you and your family can pile into the car and follow along with the racers for the week for a set price, and it can also be a great way for folks who're considering participating to see what it's like first-hand."

To provide a bit more help to the racers, RMRW also offers access to a portable car hoist, and a welder follows the route and helps make repairs to cars. There's a support car that racers can use at the track to go get parts if they need to as well. "We also have about \$50,000 worth of payouts at any given event, and our format is a bit unique. For us, the ET average for the week stops on the fourth day, and on the fifth day of racing we move to a heads-up shootout format. So you can win your average and you can win the shootout, too," Frost added.

But as Michael Narx explained, drag-and-drive events aren't exactly hurting for entries

these days regardless. Narx and Heid are co-founders of Drag-n-Drive.com, a site that collects both current and historical data about these types of events. "At the end of this year, almost 2,000 people will have competed in a drag-and-drive event, and in 2019 there were maybe 600. So in just three years the numbers have basically tripled. I think a lot of folks that were stuck at home during the lockdown got their cars finished during that time, and now they're ready to do something with them."

LOOKING AHEAD

With a standardized ruleset in place and significant momentum now behind drag-and-drive competition, McGann envisions the potential for these events to work off of one another. "I could imagine a scenario where these other events kind of culminate at Drag Week, kind of like the Superbowl. Drag Week happens in September, so it's near the end of the racing season for most people, and I could see a situation where whoever won Sick Week in March goes up against the person who won Rocky Mountain Race Week in June. Something where these regional events basically lead up to Drag Week."

Frost noted that shorter, weekend-style

drag-and-drive events are becoming more prevalent as well, partially as a result of unmet demand for these larger events. Although he sees this as a positive sign for both racers and fans, he's concerned that it could undermine the original precedent set by Drag Week. "We typically have 300 to 400 people on the waiting list for every one of our events, so there's plenty of people who want to do this. But I feel like a similar situation played out with no prep. Initially there were solid events with good payouts and people would travel to those events. Then everyone started thinking that they could do this in their own backyards, and now the bigger events aren't as prevalent as they were because the crowds are smaller, and the sponsors are harder to get. I just don't want to see this get over-saturated."

It's a delicate balance to achieve, but right now it's clear that demand is significantly outweighing supply. "Over the next few years, I think more and more people are going to get involved and the cars are going to get really dialed in," said Watts. "The difference between just the first year the second year was huge for us—the number of fast cars out there probably doubled, and I bet it'll double again next year. We haven't hashed out all the details yet, but we're thinking we could probably add a second five-day event in British Columbia as well. The demand is definitely there. There are people who tried to pay for next year's event before we had even done this year's event." **PRI**

SOURCES

Hot Rod Drag Week

motortrend.com/events/hot-rod-drag-week/

Miles of Mayhem

milesofmayhemdnd.ca

Rocky Mountain Race Week (RMRW)

rockymountainraceweek.com

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WILD IRISH

ENGINE AND MACHINE



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By Dana Ford

Mention the city of Indianapolis and images of the Indy 500 or NHRA's "Big Go" instantly come to mind. Through the years, many race teams set up headquarters in the area because of these two legendary motorsports events, and because of Indy's somewhat central location in the nation. Where major teams are located, other motorsports events spring up, as well as the companies necessary to support them.

One such company is Wild Irish Engine and Machine in nearby Danville, Indiana. Wild Irish Engine is owned and managed by Craig Sullivan, who is becoming a well-known name in Pro Mod drag racing. Although Sullivan didn't intend to be the owner of an engine shop, his racing path led him to that destination.

"We started Pro Mod racing seven years ago," Sullivan recalled. "We had purchased an engine or two from some guys, and they wanted to partner with us because of our previous success with our Super Stock and Top Dragster programs. I couldn't get them to do exactly what I wanted, so I started my own engine shop. We

pieced equipment together and kept buying back and forth. Pretty much to date we do everything in-house." Part of those services are accomplished on a recently purchased SuperFlow SF-4000HD dyno that will handle speeds up to 12,000 rpm and 4,000 horsepower.

"We've done some BMW four-cylinders, two-liter four-cylinder class racing stuff that's been successful," said Sullivan. "We have a couple boat engine customers with ProChargers who have been successful."

Sullivan claimed that his shop is "not a production-type facility." Instead, he carefully selects customers. "They're typically people who are in the middle of the pack who want to go to the top of the pack," he explained. "Their funds are available, they're good working people. We bounce ideas back and forth and continue to develop their program."

Listening to Sullivan talk about the beginnings of his business, it quickly becomes apparent he has a deep-rooted love of the sport and a respect for the process to support it behind the scenes.





El Mero Mero, Craig Sullivan's 1949 Mercury, represents Wild Irish Engine and Machine on the Pro Mod circuit. "We wanted to stand out," Sullivan said, and the vintage bodywork certainly does. Its paint and graphics scheme also pay tribute to the craftsmanship of Southern California's low rider culture.

The enthusiasm in his voice was unmistakable as he told part of his own story: "I've been a car enthusiast all my life. Right now, I have a 1961 Lincoln convertible and Dave Hirata's fuel dragster, which has been restored. I have a 1962 Thunderbird roadster that I purchased from another racer, and it's something that I drive quite often. My father for a long time helped a little bit with Ford back in the 1960s and ran Modified Production. It's one of the things we've branched out with."

As a veteran of the automotive aftermarket for almost 30 years, including experience in the paint and body segment, Sullivan's appreciation for cars has expanded to popular cars of other locales. He cited his Pro Mod, El Mero Mero, which is Spanish slang for the best or leader, and its nod to the low rider culture that is popular in Southern California. While he wasn't originally an enthusiast of low riders, as he aged, he began to appreciate the skill that goes into these types of cars. "That's why El Mero Mero is carrying the colors that it carries. It's the appreciation for the craftsmanship," he said.

"I've lived here in Indianapolis, and when you look at how the Offenhausers manufactured their own engine from back in the day, and Stutz manufactured its own engine back in the day, and look at how some of these vehicles were built, these were hand-made precision products that nobody

"I'VE ALWAYS BEEN KNOWN TO HAVE A DIFFERENT TYPE OF VEHICLE THAT MAY OR MAY NOT FIT THE CLASS WE'RE RACING. IT'S ABOUT BEING DIFFERENT, STANDING OUT."

really does any more," he continued. "That's why Larry Jeffers and I put together this 1949 Mercury package. It's something nobody does anymore. Everything's a carbon copy. We have two or three models of Mustangs, and three or four models of Camaros, and

three or four models of Corvettes, and it's kind of what everybody sees at the race track. We wanted to stand out.

"I've always been known to have a different type of vehicle that may or may not fit the class we're racing," he added. "It's about being different, standing out. We really look forward to, on the sponsorship side, people seeing you standing out. Craig Sullivan Motorsports may only get one No. 1 qualifier in Pro Mod ever in our life, but when you're competing with the Tutterows and the Salemis, you just want to qualify and win a race. When you do beat those people, it's like winning the world championship in my eyes, because these are generations of racers. We're just dumb bracket racers, and I feel very fortunate to race with these people."

EFFICIENT OPERATION

While Wild Irish Engine and Machine is not a huge operation, it is a well-organized and well-managed company that is growing at a rate that makes sense in order to maximize its value to the customer and keep its three employees busy but not overwhelmed.

Sullivan brought Tommy Radloff on board in 2020 to run the engine shop. "We've been blessed with his expertise and what little bit of knowledge I have to excel at what we do," Sullivan said. Radloff's diverse engine building resume includes stints in NASCAR, drag racing's Pro Stock and Competition Eliminator classes, plus he is a two-time Jegs Super Quick Series champion.

"We operate in a building that I own, that's 16,000 square feet, and we run the engine shop out of about 4,000 square feet of it," Sullivan said. "We're located in Danville, Indiana, so we're only seven miles from the Top Fuel teams and Funny Car teams in Brownsburg. There's also a lot of sprint car guys around us. Sprint car racing is pretty large in the Midwest."

Wild Irish Engine offers all of the services these and other kinds of customers need. "We do anything from the manufacturing side with our CNC mill application. We do all kinds of block work and block repair. We just made some main saddles two weeks ago to repair a Miner Brothers Hemi. Line bore and line hone, cam research, head development,

valve jobs, cleaning with ultrasonic cleaners. We work with Phil Esz of UltraSonic LLC on a lot of our ultrasonic products," he said.

With a location that's so well-suited to bring in a variety of racing customers, highly competent employees are required to keep the business successful and in demand. Finding and keeping these team members happy is the biggest challenge Wild Irish Engine is faced with. Although the majority of the employees have come to the company already experienced, Sullivan knows that's never enough, himself included.

"We still look for continuing ed for everybody," he explained. "Education's important when you're trying to be on the cutting edge."

Going hand-in-hand with continuing education is internal training for new employees, which can be tedious at times. As Sullivan shared, "It's a slow process. It's a lot of shadowing, a lot of trial-and-error, but in the engine business, when a customer brings his block in for repair, you can't afford failure. We take somebody who knows exactly what they're doing, and they come in and it's a one- or a two-hour process. When training that person, it's going to take two to three hours by the time we have to check in the middle and check in the end until they've earned that spot to know that we don't have to check it because they fit our expectations and our customers' expectations.

"If you're looking at someone who's blowing a main bore out or straightening a main line out, and they make a mistake and we have to create inserts, well, the customer's not happy at that point," he continued. "When you're taking 0.004 inches out to align the main bore, now you have to take a 0.350-inch cut out of it, and you have to make a saddle to go in the main. That's hard for a customer to accept that kind of mistake. You take a block that's thrown a rod out of it, go in to hone it and it's 0.008 inches out of round. It takes a skilled technician to get that there. If you put someone inexperienced on it, the piston's never going to fit it, because you have to go 0.014 inches to 0.018 inches to get it there, then you have a set of pistons to buy. If you're in a class situation, you go past the max bore and then you have to put a sleeve in it. It's very difficult

to find that person that you trust to get in the door and then still be able to maintain profitability."

Sullivan said he has three positions "available today, and I have under-qualified or not-qualified people who want to be hired, but still want to be paid as if they're a productive employee. You can't make a profit that way, so it's difficult at that point to hire anybody. Somebody who's fresh out of school may think they're worth \$45,000-\$50,000, and they have no experience. They have a general knowledge of a piece of equipment that they've learned to use, or a general knowledge of how they might be able to take a transmission out of a Pro Mod, but they haven't done it. So they can't turn that out in 30 minutes like a professional can. They'll take three hours, and they're going to make mistakes. Mistakes cost money as well. So I really have to look at you closer, and you have to look closer at who you're hiring to be able to sustain profitability."

When he does find these top-quality employees, the biggest factors in keeping them is providing benefits, treating the employees fairly, and creating a good



Craig Sullivan didn't intend to be the owner of an engine shop, but found himself in that position when he started Pro Mod racing seven years ago and couldn't get the results he wanted from a local engine builder.



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working environment, which are challenges that Wild Irish Engine and Machine meets to the best of its ability.

“The problem with small business is you can never give good benefits,” stated Sullivan. “We’ve found a way to be able to provide a good quality healthcare product for our employees, and for our older employees that really matters. We have paid sick days, holiday pay, vacation, 401(k) is available. We do everything we can to keep these people in the market. We try to make it the best it can possibly be. We make it a family-type environment. It doesn’t mean that it’s perfect—we all fight with brothers, sisters, moms, and dads, it’s just part of life. We try to keep everybody happy. When someone wants a raise, we have to say, ‘Show me how you’re going to make me more money.’ It’s a little rough on them the first couple times that happens, but then when they put their head to it and consider the overhead and income there is to it, they find a way to make more money. We just put our heads together and do some unconventional things, ways I won’t get into because we have to keep ahead of our competition. It’s taking care of business. You can’t treat all employees the same because they’re not.”

CUSTOMER ACCOLADES

The management approach taken at Wild Irish Engine and Machine has proven successful, and customers take notice of this by recognizing the quality of the end product. One such customer is racer Mark Woodruff, who said, “We use Wild Irish engines in our Pro Mod and our RvW [Radial vs. the World] car. In the high-performance engine business, one of the struggles I see

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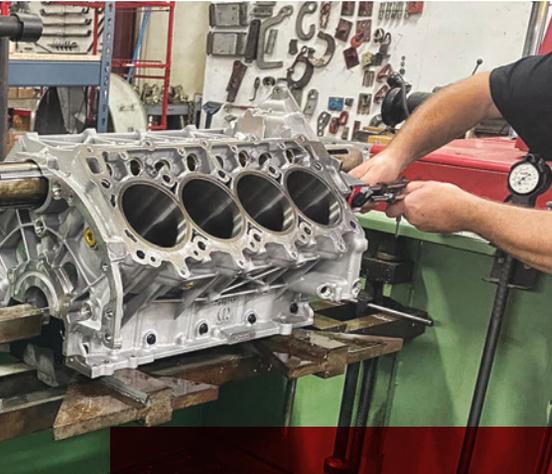
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Wild Irish Engine and Machine does "all kinds of block work and block repair," Craig Sullivan said. Its location west of Indianapolis puts it in close proximity to Top Fuel and Funny Car teams in nearby Brownsburg, as well as "a lot of sprint car guys around us."

with some companies is the management, you know, ordering parts, done in a timely fashion, over-deliver and under-promise, because most of them don't meet the deadline. It always costs more than what they said it would be, or there are parts delays.

"EDUCATION'S IMPORTANT WHEN YOU'RE TRYING TO BE ON THE CUTTING EDGE."

"One of the reasons I moved my engine program to them is Tommy Radloff being there running the engine shop and Craig managing the business," Woodruff continued. "From my years of experience competing against Craig in business, I knew I was going to be dealt with right. In all the years I've known him, at the end of the day he tries to do the best job he can possibly do for the customer. All of his cars and engine programs I've been able to be a part of, with tuning and helping and bouncing ideas off one another, they've really turned that screw-blown Hemi in the Mercury to where that thing makes some good power. Tommy has a really good handle on what it takes to make

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that engine platform perform. That's part of the reason I made the switch. They do what they say they're going to do. It's done in a timely manner; race-proven horsepower. With the horsepower they make, that thing speaks for itself. I came out with that new car and won the first three races I went to with it. That's pretty spectacular in my opinion."

'BOUTIQUE' ENGINE SHOP

The customers see the Wild Irish Engine and Machine team as thinking out-of-the-box from top to bottom to get results. This perspective goes hand-in-hand with how Sullivan himself views the company. "There's been a lot of these boutique coffee companies, boutique clothing stores, we just look at ourselves as a boutique engine shop," he explained. "Until we can get the employees brought into our facility, we really have all the work we can do. We're constantly looking for the employees to build the racing business and the engine business, because once you find good ones, you make room for them whether you need them or not, and then figure out what you can do to turn that into a profit center."

The boutique engine-building attitude and the quality of the employees the company develops results in a product that attracts loyal customers, including Darren Meyer, whose main business is building superchargers.

"I'm not an engine builder," he explained. "I'm good at it, I enjoy doing it, so I usually do it on a limited basis. When I need to get something done—let's say I have a guy who needs an engine, and I just can't do any more—I'll send him to Craig. And Craig, I know, will do the work how I want it done. They've been doing things this way for a number of years, the right way. The nice thing about Craig is, if I want it upside down and purple, when I get it, I get it upside down and purple. It's exactly what I want. Some machine work I'll send his way or customers that I can't get to right away. I like to guide my customers to success. It's part of what I do as well at the race track, above making superchargers.

"Other customers come to me for help on how to run a Pro Mod car or help to run a program, and I usually educate them,"

continued Meyer. "Because I want to keep that kind of reputation, when I can't do the work, I want to be able to look the guy in the face and say, 'It'll be done right.' I lay out the build for Craig. For this guy, he gets what he wants, I know he gets what he wants, and when he calls me at the track and needs help or guidance, it's easy to do because what you perceive sitting there in their pit is what is sitting there in their pit. That's why I send stuff to Craig. For me, I don't like being the guy who guided somebody wrong. The customer would be unhappy about it, and I wouldn't be happy about it either."

Marketing is often required to attract and retain customers. Like everything else, Wild Irish Engine doesn't follow a standard



Cylinder head development is among the services available at Wild Irish Engine and Machine. Its small but versatile crew, including Tommy Radloff, who runs the engine shop, regularly thinks out-of-the-box to get results.

formula, though. Sullivan reported, "We don't really do a whole lot of marketing for the engine shop because at this point, we're trying to manage the amount of work we have for our employees. We have some Factory Shootout engines that we maintain, and those need to be 'quick-turnaround,' but at the same time, Tommy runs the racing side as well. So there are gaps there where we might be out two weeks racing, and he's not there to manage, so we're having the employees march on those five days when he's gone.

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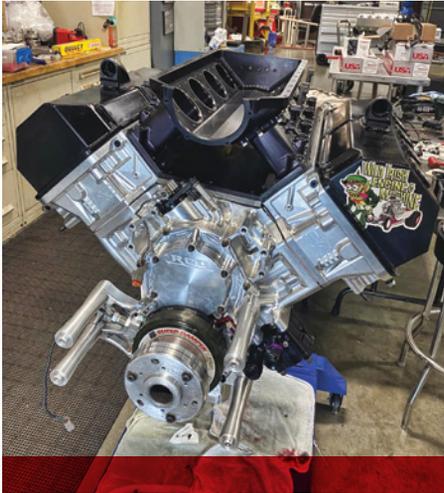
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“Race-proven horsepower” done in a timely manner is what drew one racer to Wild Irish Engine and Machine. “They do what they say they’re going to do.”

“There are more engine customers out there than there are machine shops and engine builders,” Sullivan continued. “With the employees we have, we’re working them at a max load now, not trying to overwork them and burn them out. We’re not letting the greed or the want of success drive everybody’s work. We want to keep happy employees, a good work ethic, and a quality product.”

One method Sullivan uses to showcase his business to customers and prospective customers is having an open house that coincides with the annual PRI Trade Show. When asked about how this strategy works, Sullivan said, “It’s all about customer expansion. We have manufacturers that come in and want to talk about development of products. If somebody comes up with a product for a blower application, and they’re not really blower manufacturers or don’t have a lot of knowledge, there’d be at least two blower manufacturer guys there they could talk with, so it’s a real good networking situation. We usually have anywhere from 80 to 250 people who show up. We’ve done it, I think, two years with COVID-19 coming into it. But it’s definitely opened some eyes when people have walked through and seen some of the services we offer and our employees.” **PRI**

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Photo courtesy of Larry Chen/Drift Cave Motorsports



MADE TO **SLIDE**

While big horsepower, specialized suspension components, and quick-change solutions still epitomize these rowdy machines, reliability remains paramount in today's drift sector.

By Bradley Iger

Drifting continues to be one of the fastest-growing disciplines in motorsports. Attracting some of the youngest fans in racing, drifting has embraced the culture associated with it as well as the technology that has helped to define the look, feel, and competitive nature of the sport. It's an approach that has helped the drifting segment mature rapidly over recent years, not only in terms of aftermarket support, but also its willingness to innovate and advance.

"In the grand scheme of things, drifting has evolved pretty quickly," said Mike Skudlarek of Detroit Drifting, Livonia, Michigan. "One of the cool things about pro-level drifting is that there's never really been any kind of limitation on horsepower. The playing field has always been leveled by limiting the grip that a vehicle can have by weight restrictions relative to tire size."

That tactic has fostered a horsepower arms race over the past decade that in turn sent competitors in search of ways to dial greater reliability into their cars. "Within a few years, 800 to 1,200 horsepower started to become commonplace, and so the supporting parts had to change as well," Skudlarek explained.



Many of the rear-drive Japanese coupes first used in drifting are getting harder to find and more expensive, "which has led to a more diverse field of vehicles," said Drift American's Scott Umbreit. "Cars like Mustangs, Nissan 350Zs, Corvettes, and BMW 3-Series have become the cost-effective, reliable alternatives."

"Suddenly the factory components that you might've been able to get away with a few seasons ago weren't cutting it anymore. That led a lot of teams to engineer their own motorsports-grade hardware that was designed specifically for drifting," he added.

Over time those development efforts have expanded far beyond angle kits and beefed-up clutches. To build a competitive drift car today, racers must take every aspect of the car's performance into account while also considering the rule sets that can affect the eligibility.

PLATFORMS

Rear-drive Japanese coupes have long been a staple in drifting, but as the prices and availability of many of these cars have skyrocketed recently, competitors have been seeking worthy alternatives. Although some grassroots series allow purpose-built tube chassis cars, larger organizations like Formula Drift require the vehicles competing at all levels to be production based with unmodified wheelbases. That makes starting with a capable and well-supported architecture key to establishing a solid build foundation for those who wish to pursue that series and other ones like it.

"A lot of the younger guys want to build a car that's unique to them," said Scott Umbreit of Drift American, Fort Collins, Colorado. "Many of the popular cars early on in the sport have either dried up or are

getting cost-prohibitive, which has led to a more diverse field of vehicles. Cars like Mustangs, Nissan 350Zs, Corvettes, and BMW 3-Series have become the cost-effective, reliable alternatives."

As Daniel Chow of Morgan Hill, California's Drift Cave Motorsports pointed out, some platforms have inherent advantages that can streamline the build process.

"We started off with a Nissan S chassis when we began competing in Formula

Drift's Pro series," said Chow. "At that level you're looking at a minimum of 200 to 300 hours of chassis fabrication to make the car competitive. We put an LS engine in it, and we were trying to adapt all of these different parts that weren't originally designed for that chassis. The same applies for BMWs, 350Zs, and so on.

"When we were looking to build a new car about four years ago, we started thinking, 'Why are we putting all of this effort into a 30-year-old platform when the Corvettes are engineered to be capable sports cars with good weight distribution, they're relatively affordable, they have strong support, and they already have LS engines?'" Chow continued. "When we entered into the Pro series with our Corvette, I think it was a big eye-opener for a lot of people."

Regulations in Formula Drift have made some popular performance platforms less appealing for drift builds, but competition director Kevin Wells told us they're always looking for ways to make the series more accessible while keeping costs in check.

"You need the ability to add steering angle, and some cars just aren't conducive to that," explained Wells. "For example, the Fox-body Mustang has a spring perch built into the subframe, and the way that the lower arm is designed, you can't get a lot



Most drift series have no limitations on horsepower or engine combinations, so racers are free to use whatever powerplant they prefer. "We have everything from four cylinders, V6s, straight sixes, and V8s to V10s and V12s competing today," said Formula Drift's Kevin Wells.

of steering angle out of it with the factory subframe. While they can be modified according to the rulebook guidelines, we require the factory front and rear subframes on all of the vehicles. Right now that makes the Fox-bodies inherently more difficult to work with, but next year the plan is to allow competitors to use an aftermarket K-member from QA1 in the front of those cars.”

POWERTRAINS

Since most series have no limitations on horsepower or engine combinations, competitors are free to use whatever solutions they prefer to achieve their ideal horsepower levels. While reliability is still the top priority for most teams, Wells said that this unrestricted aspect of the builds has led to a wide variety of engine combinations. “We have everything from four cylinders, V6s, straight sixes, and V8s to V10s and V12s competing today.”

In the interest of keeping costs under control, Formula Drift’s PROSPEC series prohibits more exotic hardware like sequential transmissions and requires a Link Engine Management ECU. “At a certain point you have to limit things a little bit because there’s always someone who wants to go further,” he said. “I don’t want to ruin the sport by making it too expensive.”

Since a vehicle’s minimum weight is directly tied to the tire width it can run in Formula Drift, it encourages teams to build heavier cars that compensate for the weight with a lot of horsepower. To that end, the LS remains the go-to option for a cost-effective grunt that can be relied on.

“At the sportsman level, the driver is often also the mechanic, so having something that’s going to be easy to maintain is really important,” said Skudlarek. “The obvious choice there is the LS family of engines. A naturally aspirated LS is a great option at that level, and if you need more power down the road, you can add forced induction at a pretty low cost without seriously jeopardizing reliability.”

Many competitors run a nitrous system to provide additional response on demand as well. “On the courses we compete on, you can have everything from 20 to 30

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Unlike in drifting's early days, there are bolt-on suspension systems for today's most common drifting platforms that will increase steering angle while retaining stock spindles and other components.

mph corners to ones that you might take at close to 100 mph," said Chow. "Because there's so much fluctuation in rpm, you can see some lag in throttle response in some situations. We're always looking for ways to improve that, and so initially the thought was that a 200-shot of nitrous could help get the cam lag out, or help the turbos spool up quicker. But at a certain point, it just became a desire for more horsepower for us, so we're basically spraying all the way from 3,100 rpm to 7,700."

When it comes to cooling, many teams use rear-mounted radiator setups that are similar to what you'd find in a Trophy Truck. "Most of these cars' engine bays weren't designed for the engines that are in them, so it's often a situation where you just don't have the room for the radiator and fans, or having them there would make working on the car much more difficult," Wells said. "By moving it to the back you're getting cooler air and adding water volume, and it also helps move the weight distribution toward the rear of the car."

With big power and massive shock loads to contend with, transmission choice has also become an important consideration. Reinforced factory-style gearboxes might have been able to get the job done before quadruple-digit horsepower numbers became commonplace, but that's no longer the case at the upper levels. NASCAR-style four-speed dogboxes like the G-Force RTS GSR and sequential transmissions like the six-speed offered by 6XD have become the standard of today, as they offer the strength

and adjustability required to tolerate the abuse and maximize performance.

In that same spirit, quick-change differentials have also become a common sight at the upper levels of competition. "It allows you to do a final drive change in less than three minutes, and that's a huge benefit," said Chow. "We'll make anywhere from four to eight gear ratio changes over the course of a weekend."

CHASSIS AND SUSPENSION

Although series like Formula Drift require factory chassis and wheelbases, some

modifications are allowed in order for teams to improve durability and make the cars easier to repair. According to Wells, 99% of the teams are using aftermarket bumper structures of some kind. "These are for the protection of vital engine parts and ease of service, and with the body work installed you'd never know they're there. Most of these structures are removable, and teams bring spares to change out during the events—especially for the rear."

Drift car suspension systems, meanwhile, have advanced significantly over recent years. Since Formula Drift requires suspension components to mount in the factory locations, in the early days many teams needed to figure out a custom solution to get the performance they needed. This too has changed. "There are full bolt-on systems for pretty much all of the common platforms in drifting now," said Umbreit. "For folks who might be just starting out, there are now kits available that allow you to get more steering angle out of the car while keeping the stock spindles and things like that. Companies like Wisefab, Scotidi Race Development, and FDFRaceshop now have options that cover a wide range of applications."

Skudlarek noted that the more



Because contact is not uncommon in drifting, most teams bring spare aftermarket bumper structures and other body components to make them easier to replace between heats, "especially for the rear," said Kevin Wells of Formula Drift.

comprehensive solutions tend to fix issues that typically cannot be addressed by basic angle kits. "At the grassroots level, people are often looking for the least expensive way to add more steering angle, and they're willing to compromise on other aspects of the suspension's performance to get it. More advanced kits are usually engineered to correct some of the issues that arise in the suspension geometry when you start swapping out factory components. These kits are CAD designed and include purpose-built components like steering knuckles, and oftentimes there's a different camber plate or top hat for the strut that relocates the pivot point to be more conducive to the geometry of the kit. It's more of an all-in-one solution."

Of course, a hydraulic handbrake system is par for the course at virtually all levels. "Wilwood offers all of the components for these handbrake systems, and most of the handbrake handles are designed around their components," Skudlarek added. "You'll see a Tilton setup occasionally, but Wilwood has really become the go-to there."

BODYWORK

Contact—be it with a wall or another car—is pretty common in drifting. As such, teams have sought ways to minimize the damage and make repairs as quick and painless as possible. "Pretty much everything has gone to fiberglass or carbon fiber, and a few teams have done carbon Kevlar," said Wells. "Carbon Kevlar is an interesting option because it's flexible and will pop back into shape, whereas a piece of fiberglass isn't going to do that. But about three-quarters of the field still run the factory metal doors—the doors just get hit so often that its cost prohibitive to use carbon there."

Many aftermarket kits have integrated front splitters, diffusers, fender flares, and other features that add both style and functionality to the car without bringing additional pieces into the mix that would make repairs more complicated. Wells said teams also utilize aftermarket mounts to make it less time-consuming to replace damaged panels. "For instance, with the rear quarter-panel, the teams are allowed to cut the whole thing off aside from a one-inch lip that goes all the way around the car,

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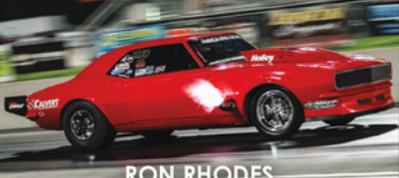
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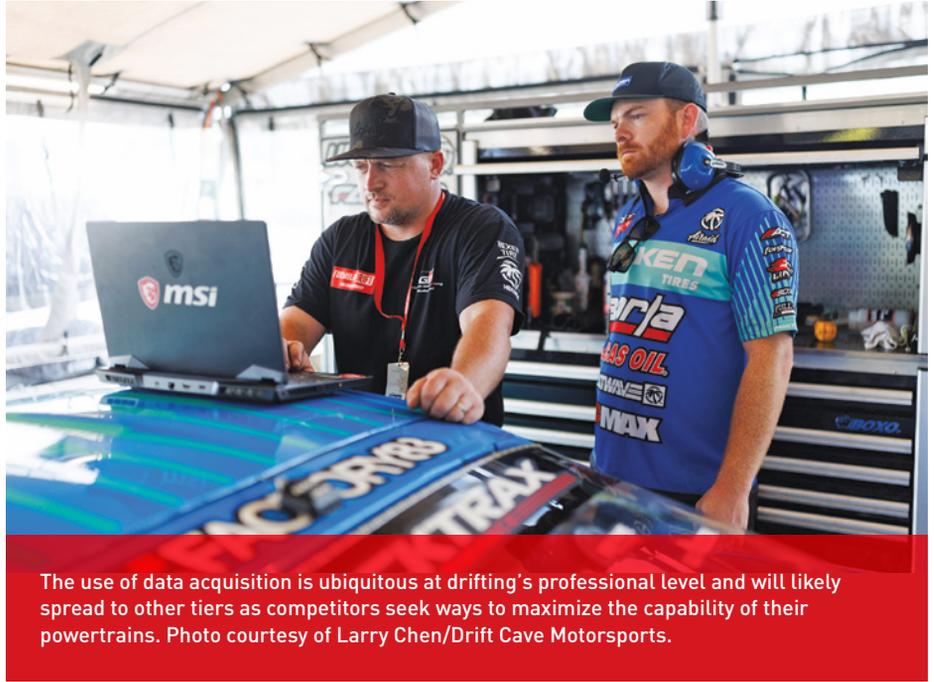


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The use of data acquisition is ubiquitous at drifting's professional level and will likely spread to other tiers as competitors seek ways to maximize the capability of their powertrains. Photo courtesy of Larry Chen/Drift Cave Motorsports.

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so the majority of teams use that lip to rivet in the aftermarket panel. Others will use quarter-turn fasteners, but it can be difficult to get the panel back on after you've gotten into damage with those. At the front end of the car, we only allow for modifications in front of the strut towers on the top side. So everything forward of the rail that the fender would attach to is usually aftermarket."

Because of the format of competition, ease of replacement is really the highest priority here. "Some guys will just use really strong cable ties to hold it together," said Chow. "These cars aren't going to do 150 mph around a race track for long periods of time. The panels need to stay together for the 45 seconds that we're on track and be easy to replace if there's a collision."

WHAT'S NEXT

After a few years of big rule changes in Formula Drift, Wells said that the series is giving competitors some breathing room going into 2023 while the organization mulls over long-term considerations.

"There aren't many rear-wheel drive cars left on the market at this point, so we need to make sure all of the ones that are out there are eligible to compete. We're also trying to figure out what we can do with EVs. We've had electric drift cars in the series before,

but it was challenging because some of the tracks weren't set up for it, and they wouldn't let them run. We want to figure out how to bridge that gap a bit without forcing it to be some kind of spec car."

In the meantime, Skudlarek expects to see technology becoming a larger aspect of most teams' programs over the next few years. "The use of data acquisition is definitely on the rise—it's already huge at the pro level, and I think that's only going to increase over time. In order to keep a handle on some of these really high-strung engine packages and maximize the capability of these cars, it kind of has to happen." **PRI**

SOURCES

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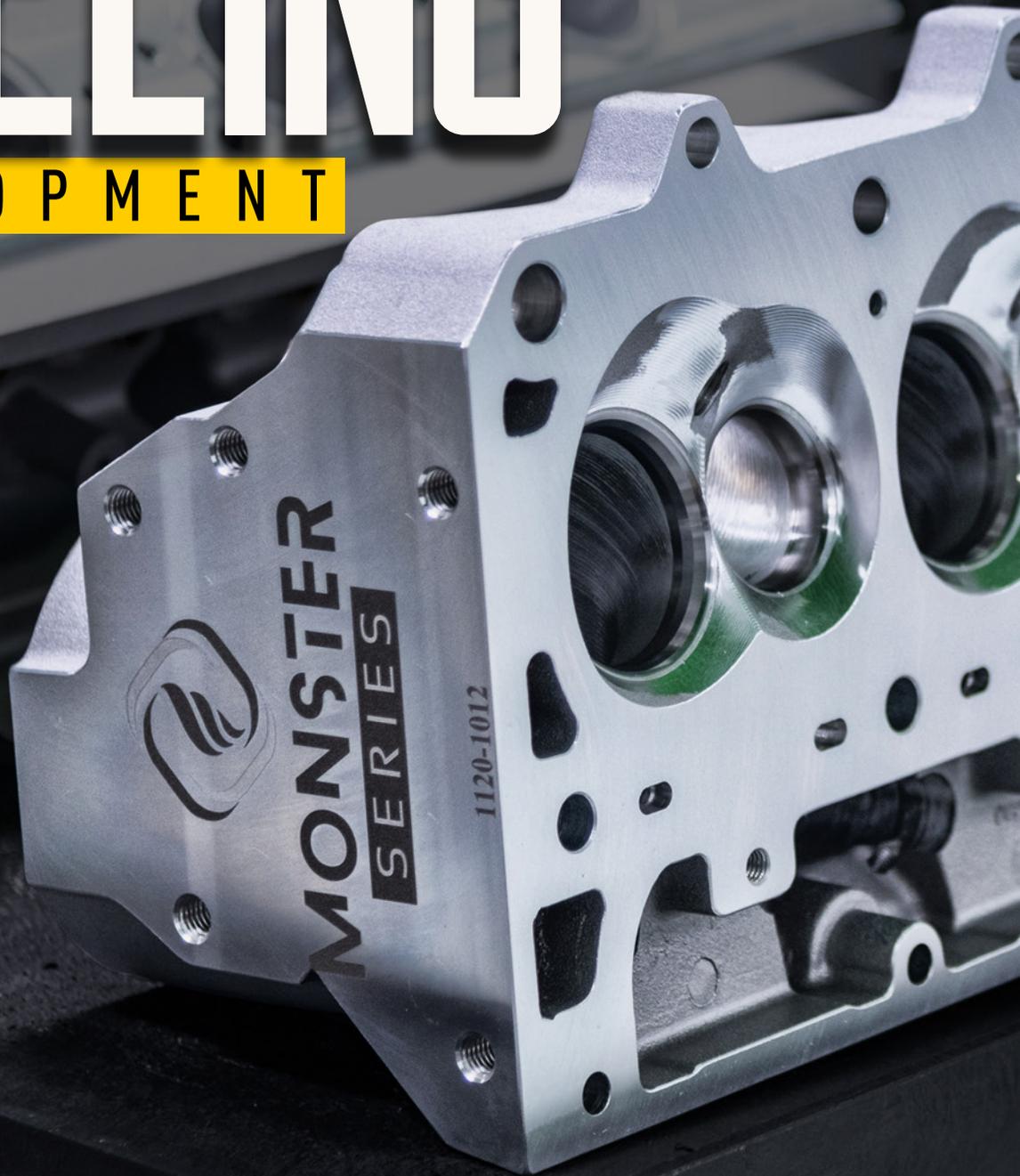
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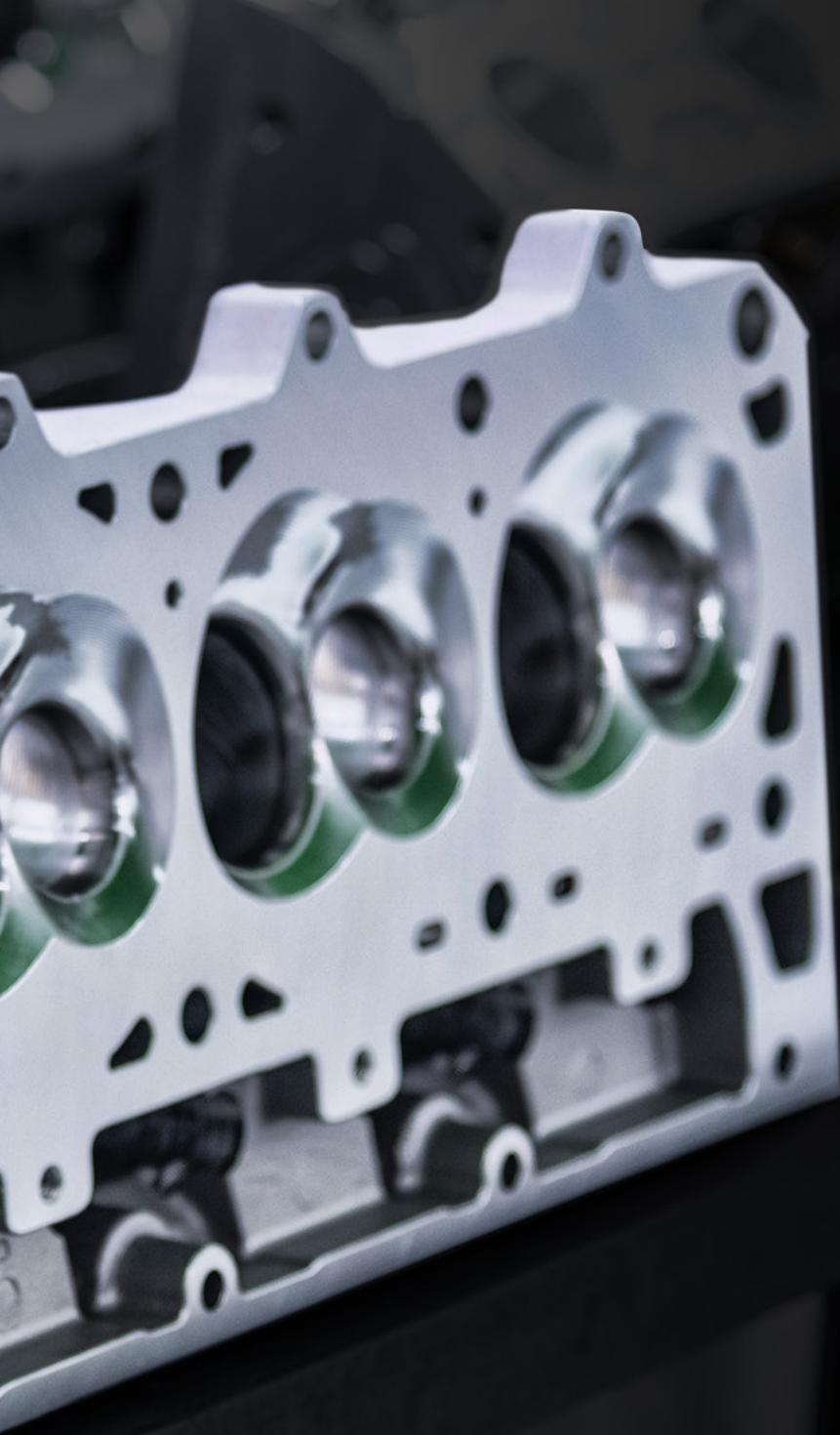


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IN ADDITION TO EVOLVING PERFORMANCE PRODUCTS FOR THE TRACK, CYLINDER HEAD MANUFACTURERS MAY ALSO PLAY AN IMPORTANT ROLE IN THE ICE VS. EV TUG-OF-WAR.

By Mike Magda

When asked about the future of cylinder head design with a sampling of aftermarket manufacturers, there were the expected replies of improving airflow with new port shapes, squeezing in bigger valves, improving valvetrain geometry, and even designing more billet heads with water jackets.

However, the topic of electric vehicles and alternative fuels came up more than once as a driving factor in cylinder head development.

"We're constantly progressing and moving the needle forward on all designs. I think the one big thing we'll probably see is just inevitable," cautioned Chris Frank of Frankenstein Engine Dynamics, Weatherford, Texas. "With the competition of EVs, I think we're going to see a lot of new fuels entering the market. We know, based on our experience, that drastically changes port design and also what the cylinder head will demand based on the new fuel requirements."

"It's interesting with the EV world, I think you're going to see a lot of alternative fuels," agreed Jason Youd of Mast Motorsports, Nacogdoches, Texas. "You're going to see a lot of hydrogen, a lot of propane. You're going to see a lot of alloy development in valve seats and valve materials to accommodate for hydrogen, because hydrogen is an animal in itself from the hydrogen-embrittlement standpoint."

Youd admitted that the hydrogen future will more likely affect the industrial markets for which his company develops new cylinder heads. Frank, however, sees the possibility of more designer and synthetic fuels entering the market—which would require attention on the cylinder head much the same way the transition from carburetors to EFI did in Pro Stock a few years ago.

"There is a different demand from the cylinder head and intake manifold design than when we were running carburetors, and it's going to be the same difference, I feel, when we're testing and changing new fuels," said Frank. "Fuels are going to get better, and cylinder heads are going to have to be a lot more efficient."

REFINING CURRENT DESIGNS

Constant improvement to maximize cylinder head efficiency is a common theme these days. The pandemic, however, presented challenges in labor, supply chain, and manufacturing to the point that some companies were forced to delay interesting development projects. Many of those are starting to come back.

"We didn't show anything new at PRI, but we have a few projects in development," said Mike Panetta of Dart Machinery, Warren, Michigan. "We'll have a revised casting of our LS7 with new port designs. On the LS7, we revised the deck thickness after hearing from racers."



“We’re constantly progressing and moving the needle forward on all designs,” including in the realm of new fuels, said Chris Frank of Frankenstein Engine Dynamics. “We know, based on our experience, that drastically changes port design and also what the cylinder head will demand.”

Our head is currently .500-inch thick. With the increase in boost levels and horsepower, we’ve raised the deck thickness to .750-inch. We also made revisions to the water jackets to allow a larger port.”

In addition, Dart Machinery is moving its as-cast LS3 Pro1 head down to the SHP line, which will bring the cost down and make it a little more user friendly. Then there will be a new CNC-machined LS3 design entering the Pro1 lineup.

Over at Brodix in Mena, Arkansas, no new cylinder heads have been released recently, but there is a big block Chevrolet head under development that might be available in the spring.

“It’s a new design of an older head, so we’re not going to release anything on it yet,” said Mark Fretz. “The majority of racing that it will be used in is drag racing, mostly naturally aspirated.”

Brodix engineers have been working on the head for close to a year, but the company remains extremely busy filling regular production orders.

“Getting guys time to break away from their normal jobs to work on a special project

is pretty tough,” noted Fretz, adding that the decision to initiate the BBC project was spurred internally and not by specific racer suggestions. “We have ideas we talk about, and we figure out what the market needs. This is just increasing power.”

Fretz stressed that Brodix is always “modifying, changing, and improving” existing product. With an in-house foundry and pattern shop, small or significant improvements can be made in short order, such as modifying the water jackets to increase cooling around the spark plug or adding supports for a different rocker-arm mount. He said that although the company hasn’t developed an entirely new cylinder head recently, it has produced specialty castings on a private label agreement for select clients.

Edelbrock in Olive Branch, Mississippi, is another cylinder head manufacturer with its own foundry and the ability to make speedy changes. “Edelbrock has invested heavily in state-of-the-art manufacturing processes, and in doing so we now have the ability to 3D-print sand cores,” explained Mike Sanders. “This technology not only gives us

higher production throughput, it also gives us the unique advantage of eliminating core draft. We can eliminate dimensional constraints within the core package to move port locations, guide locations and improve bolt-column strength without reducing material thickness. More importantly, we now have the ability to go from design to prototype casting within weeks and service multiple custom applications for our customers.”

Addressing increased levels of boost, Edelbrock has upgraded its Big Vic 12-degree cylinder head for big block Chevrolets. “We have improved the exhaust port, added a conical chamber profile, and replaced the ductile-iron seats with Copper B1 and BX material,” said Sanders. “All of these combined improvements will not only help with forced induction applications, but they will also improve tunability in nitrous-injected applications.”

The BBC platform continues to be one of the hottest markets in cylinder head development. Weinle Motorsports in Clevel, Ohio, has a CNC upgrade program for a Pro-Filer Sniper X casting that changes the valve-seat angles and reshapes the bowl above the valve.

“The head is already one of the most popular out there,” said Mike Weinle. “We just made our changes, going with a 55-degree seat angle compared to 50 and

Mast Motorsports has developed a strong relationship with its foundry. “We retooled our entire product line in the last 14 months with the new foundry,” said Jason Youd. The partnership has improved efficiency and alleviated some supply chain issues.



made the bowl a little bigger. We picked up 10 cfm. It works best on a 600- to 632-cubic-inch engine.”

Weinle has a similar program that starts with a Brodix BB-3 CNC porter's casting. He then machines his own port design to work with a 2.375- or 2.400-inch intake valve. The exhaust is reworked for a 1.850-inch valve.

“The valves are in the standard location, so you don't have to buy special pistons and rocker arms,” noted Weinle. “Again, these heads are great for 600- to 632-cubic-inch engines. They're economically priced and still flow over 480 on the intake. It's a conventional style head, which we will sell three-to-one over, say, a Big Chief style head.”

Weinle said a conventional head is still a strong performer when drag racing on eighth-mile tracks. “Everybody went to a Big Chief style, then they started going back the other way,” recalled Weinle. “In the eighth mile, if you put on a strong

“FUELS ARE GOING TO GET BETTER, AND CYLINDER HEADS ARE GOING TO HAVE TO BE A LOT MORE EFFICIENT.”

enough conventional head, it's only a couple hundredths different in ET. So, a lot of people don't bother spending the extra money. If you have 75 or 100 more horsepower, you don't really see that power until the second half of the track. It might be a couple hundredths in the eighth mile, but in the quarter mile it would be more. Today, most tracks run only eighth mile.”

Cost considerations will drive development when companies strive to offer CNC-ported performance in an as-cast head. Mast Motorsports focuses on LS, LT, and Godzilla

applications. The company's Black Label line is CNC-ported and may run \$3,000 to \$4,000 for a set of heads. By digitizing the ports on its LS7 head and tweaking those numbers in CAD, Mast developed an as-cast head with a strong port design.

“I'm working from the top down,” explained Youd. “Our Black Label flows 400 cfm at .600-inch lift. The as-cast Factory Mast head flows about 10 to 15 cfm less at half the price.”

Mast also offers a Mozez line of heads for extreme performance. “It's a specialty market,” described Youd. “We really haven't done too much development there. We did launch a second-generation Mozez line this time last year, and that's done really well. We haven't done any more development on that line. From a development standpoint, we are taking on a lot of private-label projects. We have various customers that are asking us to do the CAD, design work, and CFD, and then produce those cylinder heads for them



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under their name.”

One of the strong points for Mast in both development and manufacturing is a strong partnership with its foundry, especially in light of so many foundries experiencing difficulties in supply chain and labor.

When Youd assumed control of the company in 2020, he formed a technical partnership with a foundry.

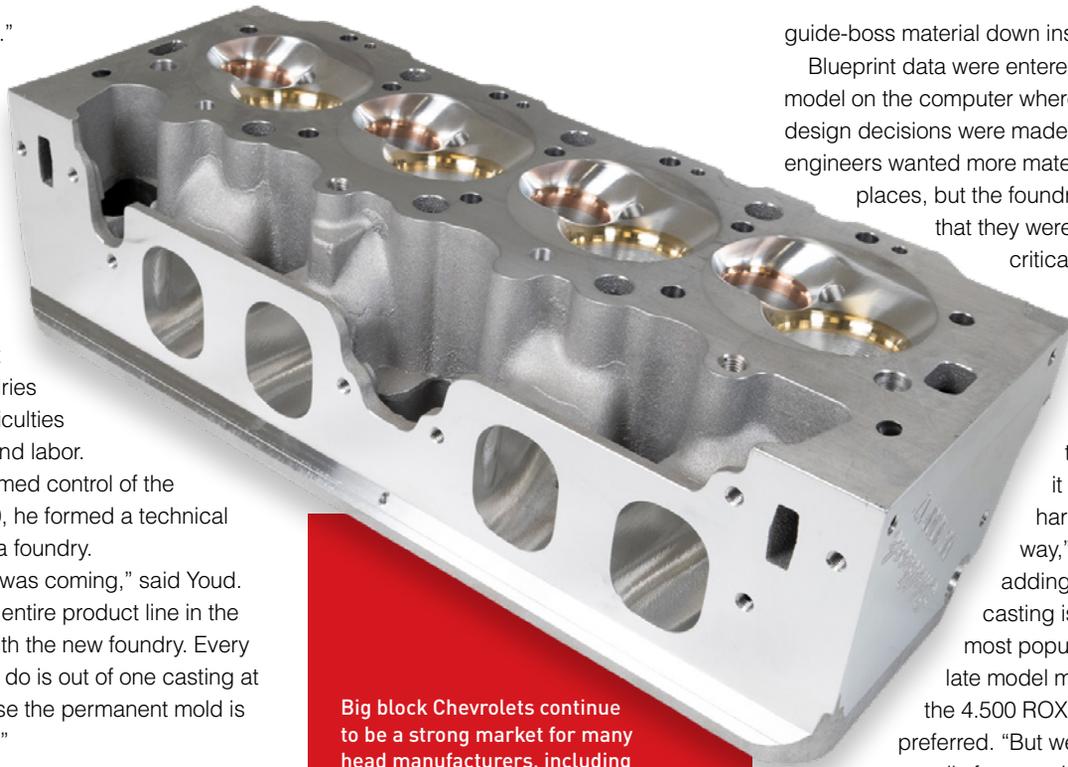
“We saw what was coming,” said Youd. “We retooled our entire product line in the last 14 months with the new foundry. Every single LS that we do is out of one casting at this point, because the permanent mold is almost \$250,000.”

DEVELOPING NEWS

As noted, creating a new cylinder head from a clean sheet of paper can take 18 months or longer, depending on the application. Having the versatility to produce different versions from a single mold—even if those different versions are for different-sized blocks—can be enough of a cost advantage to save a program.

For 1 Way Technologies in Washington, Indiana, a unique development story started with General Motors releasing the SB2 head for NASCAR racing in the mid-1990s, and later coming out with the SB2.2 version. Chris Grace worked for Weld Tech then, which had CNC-porting contracts with GM. Grace later purchased the company and merged with a customer to form 1 Way. When GM developed a new NASCAR block with 4.500-inch bore spacing—compared to the standard 4.400-inch—the ROX head followed, which was basically a wide-bore SB2.2. Other companies then started producing SB2.2 and ROX heads but soon discontinued their programs.

“There was a void in the industry, so I came up with the concept of making a single casting that I can machine an SB2 for the 4.400 block or a wide-bore ROX for 4.500 out



Big block Chevrolets continue to be a strong market for many head manufacturers, including Edelbrock. It recently upgraded its Big Victor 12-degree BBC head to accommodate increasing levels of boost “and will also improve tunability in nitrous-injected applications,” said Mike Sanders.

of one mold,” said Grace. “The development process was, we had to overlay the head-bolt locations and put enough thickness there for all the head bolts. Also, make sure the valve-cover perimeter and everything would fit the port overlays. With the water jackets, we made sure that there was enough material for both shapes of intake and exhaust ports. In essence, there is less water in our casting, but I can use one mold and just have one casting poured for two different styles of cylinder head.”

Obviously, a choice has to be made between the SB2 or ROX design when the casting is released—the finished head won’t fit both blocks. But 1 Way does have some options in machining the head.

“We can stand the valve up and we can rotate the valves in the cylinder. Having more material in the casting allows us to be able to rotate the valves around as the engine builder requests,” added Grace. “We make sure there’s enough spring-pad material and

guide-boss material down inside the port.”

Blueprint data were entered into a CAD model on the computer where all the design decisions were made. At times, the engineers wanted more material in certain places, but the foundry cautioned that they were already at a critical limit in those areas.

“That is one constraint we have with the head, but it hasn’t been harmful in any way,” noted Grace, adding that the casting is one of the most popular in the dirt late model market where the 4.500 ROX version is preferred. “But we’re also getting more calls from engine builders with the old SB2 Cup engines where their heads are getting too old.”

Grace said plans are in the works for another 1 Way head targeting the small block Chevy family but won’t get specific or mention the racing genre. He’s also been approached about doing a Ford head based off the D3 NASCAR design.

That is an application that Frankenstein is pursuing. “We are coming out with a canted-valve race head for small block Fords,” confirmed Frank, adding that a billet version is possible. “It would be like a hybrid. It’s not going to have the same architecture as the D3 or the [Edelbrock] SC1, but it will be in that category. It will be a full-race cylinder head, something that could be used from road racing all the way up to professional drag racing.”

Frankenstein also plans a traditional inline SBF head with raised runners. Both heads will have compatible intake manifolds. Also on the list is a LS canted-valve race head and a new 16-degree BBC. Again, dedicated intake manifolds are in the plan.

“One thing that we always take into consideration is that we like to design the entire induction package from start to finish,” continued Frank. “Just because the cylinder

head is only one part of the air pump, and you really need to have an intake manifold designed specifically for the cylinder head it is being used on. We design ours to be very specific.”

DESIGN TOOLS

Frankenstein has an in-house dyno and Spintron and has been utilizing CFD more in its design operations.

“One of the latest challenges in the CFD testing was optimizing spark-plug location with the chamber shape and valve locations on a new race head,” said Frank. “The valve locations were pretty aggressive, and it became slightly difficult to make sure the spark plug would be optimized. A lot of the changes were made to the intake port shape and valve job to guide the fuel charge in a different direction, to get optimal atomization and keep that plug happy.”

Computer tools are being used more often in the industry. Air Flow Research (AFR) in



Creating a clean-sheet cylinder head can require months of development work. 1 Way Technologies discovered new efficiencies when it came up with a way to produce GM SB2 and ROX cylinder heads from a single casting.

Valencia, California, is updating its CAD files with older products.

“We’re transitioning to have everything in CAD,” said Chris Sperling. “That’s more for internal benefit to give us flexibility with casting design.”

AFR’s latest cylinder head designed for the Mopar Gen III Hemi is now starting to hit the shelves. There was an early challenge in its development due to COVID-19, which forced engineers to work from home and hampered intense collaboration efforts. Once the team received more input from various parties and customers, changes were made in the combustion chamber size to reduce concerns from customers doing swaps where a smaller chamber might not allow the use of pump gas for street use.

“I’d say the major difference on this cylinder head from the past, we started to heavily utilize FEA and CFD throughout the development process on the ports, the water jacket, and the casting itself,” said Sperling. “A lot of what we have designed has been designed around proven methodologies that we’ve had, such as three-quarter-inch deck, our valve-job theories with different angles, and lengths of the valve job. We were able to take some of those theories, put them into

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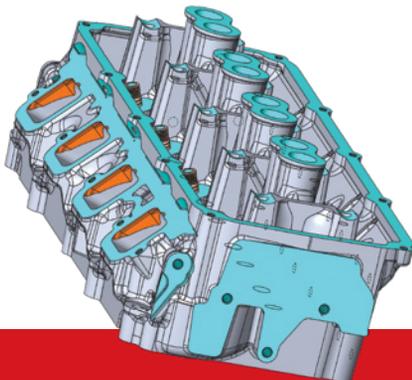
Lab testing has validated many of the computer simulations. The head will be offered in different versions to suit street and high-powered race situations. But it's also getting harder to improve upon factory performance engines. In the past, a head and cam swap could easily pick up 50 to 70 at the rear wheels.

"In modern-day engines, the as-cast offering from the factory is very competitive," Sperling said. "We've also been able to improve our casting technologies here at Air Flow Research. For a street-strip, entry-level, replacement-style head, most of our products are being transitioned to an as-cast cylinder head. The performance is just as good as our CNC-ported cylinder heads but at a lower cost. It allows more people to get into Air Flow Research products."

For the Mopar Hemi head, AFR targeted an as-cast version with 186cc runner as a factory replacement. That same casting can also be CNC ported for larger versions. One CNC version has 2.125-inch diameter intake valves and 212cc runner, which flows about 40 cfm over the OEM head and is expected to perform well on the 6.4-liter engines. There's also a CNC head with a 2.165-inch intake valve and 224cc runner that flows around 400 cfm at .700-inch lift.

OVERCOMING OBSTACLES

Cylinder-head development is not cheap,



Air Flow Research is updating its CAD files with older head designs so that it has "everything in CAD," said Chris Sperling. This allows the company more flexibility with casting design.

nor is there a quick turnaround when looking to create a new casting, especially if there's some chaos in the supply chain. The pandemic forced the closure of some foundries, which limited options for World Products in Louisville, Kentucky, to develop new cast-iron heads for its catalog.

"We're upgrading and retooling some products, possibly offering larger valves and updating the port design," said Jack McInnis. "I don't see us adding another engine family, it's too prohibitive cost-wise. There has to be a market for iron heads that would support it. We still get requests from some loyal contingent of an engine family, but it's not large enough to support the development."

All Pro Cylinder Heads in Johnstown, Ohio, is well known for developing special projects for race teams, including factory-sponsored programs.

"It actually takes a lot of money and a lot of time," confirmed Robert Williams. "Most people think that you can just make a cylinder head for \$10,000 to \$15,000. You're going to spend \$50,000 to \$60,000 to maybe get the first part poured, and then that's not going to guarantee that it's going to pour correctly."

"I've given some serious thought to the new Godzilla engine, but I don't think there's enough market out there for it," continued Williams. "Again, we're going back to the cost of money to develop a cylinder head. You have to sell an awful lot of them to make it back."

Technology that might speed up the process isn't cheap, either. 3D-printed cores require engineers fluent in CAD design.

"It's a big deal. It's not something that an individual can do unless they've got a lot of money that they can put out there," noted Williams.

Another factor driving development is the different uses for each cylinder head. All Pro has a 4.500-inch wide-bore head that dominates the dirt late model scene, but it isn't useful in drag racing unless changes are made.

"To use that in a drag-race application, you would have to make some major changes to it to make the big horsepower numbers needed," said Williams, adding that



"There's always going to be improvements" in cylinder head design, said Robert Williams of All Pro Cylinder Heads, but "the improvements now are more subtle than they used to be. I think we are advanced far enough now that it takes a lot of changes to make 10 horsepower."

sanctioning bodies will also stifle new head development. "We've been bitten before by coming out with something new, and then somebody with a five-cent pencil said we won't allow this. We've been doing this since 1983, so we're not new to the marketplace. We've been stung on several good ideas."

Williams said he didn't get the written confirmation he wanted at first for the wide-bore head and postponed development. Meanwhile, GM was working on a 4.500-inch bore-space platform for NASCAR, and other cylinder head companies responded. It wasn't until racers came to him with a request to build a competitive head.

"Because we're not a mass producer, I feel we can make a better head. So, we built one, and it took off really well with engine builders," said Williams.

WHAT TO EXPECT

As for the future, cylinder head development will follow the trends that are backed by the money. Boosted applications are certainly driving the features in today's new products. The romance of developing naturally aspirated power is losing much of its passion because, quite frankly, engine builders have become so good at it.

"There's always going to be improvements," said Williams. "I think the improvements now are more subtle than they used to be. I think we are advanced far enough now that it takes a lot of changes to make 10 horsepower. Some of the builders, especially in the circle track market, are not

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inclined to go a new route simply because they have so many piston-rod combinations, crank combinations, and so forth on the shelf. For 10 horsepower, they're not going to change it all."

Williams shared the example that his 13-degree sprint car head is popular, even with global racers. He also offers an 11- and 10-degree head that can be worth an additional 10 horsepower. But on dirt, it may not be noticeable for a driver the same way a drag racer could see the improved ET.

"If anything, it might slow you down because you're going to spin your tires more in the dirt," he explained. "The good drivers who are going to hook a car up are going to go a little faster, but are 10 horsepower out of 950 worth it?"

LS head technology could also provide measurable improvement in the sprint car world, but so many other changes would have to be made to the engine that the cost effectiveness of such a swap is not

worth the trouble to many teams. They'd have to change headers, intake manifolds, pistons, and other components that they're comfortable with.

"Teams would like to see an engine with a better cylinder head that fits their package," said Grace. "So, we're limited with that working space."

"The development of cylinder heads will never stop," added Sanders. "It's a moving target year over year as engine technology and markets change. There is still power to be found through extensive research and development."

"In development, it's all about how big the market is," added Panetta. "I could have one person come in and want us to do a single set of heads, with every trick in the book, and we could do that. But it's not cost effective. So we have to look at the larger picture. How many units can we sell? How big of a market reach do we get from that? And that's kind of how we redirect those new projects." **PRI**

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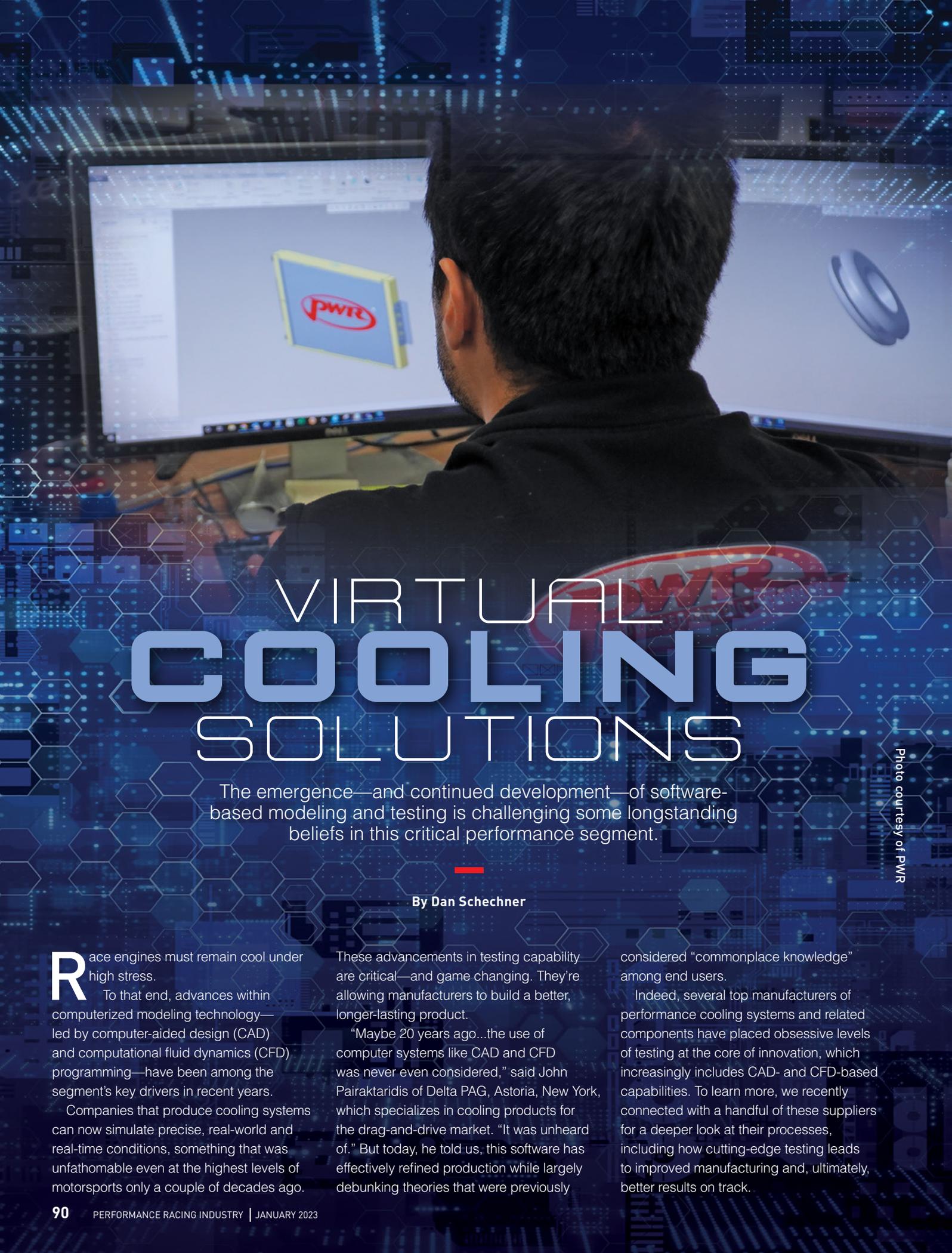
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VIRTUAL COOLING SOLUTIONS

The emergence—and continued development—of software-based modeling and testing is challenging some longstanding beliefs in this critical performance segment.

By Dan Schechner

Race engines must remain cool under high stress.

To that end, advances within computerized modeling technology—led by computer-aided design (CAD) and computational fluid dynamics (CFD) programming—have been among the segment's key drivers in recent years.

Companies that produce cooling systems can now simulate precise, real-world and real-time conditions, something that was unfathomable even at the highest levels of motorsports only a couple of decades ago.

These advancements in testing capability are critical—and game changing. They're allowing manufacturers to build a better, longer-lasting product.

"Maybe 20 years ago...the use of computer systems like CAD and CFD was never even considered," said John Pairaktaridis of Delta PAG, Astoria, New York, which specializes in cooling products for the drag-and-drive market. "It was unheard of." But today, he told us, this software has effectively refined production while largely debunking theories that were previously

considered "commonplace knowledge" among end users.

Indeed, several top manufacturers of performance cooling systems and related components have placed obsessive levels of testing at the core of innovation, which increasingly includes CAD- and CFD-based capabilities. To learn more, we recently connected with a handful of these suppliers for a deeper look at their processes, including how cutting-edge testing leads to improved manufacturing and, ultimately, better results on track.

Photo courtesy of PWR

TESTING, TESTING

As noted, CAD and CFD were mostly unproven (or untested) within the performance cooling segment until relatively recently. But all of that changed in the last two decades.

Software-based modeling and testing have since proven their worth as clear cost- and time-savers. Many of today's leading cooling system suppliers swear by it. "I don't know any respectable manufacturer that doesn't use it to design their products," Pairaktaridis said.

Which means that a broad range of products—from radiators to water pumps—have undergone major advances in both quality and capability thanks, in part, to data uncovered by these technologies.

Headquartered in Glendale, Arizona, aluminum radiator specialist Ron Davis Racing Products utilizes mapping and CAD for all major processes, according to the company. It also aligns its metal grain during flat-pattern CAD layout to ensure maximum strength at bends.

Moroso Performance Products' Brett Corriveau noted that electric water pumps account for a sizable percentage of the



Cooling products—everything from fans to radiators to water pumps—have undergone major improvements in both quality and capability thanks, in large part, to data uncovered by developing technologies like CAD and CFD.

Guilford, Connecticut-based company's business, which itself consists of "a pretty large catalog that includes any category in cooling other than radiators."

"The current generation electric water pump we manufacture is CAD-designed first, and then tested on a flow bench," Corriveau explained. "It's been a few years since we have introduced any new versions of our electric water pumps, but they are new enough, and that is the design process we used—off the CAD."

In terms of CAD/CAM software, SOLIDWORKS, Fusion 360, and NX (formerly Unigraphics) are the go-to programs for a number of cooling system manufacturers, including Rancho Cucamonga, California-based CSF, which lists Honda Performance Development, Mountune, Full-Race, Titan Motorsports, and Vortech Superchargers among aftermarket customers.

At PWR, based globally in Australia but with North American headquarters in Indianapolis, Indiana, Herb Engelhart told us that CFD is critical to the company's testing. With CFD, it runs predictive calculations of the heat rejection of a given cooler. It can consider a variety of factors like fin height, average ground speed, and front side air pressure, he said. This allows the tailor-fit of multiple critical aspects of cooling design for any given application.

"We use CAD and CFD across all [of our] facilities to ensure we have a good starting point before proceeding with prototypes," added Jack Anderson from PWR. "Nothing beats physically building the parts, but having some of the issues ironed out before this point speeds up the design process and prevents waste. Having the ability to do the CAD and production work under one roof gives us a massive advantage in the design and development cycle."

That ability to optimize design in CFD before cutting metal "has helped us get to the right design quicker and prevent wastage in the design and prototyping phase," Anderson continued. "Improvements in our DFM (design for manufacture) and



In a relatively short period of time, advances in computer-aided design and modeling have revolutionized the development of cooling components, according to our source at Delta PAG. "Maybe 20 years ago, the use of [these] systems was never even considered," he told us. "It was unheard of."

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CNC software have allowed us to increase our throughput while helping to identify issues sooner.”

Which is not to say human input doesn't play an important role in PWR's product—and prototype—development and evolution. Anderson elaborated: “We always look for real-world feedback on our products and try to adjust the designs where possible. We typically look to do multiple installs and gain feedback from as many people as possible in the early prototype phase to ensure we are as close as possible to the optimum solution before release.

“HAVING THE ABILITY TO DO THE CAD AND PRODUCTION WORK UNDER ONE ROOF GIVES US A MASSIVE ADVANTAGE IN THE DESIGN AND DEVELOPMENT CYCLE.”

“As time goes on,” he continued, “we will revisit the design based on feedback to see if there is anything we need to do to make it even better. It might be a new fin or turbulator density for better performance, slightly tweaking the dimensions for better fitment, or finding a way to simplify the design for a better commercial offering.”

PROVING (OR DISPROVING) ASSUMPTIONS

The emergence and utilization of computerized systems also has advanced the category by disproving common misconceptions, according to Delta PAG's Pairaktaridis, who said that early-in-the-process use of software gives the supplier a “competitive advantage” in which solutions often “are contrary to what is generally accepted.”

“We hit that wall every so often with customers where they have a certain belief

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CAD and CFD tools give the team at PWR “a good starting point before proceeding with prototypes,” said one of our sources. “Nothing beats physically building the parts, but having some of the issues ironed out before this point speeds up the design process and prevents waste.”

one way,” he added, “but it’s been proven, and it’s discovered that it is the complete opposite.”

Pairaktaridis told us one persistent myth is that “you have to slow down coolant to spend more time in the radiator.”

“That’s absolutely wrong,” he continued. “You actually need to increase the velocity of the coolant so it will increase turbulent flow.”

Pairaktaridis explained, “Turbulent flow in the cooling system is ridiculously important because it is able to pull more heat and dissipate more heat into the system. You want to pull heat from the engine and dissipate it to the heat exchanger. By increasing velocity of the coolant flow, you are actually increasing turbulent flow within the cooling system, which is able to dissipate

more heat.

“A lot of people are saying, ‘No, I have to put a restrictor there so the coolant spends more time in the radiator.’ That is wrong.”

CFD software, in this case, shows Delta PAG engineers how air functions and moves through the system. The key, then, is figuring out how to maximize airflow through the system so it can dissipate the greatest amount of heat.

“Using those systems is extremely important,” Pairaktaridis added.

Where else has computational analysis busted commonly held beliefs? Consider radiator thickness: Whereas many still believe thicker means better, Pairaktaridis said CAD and CFD have shown evidence to the contrary.

“IMPROVEMENTS IN OUR DFM (DESIGN FOR MANUFACTURE) AND CNC SOFTWARE HAVE ALLOWED US TO INCREASE OUR THROUGHPUT WHILE HELPING TO IDENTIFY ISSUES SOONER.”

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While saving time and resources, today's technology also has enabled cooling systems suppliers to "debunk certain ideas virtually via software," said a source from Delta PAG, "and a lot of things are contrary to what a lot of people believe."

"As air travels through the core, it picks up heat," he explained. "At a certain point it reaches a level of saturation where no more heat is being pulled through. The thicker the core, the more restrictive it is, so air is actually slowing down; it is picking up the saturation point a lot earlier."

Speaking to the advantage of a thinner radiator "in many cases," Pairaktaridis pointed out that "not only are you saving in weight and space, but it also cools better. So you can have your cake and eat it, too."

"Doing that stuff, you think you have more points of cooling with more fins and tubes, but you are leaving off the table the air flowing through it," he noted. "Without air going through the radiator, it's pointless. You have no fluid to dissipate that."

"But you have to include all those things in your model and realize there is an optimal design for that, and it's not thicker."

While Pairaktaridis acknowledges "it's

very important to take your idea to the track or in the field," he maintained that today's technology allows suppliers to "debunk certain ideas virtually via software, and a lot of things are contrary to what a lot of people believe."

In the area of fan development—specifically as it relates to airflow—Pairaktaridis demonstrated how the team optimized designs through simulation testing.

"A lot of times you see these fans with a four- or five-inch diameter motor that is smack dab in the middle," he explained. "So, we took a FLIR camera and put it up against a heat exchanger with a conventional four- or five-inch hub motor fan. [We found that] where the fan sits, there is no airflow going through there, so you are not utilizing your entire radiator. You get much better cooling if you have a much smaller hub with less dead space."

"YOU ACTUALLY NEED TO INCREASE THE VELOCITY OF THE COOLANT SO IT WILL INCREASE TURBULENT FLOW."

"Also, you help out with ram air by not blocking air," he continued. "The way it moves, the coolant plus the air is very, very important in maximizing a system and making it the most efficient. You can do that virtually and relatively quickly instead of empirical."

"With empirical," he added, "you have an idea, you make it, and then you test it on the track. That takes forever and is very, very expensive."

Software and modeling, he said, give you "a pretty good idea of what it will do in the real world." When the model is proven in real-world application, "then you have an advantage because everybody is going down one path that is wrong, and you are coming out of left field with an idea that is weird but works 10 times better." **PRI**

PRI Coordinating Editor Daud Gonzalez and writer Bruce Martin contributed to this report.

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DETERMINING

FACTORS

Series regulations, technological advances, and evolving materials are just some of the countless considerations that influence how manufacturers design wheels for different racing applications.

By Jim Donnelly

Regardless of class, cost, and capabilities, every race car has something in common: The critical juncture of the contact between its tires and the racing surface is governed by the performance of the racing wheels mounted at each corner of the car. Depending on the manufacturer, a provider of racing wheels can produce them by the thousands, in a wide array of sizes, strengths, and custom appearances.

It's up to every potential wheel buyer to do the selecting, but manufacturers can help to smooth the process through familiarity with sanctioning-body rules and sound engineering principles. Considering the number of classes that exist, the variety of surfaces racers compete on, and the technological limits of race cars, that spells plenty of potential choices for any customer. But once the right questions are answered, the industry is ready to help with wheels that can be dialed in precisely for a given application.

"It all depends on the intended use," said Keith Kern of 3030 Autosport Forged Wheels, Terre Haute, Indiana, which markets wheels for drag racing, autocross, and other track applications, as well as muscle cars. Kern said that sanctioning bodies will typically list an SFI requirement for their common classes, but when it comes to specialty applications, such as Pro Stock or Pro Modified, 3030 Autosport will help the buyer pick the most appropriate wheel. Exhaustive testing is part of that process, he explained.

"For autocross, we refer them to our Series G, or if they're going to do SCCA road racing, to our MOD3 three-piece series, which is engineered for that," Kern said. "With the MOD3 line, one of the big tests that we perform is like you driving a 4,600-pound car in a 1.25G turn for 250 straight miles. Everything basically falls under that envelope."

Wheels can be fabricated from steel, aluminum, or more exotic materials like magnesium, and can exhibit varying levels of engineering sophistication depending on their intended use. For some providers, helping buyers select a wheel is a more straightforward process, due in part to the market the supplier serves. Some are narrow. One such example is Real Racing Wheels of Independence, Iowa, which specializes in steel wheels for a variety of oval track uses, both on dirt and pavement.

"As far as steel wheels go, there's really only so many manufacturers that are making them anymore," Real Racing Wheels' Paul Buhr noted. "Our particular wheels feature lightweight outer shells with a strong center, which allows for deflection while still keeping the tire inflated. In our line of chrome wheels, they're made from actual chrome, not powder-coated chrome."



Aero Race Wheels specializes in steel wheels for a variety of oval track classes and offers more than 10,000 wheel variations. For the most part, racers know what they want, said Aero's Kelli Peton. "We just have to help them with the part number, with the finish, the diameter, and width."

Real Racing Wheels' biggest market is short-track modifieds as sanctioned by the IMCA, USRA, and USMTS organizations. "We only offer one style of wheel, so [buyers] know coming in what they're getting," Buhr said. "We don't have any choices as far as rim shell thicknesses or different styles; they're all basically manufactured with the same components. IMCA determines the exact details for each wheel, such as bead bump height, and then issues a safety sticker. Each manufacturer has to meet those guidelines, and then they're allowed to sell them. With the lightweight outer rim shell and the strong, thick center, our chromed wheels will stay chromed for the life of the wheel."

Aero Race Wheels of Estherville, Iowa, is another manufacturer that specializes in wheels for oval-track competition in a wide variety of classes. Kelli Peton pointed out, "We offer more than 10,000 variations of a wheel. The biggest first question we have for our buyers when they come in is whether they race dirt or asphalt. Then it goes off into some tangents: We have different series and sizes of wheels that are different weights, and then it goes down to different bolt

patterns and backsacing. Generally, when it comes to the racer, they're going to know exactly what they want. We just have to help them with the part number, with the finish, the diameter, and width."

Aero Race Wheels' also specializes in steel wheels, offered in sizes and capacities to suit modifieds, hobby stocks, four-cylinder and front-drive stock cars. Peton said Real Racing Wheels essentially supplies the entire stock car market with the exception of Late Models, whose sanctioning organizations generally specify aluminum wheels in their rules packages. There's even a degree of crossover between dirt and asphalt wheels, she said, depending on their intended usage.

"On the asphalt side, we do 15x8 wheels, 15x10s and 15x15s, which covers big block modifieds," Peton said. "We also have sport compacts on the asphalt side that run our 15x7 dirt wheel. The biggest difference between asphalt and dirt wheel series, either 15 or 13 inches, is that the asphalt wheels we make are a little bit truer, a little bit lighter weight, and they generally don't have a safety bead. On the manufacturing side, we typically look at different vehicle weights when we're building a wheel. When it comes to mistakes that customers sometimes make, generally, what we see is racers doing a mismeasuring of their bolt patterns. We get some customers looking for offset, which is not something we deal with, so the biggest issue tends to be the bolt patterns."

FROM THE TOP DOWN

Other manufacturers have a wider footprint in terms of their offerings, sizes, and materials. With a presence in the global racing-wheel market, BBS, whose US subsidiary is BBS USA, offers wheels ranging from street applications to WEC sports cars, Indy cars, and Formula 1. In business since 1970, BBS has gained prominence nationally for providing the wheels for NASCAR's Next Gen car. BBS is best known for its lines of monobloc race wheels, available in forged magnesium or forged aluminum designs, as well as cast-flow formed aluminum, depending on the intended track use. Craig Donnelly said technological advances in motorsports have led BBS to develop advanced lines of wheels, even in vintage racing, for cars it originally supplied when they were new more than 30 years ago.

"We do probably the widest range in the market. We have cast flow-form wheels especially for racing, single-piece forged wheels, multi-piece forged wheels in aluminum and magnesium, even two-piece racing wheels," Donnelly said. "It comes down to what feeds the needs most for that particular customer. Is it a club race car, vintage, or professional? What's the environment that this car will be used in? That's because vintage racing is huge for us, and for a lot of people in vintage, we delivered the original wheels to them back in the day when the car was new. A Porsche 962 ran on 16-inch wheels back in the day,



The friction stir welding process Race Star Wheels uses for its Pro Forged line results in a wheel that's "lighter and stronger, which really helps 60-foot times because the wheel is more true than a wheel that's been welded together in sections," said Race Star's Brian Sexton. "Even in Funny Car, with Cruz Pedregon [seen here], the cars just come off the line and don't shake the tires."



Technological advances in motorsports have led BBS to develop advanced lines of wheels, including cast flow-form wheels, single-piece forged wheels, multi-piece forged wheels in aluminum and magnesium, and two-piece racing wheels. "It comes down to what feeds the need most for that particular customer," said BBS' Craig Donnelly.

but today, they're running 18s. Sixteen-inch tires just weren't available anymore, so we had to go where the rubber was. And tire technology today is worlds apart from what it was back then. You also have higher loads, so you have to design things to a higher level than we did in the 1980s. Vintage have more horsepower, more grip, and a better suspension than they ever had at Day One."

As Donnelly noted, BBS literally offers dozens of wheel designs and can produce them in huge volumes, demonstrated by the fact that BBS has to supply thousands of wheels to NASCAR teams to support the Next Gen program. BBS began its partnership with NASCAR in 2019, and producing the wheels takes BBS across three continents, with engineering

performed at BBS headquarters in Germany, manufacturing handled by BBS Japan, and sales distribution undertaken out of BBS USA's facilities in Braselton, Georgia. As Donnelly explained, "We are a global company and were able to use those strengths to secure the NASCAR business. It's a lot of product. When it comes to technology, we have die forging we do for high-volume OEM projects, to reduce the amount of machining and finishing time. Because of volume in NASCAR, we went to die forging as the best solution."

Race Star Wheels of Kearney, Missouri, focuses on straight-line competition. Race Star produces high-performance alloy wheels for street cars, light trucks, and a variety of competition vehicles, with

"ONE OF THE BIG TESTS THAT WE PERFORM IS LIKE YOU DRIVING A 4,600-POUND CAR IN A 1.25G TURN FOR 250 STRAIGHT MILES. EVERYTHING BASICALLY FALLS UNDER THAT ENVELOPE."



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Forgeline supplies competitors ranging from SCCA club racers to the elite of IMSA and WEC road racing. All of its wheels are forged and are designed for load rating “and sometimes aero,” said David Schardt. “Aero puts an extra load on the wheel; 1,000 pounds of downforce is like putting an extra 1,000 pounds on the car.”

drag racing a specialty, offering products ranging from street classes to the hardcore professional categories. Race Star Wheels relies on precision sizing and advanced manufacturing techniques when serving its customers.

“We’re aware of the rules in terms of what series allows what for wheels, whether it’s NHRA Pro Stock or NMCA,” said Brian Sexton of Race Star Wheels. “What we try to give the consumer is more of a wheel fitment within the wheel style, rather than by size, bolt pattern or offset. We’ve actually created a video that’s on YouTube about how to fit your wheels, how you measure your bolt spacing or your back spacing. Customers can call in and talk to somebody on the phone who can make recommendations. We also have a how to set up on the website.”

The bottom line in wheel choice invariably comes down to the sanctioning body’s rules, which begins the selection process, Sexton said. “We fit that to the combination of what they’re racing. It comes down to what they can run, and then style,” he said. “Do you run with a bead lock, a double bead lock or no bead lock at all? We cater 100% to the drag racing market. Some of our competitors use multi-piece wheels rather than wheels that are welded together, but our Pro Forged

line uses a unique welding process, similar to how submarines are welded together, to withstand extreme pressures. It’s called friction stir welding—you don’t have excess material that has to be ground off. Once it’s done, you can’t tell where the weld is. If you look at our wheels, you can’t find the weld seam. It becomes a one-piece wheel that’s lighter and stronger, which really helps your 60-foot times because the wheel is more true than a wheel that’s been welded together in sections. Even in Funny Car, with Cruz Pedregon, the cars just come off the line and don’t shake the tires.”

The rubber that makes up those tires is a critical element in vehicle performance and wheel selection. David Schardt of Forgeline in Dayton, Ohio, focuses on sports cars and road racing as his firm’s primary market. “Most customers who call in here, whether a grassroots racer or even a manufacturer like Ford or Chevy, don’t realize the stickiness

of the tires can affect the load rating of the wheel more than anything else,” Schardt explained. “So if somebody is running the Optima Street Car Challenge on a 200 tread-wear tire, they can get away with a wheel with a lower load rating, and in some cases it may not even have to be forged. But somebody running a full slick tire with a lot of aero in a professional racing series, they’re going to need a fully forged, super high-load-graded wheel, and possibly also run some aero properties in that wheel.”

Forgeline supplies competitors ranging from SCCA club racers up to the elite of IMSA and WEC road racing. The company’s products, and its engineering, reflect that breadth of usage. “All our wheels are forged, designed for load ratings and sometimes aero,” Schardt said. “The more load rating, the longer it’s going to take to machine that wheel, the more focus on the stiffness of the wheel will be needed in the higher classes. Stiffness will help with load rating but will also make the car faster. We use a formula to calculate load rating, and one of the numbers we evaluate is tire friction coefficient. Aero puts an extra load on the wheel—that means that 1,000 pounds of downforce is like putting an extra 1,000 pounds on the car. We’ve been making racing wheels for 30 years now, so we have a lot of data.”

Unlike some other firms, Keizer Aluminum Wheels of Orange City, Iowa, fabricates in aluminum only, as its name implies. Wade Huisman said the company stays current by maintaining close contact with its customer base, which includes buyers ranging from Pro Street to formula cars. “It’s important to figure out who you’re actually dealing with in today’s racing wheel world. It’s the people behind the product and service that will make your investment a good experience or one you will regret down the road. Spending more doesn’t always mean better results.

“WE’VE ACTUALLY CREATED A VIDEO THAT’S ON YOUTUBE ABOUT HOW TO FIT YOUR WHEELS, HOW YOU MEASURE YOUR BOLT SPACING OR YOUR BACK SPACING.”



Keizer Aluminum Wheels are cold-spun using aerospace quality aluminum "to meet precise tolerances," said Wade Huisman. "Our forged billet blanks are CNC machined in-house" at the company's Iowa facility. The wheels are manufactured for customers driving anything from Pro Street to formula cars.

Research and discussion are key in not wasting your money.

"Keizer wheels are cold spun with US aerospace-quality aluminum to meet precise tolerances right in the heartland of Iowa," Huisman said. "We've been in business for 40 years. Our forged billet blanks are CNC machined in-house. We feel we have the finest service a custom racing shop can offer. All questions are welcome." **PRI**

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READY FOR GREEN

FRESH RACING SURFACES, NEW GRANDSTANDS, AND BETTER CUSTOMER SERVICE: HOW TRACK PROMOTERS AND FACILITY OWNERS ARE PREPARING FOR THE 2023 RACING SEASON.

By Drew Hardin

Talking to track owners and race promoters in the waning days of 2022 turned up a wide range of plans and goals for the upcoming season.

One drag strip operator, plainly tired at the end of a busy weekend, had trouble articulating his future for all the things he had to do first. “I’m sitting here looking at a bunch of fire extinguishers that need work,” he said. “This is kind of off the subject for me.”

At the other end of the spectrum, a road course owner had a detailed wish list for 2023 that ran the gamut from new garages to an additional race track—provided he could get the land.

Every track operator we spoke with had a different story to tell based on location, economic circumstance, and variables as hard to control as tire availability and the weather. If there was one through-line for all of them, though, it was the hope—and often the expectation—that next year would be better, even if 2022 had been a good one.

BOOKING LIKE CRAZY

While some track operators hadn’t yet finalized their 2023 schedules, others were already filling up dates.

“2023 is booking like crazy,” said David Vodden of Thunderhill Raceway Park in the Northern California town of Willows. “I need to build another track. We have two race tracks, and that was the best thing I ever did. We do 600 track days a year, and theoretically I would have had to turn away more than 200 of those if we didn’t have the



second track. My biggest trouble for 2023 will be explaining to people we don't have any dates for them."

Right now, the third track is hypothetical. "We're out of land; we've used all the 530 acres here," Vodden explained. Should he be able to buy an adjacent parcel, "I want to build a test track that can be used for racing. Right now, we have race tracks that are used for testing. I just have to reverse it and see if that model will produce additional corporate business."

Vodden doesn't do much outreach to attract spectators, since most of the people who are at Thunderhill on any given day are participants.

"We do get spectators, but we don't charge to get in. At the 25 Hours of Thunderhill, which is our signature event, we charge a gate, but racers get in free, so that's about 90% of those who come in." His marketing, then, is mostly "social media blue sky so someone will think highly of Thunderhill as one of the great road tracks of America. We don't get any ROI—I don't sell tickets—so I'm advertising to who, the Shelby club? That's easy, just call them up." Vodden did hire a new general manager, Matt Busby, who came to Thunderhill after working at NOLA and the National Corvette Museum Motorsports Park. "He's going to bring some new ideas to our facility."



The two road courses at Northern California's Thunderhill Raceway Park host some 600 track days per year, said David Vodden, filling the calendar quickly. Should land become available, he would like to build a third track for testing.

One of Vodden's priorities for 2023 is "the relationship of the race track property to the community. In 1992, when I got permission to build this track, the local supervisors, council members, everybody was friendly. We knew them all. But those entities change, and I think we need to reinforce our relationship with the neighborhood, the community we live in, so we can be here 50 years from now. The mission of Thunderhill is to survive, not necessarily to maximize revenue.

"By the way, we have no debt," he added. "Things that kill race tracks are debt service, land development, and bad management. When you want to survive, you can't be servicing debt."

Rockingham Speedway and Entertainment Complex in Rockingham, North Carolina, is another facility busily booking 2023 dates. In 2022, "we had 54 events total, and all the clients have been happy and have booked for the next two to three years," said Justin Jones. His goal for 2022 was to have one event per weekend, "and we exceeded that. Some weekends I had three different events—a circus on a Friday, a drifting event on a Saturday, and then a Little Rock event [on the half-mile "paperclip track" adjacent to the 1.017-mile big track] on Sunday."

He expects to be just as busy this year, but the calendar may have a different look. When we spoke, Rockingham's big track

Justin Jones' goal for North Carolina's Rockingham Speedway and Entertainment Complex in 2022 was to have at least an event per weekend, "and we exceeded that. Some weekends I had three different events—a circus on a Friday, a drifting event on a Saturday, and then a Little Rock event on Sunday."

was being repaved. That new surface, and other facility improvements, may lead to bigger events, Jones said, based on the calls and email requests he's received. "I think the schedule will be flat full, but I don't know if it'll be 54 events like in 2022 or 30 larger events."

What's surprised Jones are the bookings for the summer months, usually slow for the track because of the area's oppressive heat. "May is completely booked, I already have three large events in June, July and August are half booked, so normally the months that I struggle to schedule are filling up fast. As soon as the new lights go up, I'm going to fill in some night racing, so I think we'll be able to double-dip, so to speak, with Monster Trucks during the day and racing at night."

Repaving and lights for the Big and Little Rock tracks are just part of a long list of upgrades on Jones' schedule. Because the facility was closed for much of the time



between 2004 and 2019, "every kind of valuable equipment" was stolen, Jones said. He and his crew have "put every dollar from every event" back into Rockingham since then, replacing what was stolen and upgrading the infrastructure. On his to-do list for 2023 are suite renovations at the big track, adding grandstands at Little Rock, and expanding the number of camping spots inside the track.

With a small staff—"the most we've had is 10 employees"—Jones is responsible for the facility's marketing in addition to his other duties. "I personally handle all the social media accounts. We've had really good traffic there, gained some good sponsorships, but we're going to put more money into marketing for 2023 and 2024. We have to have those bigger events and that revenue, because mowing, weed eating, and just doing lawn care for 270-plus acres is expensive, plus fixing everything and renovating everything. It's a labor of love from all of us, and we're doing all we can to



Justin Jones is installing new lights at Rockingham Speedway and Entertainment Complex. Once those are up, "I'm going to fill in some night racing, so I think we'll be able to double-dip, so to speak, with monster trucks during the day and racing at night."



get it back up and running and back to its former glory.”

CUSTOMER FOCUSED

“It started when we were in the COVID-19 pandemic,” said Edwin Pardue of Summit Point Motorsports Park, a multi-circuit road-race facility in Summit Point, West Virginia. “We became very customer focused, listening a lot to what they were looking for in their track experience. We have made what seems like constant improvements to the tracks, whether it’s improving some of our runoff areas, improving the walls, those kinds of things, and the clients see us constantly marching forward. I think they appreciate that, and I think we do a good job with our customer service. We make people feel welcome. They know we’re glad to have them here. It’s as simple as going into the paddock and letting them know you appreciate them spending their time, spending their leisure dollar with you. I think that makes the difference.”

Pardue’s next priority is to “do more things to engage folks in the region. People from all over the country know about Summit Point”—the track’s marquee event, the Jefferson 500 vintage race, draws participants from at least 25 states—“but we have people in the county who’ve never been here.” His challenge is unique, he said, “because of the way our park is set up. Last Saturday

I had six different events going on here at the same time. You can stand in one place and watch an SCCA race, or walk a few feet and there are motorcycles on that track, and on the third track you might have a drifting event going on. We need to let people know that on any weekend, there’s all these different things going on, all these different rollercoasters you can ride. Here we are, just an hour or so outside of Washington, DC or Baltimore. This is a hidden gem in the upper Shenandoah Valley, so it falls on us to do a better job of getting that word out there.”

One way to do that is through an open house, which Pardue hosted just before we spoke. “We sent invitations to everyone who lives within the town limits of Summit Point to come have a free day at the track. We gave them a hot dog and a soda and let them watch an SCCA race. That’s something that will definitely be an annual piece.”

Pardue also wants to adjust his marketing efforts beyond the social media he uses to interact with participants “to reach the folks who wouldn’t be consuming whatever that media is.” That strategy includes traditional broadcast media and putting ads in the local newspaper each year “to kick off the season. Part of that is just being a good community partner, and part of that is reaching that backyard.”

He sees potential in B2B marketing with local businesses as well, “whether it’s promoting an event through their retail space, or promoting it as a customer appreciation piece, or putting together something that might be a retention program for employees, where a company has a day out here at the track.

“The pieces are all there,” he said. “I think what’s missing is letting people know what’s available.”

At Swainsboro Raceway, a 3/10-mile dirt track and kart track in Swainsboro, Georgia, Paul Purvis made a big change to his race schedule in 2022 in the interest of helping race teams and fans alike. “We had been running weekly, but last year we tested the waters and tried racing every other weekend. It worked out good for us, so we decided to set up this whole season like that. We had great crowds and great car counts all year. By backing off and taking

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The staff at Summit Point Motorsports Park in West Virginia “became very customer focused” during the pandemic, said Edwin Pardue, “listening to what they were looking for in their track experience.” As a result, they have made “constant improvements” to the tracks, including to the runoff areas and walls. “The clients see us constantly marching forward.”

a weekend off in between, with the tire situation, the economy and all, it helped the race teams, and we had better attendance in the grandstands.”

What also helps attendance, he said, is the efficiency of his programs. “Except for our three-day show at Thanksgiving, we do mostly one-day shows, and the focus is on running efficient: We start on time and get it over on time. We are done around 10 or 10:30. Where we are located, we depend on people from at least an hour away, so being done early really does help a lot, so people can get up and go to church on Sunday. And we keep our neighbors happy. We live in a good community that supports the race track, and the last thing we want to do is make them mad.”

Facility upgrades are constant, Purvis said. He’s adding more white gumbo clay to the track and moving a “nice tower,” formerly used on the site’s now-closed mud bog, to

the speedway. While he used to allow pitting both inside and outside the track, a new Georgia law called for a 15-foot fence in the infield “if you let racers park in there, so we moved all the pits outside, and it’s been one of the best things we’ve ever done. You can see the races so much better, so the fan experience is better. And now when the racers are ready to go home, they can pull out at any time.”

Like many of his fellow owners/promoters, Purvis relies heavily on social media to market the track, but unlike most, “we do local radio in our small town. That radio station probably won’t reach 25–30 miles, but it still reaches a lot of people in town. I can really tell when I don’t do it.”

He augments that coverage with ads and promotions at a radio station 40 miles away that has a 125-mile reach. And racers and sponsors alike are happy when Swainsboro events are livestreamed on FloRacing. “We have a big message board right in the middle of the pit area, and they can’t hardly video the race without seeing that board. Our sponsors are just rolling on that board the whole time. I’ve gotten quite a few likes from our sponsors seeing their stuff on TV.”

Purvis is a big fan of “if it ain’t broke, don’t fix it,” so he has no plans to alter the six classes running his bi-weekly racing programs. A class for Crown Victorias and Grand Marquis he added last year has

proved to be popular. “Ex-cop cars. All they can do is put a roll cage in them and take the glass and breakable stuff out.” Meant to be fun, the class has added about 30 cars to race weekends.

“And with those lower classes of racing, they bring more people with them,” Purvis noted. “Your Late Model guys, they’ll come in with maybe two crew guys, and that’s it. But the people racing the lower classes bring the whole family, an average of 10 people per car.” That means those 30 Crown Vics account for about 300 extra spectators at each race.

ADDITIONS TO THE PROGRAM

Other track promoters we spoke to are planning additions or changes to their racing programs. At Davenport Speedway, a quarter-mile dirt track in Davenport, Iowa, IMCA stock cars will be added to the 2023 schedule, said Ricky Kay. “We have a very local class—I call it the Outlaw stock cars—which is similar to a UMP stock car. There’s only a dozen of them around by us, and we allow the UMP stock cars to race with them, but there’s just no way to have a special when that’s all you’re going to get, 12–14 Outlaws and a few others mixed in there. Hopefully, adding the IMCA cars is a way to get car counts up.”

Kay recognized that “we probably didn’t run enough of the weekly Late Models last

year, so we'll definitely have more weekly Late Models this year. We're a Late Model area, really good at mods and sport mods, too. Those three classes are our bread and butter."

Kay also tried a new format in 2022 called Mayhem Madness that he hopes will grow in 2023 and attract more racers and fans. "It's a 75-lap race with all the cars from all the classes racing against each other. If 80 cars show up, they're all going to be on the track at the same time." While last year's race had fewer entries than he hoped, "it was fun to watch. It's green flag/red flag, with no yellows, so you just stop if you get a flat tire. Or you run with it, pull off, and go fix it."

On the drag strip side of the business, we spoke to two operators who were considering a bigger involvement in the no-prep scene.

"We've kind of held off on the no-prep deal," said Wayne Styles of Centerville Dragway, Dardanelle, Arkansas. "The couple we did had some wrecks, and it kinda left a bad taste in our mouth. I think, though, that's what spectators and even racers want to do, so we may try a little more of that next year. When the other tracks around you are doing it a lot, people want to see that stuff,

"WE TRY TO TREAT OUR SPECTATORS THE WAY WE'D WANT TO BE TREATED WHEN WE GO TO A FACILITY: SMILING FACES, KIND AND COURTEOUS EVERYWHERE WE ARE, TRY TO SERVICE THEM BEST WE CAN."

so it costs us a little bit in attendance. We're going to jump in there and do a little more of it."

At US 131 Motorsports Park in Martin, Michigan, "We did a couple of no-prep deals this year—JJ's Arm Drop events—and we are considering doing more but haven't decided yet," said Jason Peterson. He traveled to Rockingham to a Street Outlaws/No-Prep Kings race in October "to see what the event looked like, and it was very eye-opening." The fans, for example, "are

very loyal to that TV show, and there was a shocking amount of people on-site for the event." Plus, "they don't treat the racers as racers. The racers are the cast, the actors for the show, in how they're treated and portrayed." He was quick to add that "it was all honest racing, nothing like the WWE—it's not set-up racing. But they're actors for the show, which is probably why they're so successful. I didn't think it would last, but it's lasted and it's gaining ground, so that's an event we're considering."

The track's strengths are its bracket programs and test-and-tune days, Peterson said. "We don't do a lot of index racing or anything like that. We just don't feel we have the niche market here, at least on this side of the state. The other side of the state has a different market type. They do more grudge racing. We do a couple of grudge races, but that's all."

And for the fans? "We try to treat our spectators the way we'd want to be treated when we go to a facility: smiling faces, kind and courteous everywhere we are, try to service them best we can. We try to be very family oriented. That's why we don't do a lot of different things that some tracks do," Peterson concluded. **PRI**

SOURCES

Centerville Dragway
centervilledragway.com

Davenport Speedway
davenportiaspeedway.com

Rockingham Speedway and Entertainment Complex
rockingham-speedway.com

Summit Point Motorsports Park
summitpointmotorsportspark.com

Swainsboro Raceway
swainsbororaceway.com

Thunderhill Raceway Park
thunderhill.com

US 131 Motorsports Park
us131msp.com



A new class for Crown Victorias and Grand Marquis—"ex-cop cars," as Paul Purvis calls them—has been a popular addition to Swainsboro Raceway in Georgia. Modifications are limited to safety gear only, to keep the class affordable; and it's worked, adding some 30 cars to race weekends.

MEMBER CHECK-IN

LONG TUBE HEADERS

Serving our country as well as the high-performance community are sound principles that drive this veteran-owned exhaust components company and led to an industry commitment as a PRI Founding Member.

By Jim Donnelly

Regulatory pressures from Capitol Hill and elsewhere have forced the motorsports industry to circle its collective wagons and convince America that it's a very big business that does, indeed, constitute a considerable chunk of the US economy and therefore is worth protecting for some very practical reasons. Ensuring that its employees have a voice in the ongoing debate over emissions, and racing's role in it, is something that George Rumore values greatly. As vice president of sales for Long Tube Headers (LTH) in Spartanburg, South Carolina, Rumore is grateful that PRI is in the on-deck circle when regulators are throwing hardball at his

chosen business.

"It's more for the industry as a whole, even though it trickles down to the Long Tube Headers side, but what's really exciting to me is that right now, we have a team of boys and girls at PRI who are doing for us what we can't do for ourselves," Rumore explained. "I can't just go up to Congress and fight my point. But knowing that we have a team that has its nose to the grindstone, and that is fighting for us, that's what makes me excited now, because we've never had a team like this one on our side. PRI is an opportunity to be involved in an organization that wants to see our community thrive and grow."

The growth that Long Tube Headers



Long Tube Headers' George Rumore is a strong supporter of the RPM Act. "When we modify a vehicle, we're actually making it cleaner, helping out with its emissions," he explained.

has experienced has been in its business of building exhaust components for performance cars, most commonly late-model Ford Mustangs, but with similar components also produced for Stellantis and General Motors vehicles. Rumore is a lifelong performance-exhaust guy, having co-founded Long Tube Headers & Exhaust and while serving at Stainless Works. LTH, as it's known for short, is a veteran-owned business with 15 employees, including an onsite engineer. The firm produces lifetime-warrantied tuned headers—and, recently, catalytic-converter packages for high-performance vehicles—that not only are claimed to promote superior scavenging, but also are crafted to be pleasing to the eye, thanks to its in-house Titan finishing process that bonds to the header tubing.

"We've been in business as a startup for four years," Rumore said. "We take pride in the land that we've served, and we take pride in doing our business on these shores. One of our philosophies is that everybody prices their products about the same. We look at the down and dirty costs and work to get our products to individuals at a reasonable price."

Rumore became affiliated with PRI during his earlier employment, and Long Tube Headers now enjoys status as a PRI Founding Member. As Rumore put it, "I've been going to the PRI Show for probably 20



Long Tube Headers (LTH) recently added performance catalytic converters to its product line. "Our converter is CARB-compliant," George Rumore said. "We're out there spending money, trying to please those masses of people."

years now. What I like to tell people is that for our industry, the PRI Show is like the Super Bowl. When I go to the PRI Show, I'm mainly into looking at new ways of creating greater horsepower, growing our business, and growing our community."

PRI's role as an industry advocate in a sometimes hostile regulatory environment is vital to Rumore, who said PRI levels the field for motorsports when compared to other recreational activities that also happen to burn petroleum products. "I guess people tend to think that people like us are just mischievous and just want to run around on the streets causing trouble, when we're really just passionate about what we do, just like anyone else," he said. "You see people who are into horses. They drive all over the country, towing these big trailers behind their trucks, just so they can show off their horses."

"Everybody has a niche, and some people don't like our niche and then get into positions of influence, and that's how we got into the situation of some people trying to shut our industry down over emissions or the modification of vehicles," Rumore continued. "That's why I'm a strong supporter of the RPM Act. When we modify a vehicle, we're actually making it cleaner, helping out with its emissions."

Like other companies, Long Tube Headers has also grappled with pandemic-related supply-chain issues, which Rumore said are finally beginning to diminish. He also pointed to part of the company's product line—aftermarket performance catalytic converters—as discernable evidence that the motorsports industry is, indeed, becoming emissions-compliant.

"We now have a catalytic converter," Rumore said. "Is it 100% legal? No, because you're still moving the converter, but at least it shows that that side of the industry is trying to comply. And our converter is CARB-compliant. So we're out there spending money, trying to please those masses of people."

"My biggest thing now, realistically, is keeping this all alive," he said. "Seeing this next generation of young enthusiasts and the smaller shop owners coming up, it's just a matter of trying to keep the enthusiasm and passion for the sport going." **PRI**

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PRI TECH

SPARK PLUGS FOR BOOSTED ENGINES

Don't rob your engine of horsepower after adding a mighty supercharger by overlooking those small yet valuable spark plugs.

By Erik Radzins

While spark plugs may not be the most exciting component in a race vehicle's powertrain, there's no denying that they can help make horsepower.

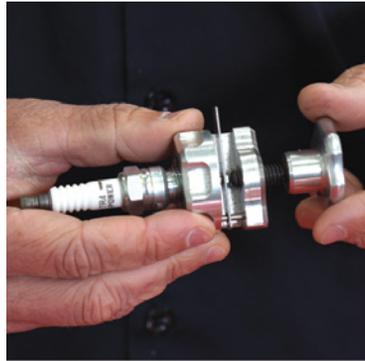
On the flip side, they can also cause a race vehicle to lose power if a mistake is made during installation. This is especially true when it comes to engines with power adders, like a supercharger.

What follows are critical spark-plug-related factors to help obtain maximum horsepower gain after boosting a race vehicle.

HEAT RANGE

Heat range is one of the most common things that could (and should) change when adding boost. Most builders are familiar with the requirement of running a colder plug, but they may not understand what it does and why. Let's break that down first.

The heat range is the spark plug's ability to pull heat out of the chamber or away from the tip. Pulling that heat away means less chance for detonation, which means more power can be made safely. However, if a plug that's too cold is installed, it could lead to idle misfires, lack of horsepower, drivability problems, and other problems for race vehicles that typically make 1,000 horsepower or less. For these vehicles, a little bit colder spark plug = good. A lot colder = bad. Boosted drag cars that make 2,000-plus hp, meanwhile, would require a hotter spark plug. If you're unsure of the



proper heat level, check with the spark plug manufacturer.

PLUG GAPS

Gap is another key consideration; although, to be clear, we aren't talking about the gap you're going to put on your competitor. We're talking about the gap at the tip of the spark plug. In short, adding boost adds cylinder pressure inside the combustion chamber. When that spark has to jump the gap, it must do so amidst all that extra pressure. To ensure that a spark fires properly every time, you must close the gap to make it easier for the spark to jump from the ground strap to the electrode (assuming coil voltage doesn't change).

A gap that's too small might not ignite all the air and fuel mixture. A gap that's too large could misfire. Check with the spark plug manufacturer or engine builder if you are unsure, but in general, the size we recommend for most street cars making 600–800 hp is about 0.028 to 0.032.

Some cars need a little less gap, like Coyote Mustangs, and higher

Forced induction increases pressure in the combustion chamber, so a supercharged engine may need smaller spark-plug gaps to make it easier for the spark to jump from the ground strap to the electrode. This tool pictured at left closes the gap.

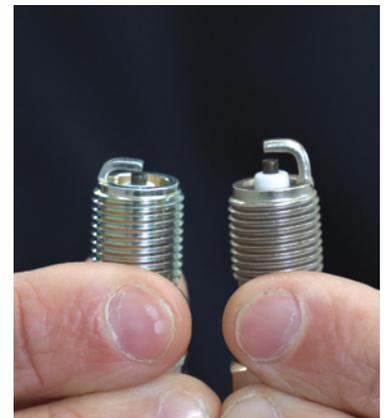
horsepower engines run an even tighter gap, like 0.018 to 0.022.

TIP CONSIDERATIONS

Spark plug tip styles are not often talked about, considering most engines run standard tips. However, there are lots of different cylinder head options available for a small block Ford or a big block Chevy, and each one has a different spark plug location, depth, and position in the combustion chamber. All of this variability affects how the spark plug tip, either non-projected or projected, sticks out into the air/fuel mixture.

A common misstep is running a non-projected tip plug in a head that requires a projected tip. Even though the heat range is good, and the gap is reduced, the result is often terrible misfires, low horsepower, and an engine that can barely idle. This is because the tip was too far back in the cylinder head. Refer to the cylinder head manufacturer and spark plug manufacturer on the best plug for your application.

The correct spark plug tip location in an engine can vary depending on the cylinder head used. Check with the cylinder head and/or spark plug manufacturer to determine if the build requires a non-projected, at left, or projected tip.



TIP MATERIAL

Tip material often raises a number of questions. Racers may be concerned, for example, that an iridium or platinum plug will be too hot and might hurt their engine. Rest assured, though, this is not typically the case. Any spark plug material should work well on a supercharged vehicle.

The key difference comes with copper plugs, which will wear faster and must be changed out more frequently. On the other hand, platinum and iridium spark plugs were designed to go much longer without a change, so consider these materials first.

BREAKUP PROBLEMS?

Another topic that must be covered is breakup problems—specifically, resistors in spark plugs. This is rarely discussed, but it is important, nonetheless. Imagine you just installed a supercharger kit, and then you bought and installed new spark plugs from

the racing department of your auto parts store. Now your data logger won't log, your radio sounds off, or you're experiencing related electrical problems. Chances are you might have bought a spark plug without a resistor. You can't tell them apart by looking at them, so you need to ask the manufacturer if it has a resistor.

Any modern car with electronic components will require a resistor-style plug. However, an older carbureted vehicle with no electronics can get away with a non-resistor plug. Although it should be noted that there really is no disadvantage to using a resistor plug on these older-model vehicles.

Let's wrap up with a few useful recommendations:

- First, whenever you change your spark plugs and tug on wires, you risk breaking the connection inside. We recommend replacing the wires regularly to avoid misfires.
- Second, use the tool made for gapping

plugs to gently close the gap from the ground strap to the electrode. Spark plugs are generally made of porcelain and copper and have fragile connections, so dropping one on the ground could end up breaking the inside.

- And finally, when in doubt, reach out to your spark plug manufacturer. We've always found them to be quite helpful! **PRI**

Erik Radzins is the Director of Communications and Calibrations for Lenexa, Kansas-based ProCharger, one of the leading aftermarket centrifugal supercharger companies offering power adder options from strip to street. With 20-plus years of experience in the automotive industry, Radzins is an encyclopedia of knowledge on cars and aftermarket enhancements. Also highly skilled at tuning, Radzins leads the ProCharger calibration projects.

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ADVOCACY CORNER

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

Edited By Laura Pitts

PRI's Washington, DC-based legal team, along with race track ambassador Tom Deery, are working continuously to protect and promote motorsports venues, sanctioning bodies, and businesses around the nation. We are tracking several initiatives as we enter the new year, including a new PAC chair, liability protections for motorsports venues, an invitation to the second annual Motorsports Day in West Virginia, and a grassroots effort to inform the industry that PRI is here to help.

NEW PRI PAC CHAIR ANNOUNCED

The Performance Racing PAC has a new head. At the recommendation of PAC Executive Director Wade Kawasaki, the SEMA Board of Directors has appointed Norris Marshall of BluePrint Engines as PAC chair for the Performance Racing PAC. In this volunteer role, Marshall will oversee the PAC Board of Directors and fundraising efforts.

Marshall grew up in central Nebraska hearing stories about the family passion—fast cars and the engines that powered them. As a child, Marshall got involved in dirt track and some drag racing, and he knew he wanted to work on performance engines. In 1982, he founded BluePrint Engines out of his garage, building engines for local racers. BluePrint Engines has grown to become one of the largest crate engine manufacturers in the world, providing crate engines to Chevy, GM, Ford, and Chrysler.

It was also announced recently that Kim Pendergast of Magnuson Superchargers would serve as the PAC chair for the SEMA

PAC. Pendergast and Marshall both currently serve on the SEMA Board of Directors.

WV PROPOSES MOTORSPORTS RESPONSIBILITY ACT, SET TO HOST INDUSTRY AT STATE CAPITOL

The West Virginia Motorsports Committee has announced that a proposed draft bill, called the Motorsports Responsibility Act, is now before the Legislature. The bill would provide limited liability for motorsports venues from participants engaging in the sport. West Virginia already has similar statutes for venues engaging in whitewater rafting and snow skiing, as well as equine and ATV activity.

“Every year, in rapidly increasing numbers, the residents and non-residents of West Virginia are enjoying recreational and driver training. It is recognized that there are inherent risks in motorsports activities which should be understood by each participant. It is essentially impossible to eliminate all these risks, and the proposed draft bill will

define those areas of responsibility between the venue and participants,” said WV Motorsports Committee Acting Chairperson Laura Bowman.

The bill's passage would likely reduce liability insurance premiums for racing facilities in the state. This could allow for more investments in promotion, which would potentially create more tourism and jobs in the region.

In addition, the WV Motorsports Committee is working with PRI/SEMA and GNCC Motocross to hold the second annual WV Motorsports Day at the West Virginia Capitol Building, located at 1900 Kanawha Boulevard East in Charleston. Motorsports businesses, sanctioning bodies, racing venues, and related motorsports professionals are invited to join the Friday, February 24 event, which will help educate the WV Legislature about the impact the motorsports industry makes on local and state economies through tourism and commerce.

“West Virginia is an important state for PRI because it's very motorsports oriented, and it has a great state senator [Mark R. Maynard] who's an advocate for our industry,” said Deery. “As we weave our way through the legislative paths, everything becomes more important on a state-to-state level. West Virginia gives us a great model to follow as we work on firming up other state coalitions, getting them built from the internal out.”

For more information, contact Christian Robinson at christianr@sema.org.

PRI CONTINUES GRASSROOTS MOTORSPORTS VENUE, SANCTIONING BODY OUTREACH

Meantime, Deery is redoubling his efforts to help track promoters navigate the evolving

“WEST VIRGINIA IS AN IMPORTANT STATE FOR PRI BECAUSE IT'S VERY MOTORSPORTS ORIENTED, AND IT HAS A GREAT STATE SENATOR [MARK R. MAYNARD] WHO'S AN ADVOCATE FOR OUR INDUSTRY.”

and often confusing local, state, and federal rules that allow them to keep their race tracks thriving.

At press time, Deery was attending the 50th annual Racing Promotion Monthly (RPM) Promoters Workshops in Reno, Nevada, which bring together track officials for three days of informative sessions on topics including employee relations, insurance, women in motorsports, media and streaming, motorsports law, track safety, and more.

While there, Deery informed attendees that PRI's Washington, DC team and Membership program continue to provide promoters with support and resources. This includes setting up peer-to-peer discussions between operators or

“WE'RE ON THE LEARNING TOUR, IF YOU WILL, TO MAKE SURE PEOPLE UNDERSTAND WHAT PRI CAN DO FOR THEM.”

sanctioning bodies, and providing legal resources.

“We’re on the learning tour, if you will, to make sure people understand what PRI can do for them,” Deery said.

Deery will continue these conversations at the RPM@Daytona Workshops, taking place February 12–14, in Daytona Beach, Florida.

“I’d like to pass out thanks to the people who have stepped up within the different states and the people who embrace what we’re doing and are so supportive of it. We’re all in this together, and we will be much stronger together,” Deery concluded.

PRI's Race Track Promoter Helpline continues to be monitored five days a week. If you have any questions, including how to join (or start) a state motorsports coalition, contact 202-794-8279 or racinghelp@performanceracing.com. Our staff is standing by and ready to help in any way possible. **PRI**



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INDUSTRY NEWS

PRI BOLSTERS EDITORIAL TEAM

Performance Racing Industry (PRI) has announced the hiring of Daud Gonzalez as its new coordinating/projects editor. He joins PRI following stints as a contributing writer with Internet Brands in El Segundo, California, and TopSpeed.com in Quebec, Canada.

In this newly created position, Gonzalez will be responsible for creative, organizational, and administrative initiatives, including content generation, story and source development,



Daud Gonzalez

and oversight of outside contractors for PRI media; program and talent management for PRI Education and the PRI Trade Show; and more. He will be based out of PRI's Aliso Viejo, California, office.

ZANE CLARK REJOINS SEMA AS VP

The Specialty Equipment Market Association (SEMA) has hired Zane Clark as vice president of Membership, Education, Research and Councils & Networks (MERC).

Clark, who most recently served as chief executive officer (CEO) of the Society for the Advancement of Material and Process Engineering (SAMPE) North America, has 23 years of automotive aftermarket leadership experience, including more than 10 years with SEMA from 2010–2020.

He will lead SEMA's member services and benefits programs at the start of the new year. "I'm excited to rejoin the SEMA team," Clark added.

CHRIS DOUGLAS NAMED PRESIDENT, CEO OF EDELBROCK GROUP

Chris Douglas has been named president and chief executive officer (CEO) of the Edelbrock Group.

Douglas, who was most recently chief

commercial officer for the Olive Branch, Mississippi-based company, also has served in various capacities with the Specialty Equipment Market Association (SEMA), including on its Board of Directors.

Prior to Edelbrock, Douglas held a number of executive positions at COMP Performance Group from 2009 to 2020, including vice president of Marketing, chief operating officer, and finally president.

The Edelbrock Group was established in 2020 with the merger of performance aftermarket businesses Edelbrock LLC and COMP Performance Group. It is owned by private equity firm Industrial Opportunity Partners (IOP).

JAMES LAWRENCE ANNOUNCES SALE OF POWER AUTOMEDIA

Power Automedia has announced that James Lawrence is transitioning from his role as CEO at the conclusion of 2022—a decision by Lawrence, who founded the digital publishing company more than 15 years ago. Lawrence, who currently serves as SEMA's Chairman of the Board, will continue as a senior consultant for Power Automedia.

A new ownership group consisting of Scott Parker, Lloyd Hunt, Kevin McIntosh, Andrew Almazan, and Ivan Korda has acquired Power Automedia. As part of the transition, Parker has been named Power Automedia's chief content officer and general manager, and Hunt as chief revenue officer.

Power Automedia is based in Temecula, California, and includes Dragzine, LSX Magazine, Street Muscle, Off Road Xtreme, Ford Muscle, Chevy Hardcore, Diesel Army, Electrified, and new acquisition Mustang Week.

RACETEC PISTONS ACQUIRED BY TAGLICH PRIVATE EQUITY

RaceTec Pistons has been acquired by Taglich Private Equity. RaceTec joins the AFR, Scat Crankshafts, and Procar By Scat family of companies.

The Huntington Beach, California-based piston manufacturing company was founded

in 2007 by Wayne Brooks, a former owner of JE Pistons. Jeremy Gillum will retain his position as vice president of RaceTec Pistons. At the same time, its management team will also remain in place, along with its production facility and employees in Huntington Beach.

WHARTON AUTOMOTIVE GROUP ACQUIRES PTT

Wharton Automotive Group President Paul Lee has announced the acquisition of the small-diameter racing clutch and drivetrain component line of PowerTrain Technology (PTT) of Algonquin, Illinois. Wharton Automotive Group now consists of McLeod Racing, FTI Competition Converters & Transmissions, Silver Sport Transmissions, and PPT.

CONNOLLY, FOLK PURCHASE COMPETITIVE SUSPENSION

NHRA Crew Chief Dave Connolly and race promoter Jennifer Folk have purchased Competitive Suspension, the provider of shock absorber services, according to published reports.

As part of the announcement, Competitive Suspension has been relocated from Terre Hill, Pennsylvania, to Bradenton, Florida.

Competitive Suspension was founded in 2017 by Shane Sweigart, who sold the business after accepting the role of track manager/race track relations at Maple Grove Raceway in Mohnnton, Pennsylvania.

BILLY GODBOLD LAUNCHES MOTORSPORTS ENGINEERING FIRM

Billy Godbold, the former valvetrain engineering group manager at COMP Cams/Edelbrock Group, has announced a new venture, Godbold Engineering, based in Lakeland, Tennessee.

Godbold Engineering uses applied physics, metallurgy, testing, and surface engineering to solve complex problems in motorsports, according to Godbold. The firm incorporates a weekly contract model, but also offers seminars and single projects.

DAN JESEL NAMED EXECUTIVE CHAIRMAN; RICH RUNNE NEW CEO OF JESEL

Jesel—the valvetrain parts manufacturer based in Lakewood, New Jersey—has announced that after 42 years, Dan Jesel will transition from president and CEO to executive chairman.

Rich Runne, a 31-year company veteran, will assume controlling interest and the CEO position in partnership with Dan's brother, Wayne Jesel.

In addition, ownership of the "Equal 8" engine technology will transition to Equal 8 LLC with Wayne Jesel as CEO. Jason Line will lead operations, R&D, and production.

STEVE WHIPPLE JOINS PRW AS PRESIDENT, GM

PRW Industries (PRW)—the designer and global manufacturer of racing and performance aftermarket engine parts and accessories in Perris, California—recently announced that Steve Whipple has joined the company as president and general manager.

Whipple brings over 40 years of experience in the industry to his new position. He most recently served as the director of Private Label New Markets at JEGS in Delaware, Ohio. Prior, he served as the VP of Sales and Marketing at Edelbrock, now based in Olive Branch, Mississippi.

KYLE FICKLER JOINS PROCHARGER

Lenexa, Kansas-based Accessible Technologies, the parent company of ProCharger and Inovair, has added Kyle Fickler to the ProCharger Motorsports and Sales team.

Fickler previously served as the director of Sales and Business Development at Driven Racing Oil. Prior, he held leadership roles at Aeromotive and Weld Racing. He is also a member of the SEMA Board of Directors and will become Chairman of the SEMA Board this summer.

"This is a natural next step for me, and I am very excited to have this opportunity with the industry leader in both hardcore motorsports and 50-state legal supercharger systems," Fickler said.

LIQUI MOLY ANNOUNCES DUAL LEADERSHIP

LIQUI MOLY—the lubricant specialist based in Ulm, Germany, with offices in Irvine, California—announces a new dual leadership, with Dr. Uli Weller named managing director alongside Günter Hiermaier.

Beginning this year, Dr. Weller will become the second managing director of the group of companies, which includes the Meguin GmbH & Co. KG Mineraloelwerke in Saarlouis as well as numerous LIQUI MOLY subsidiaries. He will also continue functioning as commercial director.

NGK SPARK PLUGS ADDS TO LEADERSHIP TEAM

NGK Spark Plugs (U.S.A.)—the Wixom, Michigan-based manufacturer of ignition parts and sensors—has announced two appointments to its leadership team.

Megan McDonald, an NGK associate for over 23 years, has been promoted to general manager of Corporate Planning. She will be responsible for the execution of NGK's critical business initiatives.

And, Alex Sanchez Salazar has joined the company as general manager of Internal Audit. He will be responsible for providing consult, audit, and advisory services to identify and address significant risks to the company across all business units.

NHRA ANNOUNCES NEW SR. DIRECTOR OF COMPETITION, DIVISION DIRECTORS

The National Hot Rod Association (NHRA) based in San Dimas, California, has announced the promotion of Mike Rice as the new NHRA senior director of competition.

In his new role, Rice will lead tower operations at all NHRA national events, coordinate and maintain daily on-track schedules, and communicate with race teams. He will also be instrumental in guiding the division directors.

Matt DeYoung steps into the role as division director for Division 7, where he will work with NHRA member tracks in Arizona, California, Nevada, New Mexico, and Hawaii.

In addition, Nick Duty is the new NHRA

West Central (Division 5) division director. He will oversee NHRA member tracks in Colorado, Iowa, Kansas, Minnesota, Nebraska, South Dakota, and Wisconsin.

Meanwhile, Craig Curdie is the new Northeast division director (Division 1). He will oversee NHRA member tracks in Maryland, New Hampshire, New Jersey, New York, Pennsylvania, and Virginia, as well as tracks in Canadian provinces New Brunswick, Nova Scotia, Ontario, and Quebec.

RWB ANNOUNCES CHANGES TO LEADERSHIP TEAM

Race Winning Brands (RWB)—a portfolio company of MiddleGround Capital based in Lexington, Kentucky—has announced the addition of Scott Neely as director of Powersports Sales and the transition of existing RWB veteran Scott Highland to director of Marketing.

NEW PRESIDENT ANNOUNCED FOR UEM

Scott Sulprizio, the longtime owner of Carson City, Nevada-based United Engine & Machine (UEM), has named Christopher Sulprizio as the company's new president.

Christopher had previously rejoined the family-owned and operated business in 2014 after an engineering career with Raytheon Missile Systems.

WORLD OF OUTLAWS NAMES NEW LATE MODEL SERIES DIRECTOR

Officials with the World of Outlaws CASE Construction Equipment Late Model Series have announced that current Series Competition Director Steve Francis will become the new series director starting at the Sunshine Nationals on January 19–21.

Francis will take over for Casey Shuman, who was named the new general manager of I-70 Speedway in Odessa, Missouri.

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- New Concen Device



GH 8



Valve Guide Honing

Automated Honing Cycle

- Finish Valve Guides Within 0.0001"



GH 90

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Rubi Surf 1.9 Smart
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Calc. Result			Calc. Result		
Ra	4.63	uin	Va	1.66	uin
Rz	42.83	uin	Vz	12.04	uin
Rp	24.50	uin	Vt	12.04	uin
Rv	18.34	uin			
Rk	15.47	uin			
Rpk	6.77	uin			
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EATON

eatonperformance.com

Eaton has introduced its Twin Vortices Series (TVS) X3100 supercharger. The X-series was developed specifically for aftermarket customers whose primary goal is maximum airflow efficiency at higher supercharger speeds. The X-series rotor is a three-lobe, high-twist design that moves 30% more air.

Contact: 800-328-3850



HOLLEY holley.com

Holley has two new accessories to help with a Ford 7.3L Godzilla engine swap. The front crankshaft seal installation tool (seen above) is used with a damper installation tool, and the heater block-off kit provides the necessary billet block-off caps and plugs.

Contact: 866-464-6553



HUTH BENDERS huthbenders.com

Huth's manual rod bender bends rods, flat stock, hangers, brackets, and more. Potential applications include hanging brackets for auto exhaust, utility hooks for shop organization, weld shop-shaping reinforcing rods, and more. Bend up to 1/4- by 1-inch flat stock, and bend rods up to 3/8 inch.

Contact: 800-558-7808



JRI SHOCKS jrishocks.com

The Articulating Body Cap for C5/C6 Corvette shocks allows the shock to bolt directly into the mount without the need for additional parts. The Teflon-lined spherical bearing provides the articulation rather than rubber bushings, which reduces friction and compliance. It is completely rebuildable and is standard on all JRI Shocks coil-over and non-coil-over C5/C6 offerings.

Contact: 704-660-8346



MAHLE MOTORSPORT
mahlemotorsports.com

MAHLE Motorsport's drop-in replacement pistons are designed for use with the factory Gen 4, 2005+ rotating assembly that minimizes machine work and maximizes reliability and performance for stock bottom end 5.3L LS engines with power adders and functions with LMF, LH6, LY5, LMG, LC9, LH8, LH9, and LS4 engine codes.

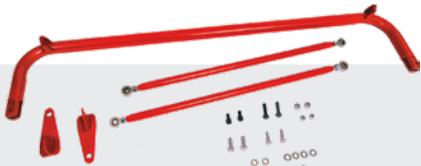
Contact: 888-255-1942



MELLING ENGINE PARTS
melling.com

Melling offers its MDS Delete Kit for Chrysler 5.7L Hemi engines. When installing a delete cam, the Active Fuel Management lifters must be replaced using Non-Active Fuel Management lifters. Also, the MDS solenoids must be replaced using non-MDS plugs. Pushrod length must be checked during installation to verify that the correct length pushrods are being used.

Contact: 517-787-8172



SUMMIT RACING EQUIPMENT
summitracing.com

These seat belt bars are designed to keep four-, five-, or six-point race harnesses at a 10- to 15-degree angle to the shoulders to keep drivers safe and secure. The universal-fit bar mounts behind the front seats and has struts with threaded rod ends to attach the bar to the car's factory seat belt mounts. They come with a black, red, or silver powder-coat finish, and hardware is included.

Contact: 800-230-3030



WILWOOD
wilwood.com

Wilwood has released new dry break, quick disconnect -3 AN fittings. A quarter turn disconnects the line with no tools needed. The internal high-tension spring-loaded seal provides a positive lock between ends preventing air from entering and fluid from escaping. Race-proven, the quick connect/disconnect fittings enable changing a caliper, master cylinder, or any other brake fluid component quickly without the need to bleed air.

Contact: 805-388-1188

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SOCIAL STATUS

A closer look at how racing and performance industry members are boosting engagement via short-form video on TikTok and Instagram.

In the social media realm, short-form video still reigns supreme, gaining solid engagement on platforms like TikTok and Instagram Reels. With these videos comes the option or the opportunity to either add audio or keep the original sound.

But, keep in mind that even though audio can be a mighty tool, users must be purposeful about how and when to use it.

"We choose our audio based on the type of video that we are posting," noted Crystal Covarrubias from FiTech Fuel Injection, Riverside, California. "For example, if we are posting a video of an engine revving and it sounds impressive, then we will keep the original audio. We don't want to cover it up with anything else. However, if we post a video of a still vehicle or one of our systems that is not installed on a vehicle, then trending audio is preferred. We adapt depending on the content that will be posted."

There are various types of audio, including music, sound effects, and voiceovers.

And, audio can play a huge part in the success of Instagram Reels and TikTok. Studies have shown that using trending audio can significantly increase reach and engagement.

"Reels and TikToks can be more successful when using trending audio, especially for new pages or pages that are starting to explore growing with that video format," Covarrubias explained. "Since the audio is already trending and being pushed to viewers by TikTok and Instagram, there is an advantage to gaining more exposure than normal. These platforms push forward the newest trends to audiences, so it's important to jump on the trend as soon as possible!

"In the long run, the focus is still on the video itself and making sure it is captivating to your targeted audience," she added.

The easiest way to get inspiration is to start scrolling. You may notice that the same song or sound bite will pop into your feed multiple times. That's when you know you've found some trending audio to use. Choosing

trending sound can boost your views and even increase the chances of going viral.

As mentioned, sometimes using the original audio with the video works best, provided the original audio is pleasing to the ear and aligns nicely with the video.

Trending audio is most relevant when using Instagram Reels and TikTok—but not as significant for other platforms, although it can still add some flair to your videos at the right times. TikTok usually leads the way with trending sounds; they eventually then make their way over to Instagram.

Speaking of Instagram, it also recently introduced the ability to add music to photos in your feed, providing users with additional tools to bring their content to life. For more Instagram tips, and to stay updated on what's new, check out the @Creators account on Instagram, which releases trend reports and highlights featured creators throughout the platform. **PRI**



"REELS AND TIKTOKS CAN BE MORE SUCCESSFUL WHEN USING TRENDING AUDIO, ESPECIALLY FOR NEW PAGES OR PAGES THAT ARE STARTING TO EXPLORE GROWING WITH THAT VIDEO FORMAT."



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